

# FLINTS

The one-stop-shop that delivers to your door

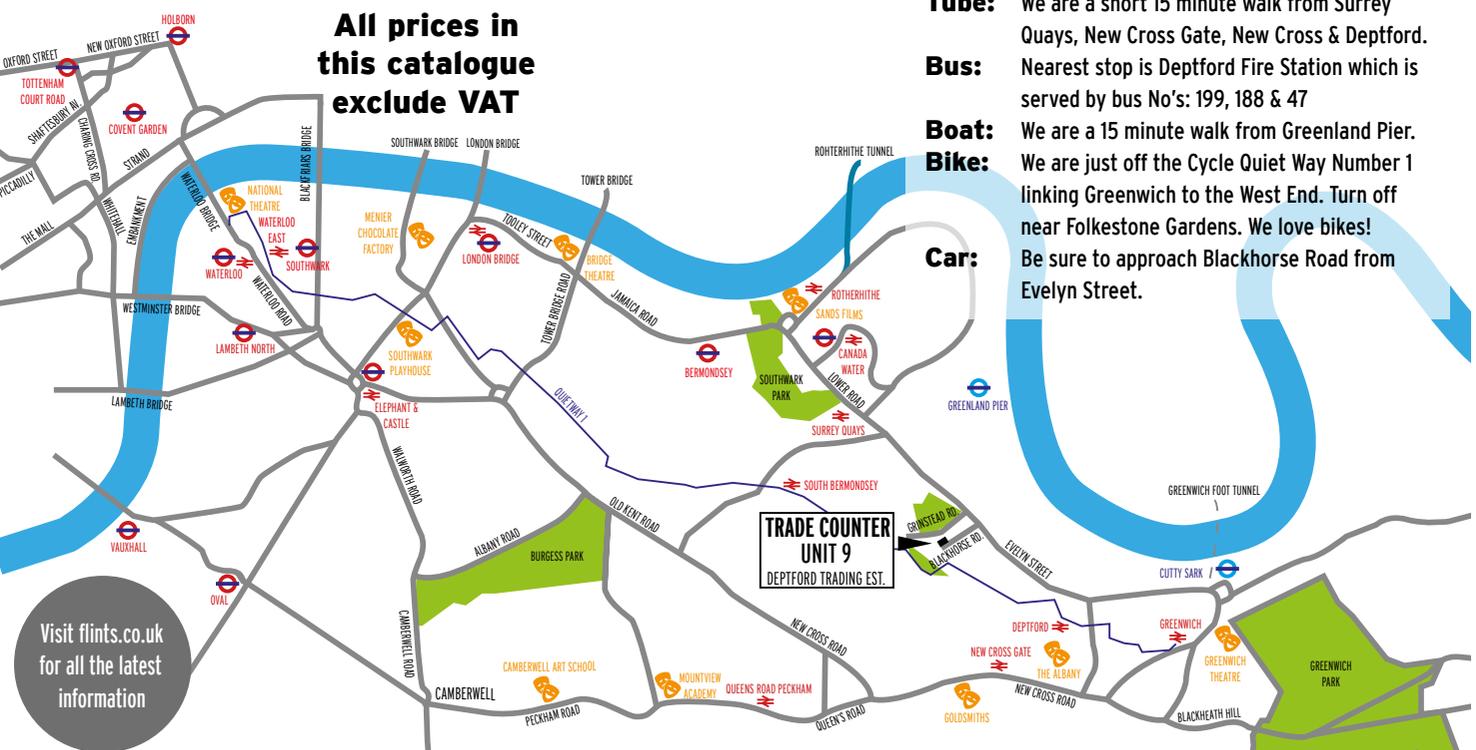
Flint Hire and Supply Ltd.  
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www.flints.co.uk

It's fair to say that when originally **established in 1981** to provide the theatre industry with a single source for specialist theatre hardware and paints, we wouldn't have imagined having the enormous product range and client base we have today! We now cater for Scenic Artists, Art Department Crews, Stage Managers, Production Managers, Workshop Managers, Set Decorators, Engineers, Carpenters, Painters and Propmakers and not just in theatre, film, and television - we now also have wonderful clients working in schools and universities, museums, shop display, and even fine artists helping with their installations [see page 370].

Despite being 2 years since our last Catalogue was published, it feels like it was only last month! However, that doesn't mean we haven't been working hard to update it's contents in the meantime. Our focus has been very much inspired by the Theatre Green Book and sourcing alternative products to help you all make your productions as eco friendly as possible in the face of the Climate Crisis. Read more about our actions and plans on pages 2-3. We've also introduced a new role - Product Manager - and we're delighted to have Jack who many of you will know from our trade counter taking on the role. Did you know that we have a robust testing process for all new and replacement products? Jack now heads up that process and ensures that everything we stock performs just as we claim, and ensures it's suited for your needs. Have a suggestion for a product you think we should stock? Let us know!

We said last time our website, flints.co.uk, was being re-designed. That work has happened, and we are hopeful it will launch by June. It allows cash and credit account customers to place orders for virtually all the products listed in this catalogue online. Why not sign up for an online account for easy ordering? In the meantime, we hope that you enjoy our new catalogue.

All prices in  
this catalogue  
exclude VAT



## WHY SHOP WITH FLINTS?

Flints is a small business that genuinely cares about not just the arts and entertainment industries, but also our local community, and the staff we employ. These principles are laid out in our Quality Manual as part of our ISO 9001 accreditation.

As employers we aim to provide colleagues with a safe, pleasant, and engaging working environment and opportunities to increase their skills and for professional development. We are committed to recruiting from all sectors of society and to the principles of apprenticeship. We're proud to say that in most cases our apprentices have been offered a full-time position at Flints, on completion of their apprenticeship.



We hold London Living Wage accreditation, and are delighted to be able to properly support our staff in this way, unlike so many bigger businesses out there. We also believe in empowering our staff to allow them to do their jobs to the best of their ability, and ensure that our customers are receiving the best service possible.

We're constantly reviewing our product ranges, and services offered to make sure we are fulfilling all our customers' needs, but this year we've had a focus on eco-swaps. Read more about this on page 2. This year over **300** new product lines have been added to this catalogue, and we've introduced new packaging materials and standards to ensure goods arrive safely.

We're really open to feedback to help improve our services (*or just to compliment us!*) so if you have anything you'd like to comment on, suggestions to make, or product requests, please do email us on feedback@flints.co.uk.

## HOW TO FIND FLINTS

### Opening Hours

#### Trade Counter

8:30 am – 5.30 pm Monday to Friday

#### Telephone Sales & Customer Services

8:30 am – 5.30 pm Monday to Friday

#### To visit our Deptford Trade Counter:

**Tube:** We are a short 15 minute walk from Surrey Quays, New Cross Gate, New Cross & Deptford.

**Bus:** Nearest stop is Deptford Fire Station which is served by bus No's: 199, 188 & 47

**Boat:** We are a 15 minute walk from Greenland Pier.

**Bike:** We are just off the Cycle Quiet Way Number 1 linking Greenwich to the West End. Turn off near Folkestone Gardens. We love bikes! Be sure to approach Blackhorse Road from Evelyn Street.

#### Car:

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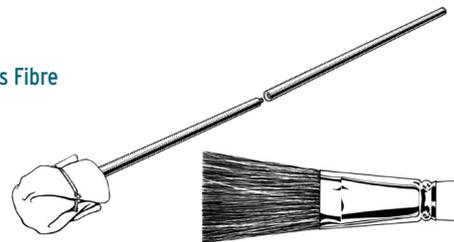
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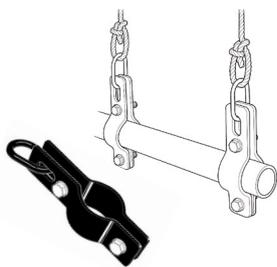
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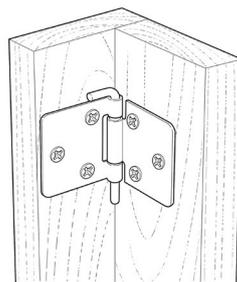


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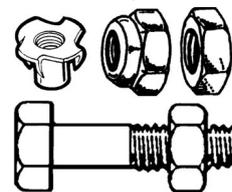
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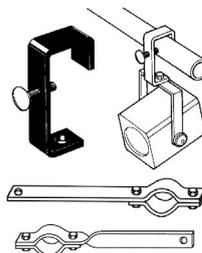
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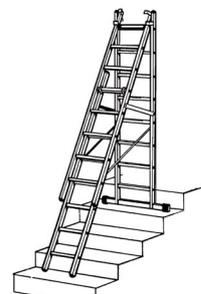
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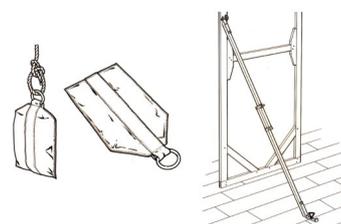
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# SUSTAINABLE PRODUCTION

## What is the Theatre Green Book?

The Theatre Green Book is a guide to support the sustainability of theatre in response to the climate crisis and produced by a range of people from across the theatre production world with support from sustainability experts Buro Happold.

There are 3 volumes to the Theatre Green Book:

Volume 1: Sustainable Productions

Volume 2 Sustainable Buildings

Volume 3: Sustainable Operations

We imagine Volume 1 will be the most relevant to readers of this catalogue.

Learn more about the Theatre Green Book by visiting their website: [www.theatregreenbook.com](http://www.theatregreenbook.com). Scanning this QR code will take you there:



## Why is Flints talking about Theatre Green Book?

Much like the makers driving the development of the Theatre Green Book, we feel we have a duty to support the necessary changes in response to the climate crisis. As such we are doing our absolute best to improve our product offering, and business practices to ensure we are giving you the best options for all your production needs. This includes researching and sourcing more sustainable and eco-friendly products and services.

### Flints' response

Our original intention for this catalogue had been to make this a 'Green Catalogue', however the closer we got to our print deadline the more obvious it became that we were not going to be able to make enough of the changes to our product offerings to justify this accolade, and a key concern of Flints is to ensure whatever we are doing is not simply 'greenwashing'.

We outline our considerations for products offered in the section entitled '*What makes a product 'sustainable'?*', but this is not the only place we can make changes. In recent years we have made significant efforts with our packaging and internal processes to reduce our carbon footprint and environmental impact as a business. See the section entitled '*Changes to Flints Packaging & Delivery Services*' to read more.

If you are reading a printed copy of this catalogue, it has been printed in South Wales using FSC certified paper, and vegetable based inks which are kind to the environment. It is fully recyclable, so if you should ever need to dispose of it, please do put it in the recycling!

### Why should you care?

Well, aside from the environmental concerns there are also considerable financial and health benefits from making changes. We'd urge you to do some more research and follow the excellent work being done by groups like the Theatre Green Book, and the Association of Scenic Artists and Makers [ASAM] amongst others.

## Are the old ways more sustainable?

There are certainly compelling arguments to be made around our increased consumption and the impact that has had on how sustainable productions are - scale and individual production budgeting has probably also had an impact on this. In Europe it is common for big production houses to have 2 budgets - 1 for each production, and 1 for stock pieces which get used for multiple productions, thus spreading that cost and justifying the expense of better and repairable equipment. Something we could learn from them perhaps!

If we think back to scenics working 150 years ago, they would have probably been mixing their own paints made from size and raw pigments. Sustainable, yes, but not necessarily ethical in the production of the raw materials, and having a hot pot of size running in a workshop is certainly not practical! Also, working with powdered pigments can be quite dangerous, so not necessarily better for the user's health. Complex stuff.

## Do the eco alternatives live up to modern standards?

Many "eco" paints struggle to achieve the same intensity of colours, and flexibility of acrylics that scenics are used to having, and one of our biggest struggles in product testing is working out the best options for our clients. So, we are currently testing a range of eco binders and have recently introduced some eco glazes [see page 55] which could be used as bases for our scenic pigments to make your own colour. Keep an eye out on our social media posts for our test results, but if successful we could find that a blend of traditional techniques with modern products could prove a viable path forward.

## Changes to Flints' Packaging and Delivery Services

We've made lots of changes to our packaging over recent years, but it seems many people aren't aware of them! Just remember all plastic and cardboard needs to be **clean and dry** to be put into recycling.



Our special paper bags hold an impressive 27 kg and can even survive a light drizzle! Definitely robust enough for a few pots of paint, or some tools, and can easily be reused. One of our best swaps to date. Plus as they aren't plastic, we don't have to charge you for them!



Might not look like much, but these plastic bags are a bit magic. Not only are they recyclable [within 6 months please], but they contain a special bio element which means if despite your best efforts they end up in the environment they will completely biodegrade!



We're not highlighting our tins here, but the tape sealing it! Paper tape is great, we just wonder why we didn't use this in the first place! Also used on our boxed deliveries, it means you don't have to remove the tape before you recycle them. Boxes are made from recycled card too. Happy days!

Additionally almost all our 'Van Run' Deliveries in London's West End and City are fulfilled by PediVan - bike couriers and an electric van. Can't get greener than that!



**We're looking to introduce more eco delivery options, so watch this space for more news!**

### What makes a product 'sustainable'?

Sustainability is very complex. There are so many factors to consider in whether a product is truly a better or worse option from an environmental perspective. We have identified 4 key areas for consideration:

**Carbon Footprint:** This is an almost impossible number to calculate as there are so many factors and layers of calculation involved. The most obvious of these is distance travelled, i.e. Country of Origin vs. Country of Use. e.g. a book (or a catalogue) printed in China and shipped to the UK will of course have a higher carbon footprint in terms of miles travelled than one printed in the UK for distribution in the UK. However, this doesn't consider the manufacturing process, which has a big input on the carbon footprint of the product. e.g. a book printed using energy generated by a coal plant will have a much bigger carbon footprint than one printed using energy generated by an off-shore wind farm. Also, neither of these elements considers the carbon footprint of the materials going into the product; in our book analogy, the paper, the inks, the adhesives etc. Has the paper been sourced in the same country as the production plant? What's the carbon footprint of the production of the paper? The rabbit hole goes on, and on.

**Raw Materials:** We have considered the "carbon footprint" element of Raw Materials in the previous point – the miles travelled to the production facility and their own production [e.g. felling trees and transporting them to a factory to make paper] – but what about the impact that production process has on the wider environment. Many assume recycled paper is more environmentally-friendly, but the production process of recycled paper can be so carbon and water intensive that ultimately could cause far more damage than responsibly sourced FSC certified new paper.

**Product Use:** Did you know that almost all paints and glazes [even water-based ones] contain plastics? Environmental Action [a mission-driven research based consultancy] state that, on average, paint is 37% plastic polymers<sup>1</sup>. They also estimate that globally the paint share of micro-plastic leakage in the ocean and waterways is a shocking 58%<sup>2</sup>. This is disputed by The British Coatings Federation [BCF] who claim it to be far lower<sup>3</sup> and assume less than 1% of a pot of paint is washed from brushes and pots into our waterways. Regardless of the specific amount that ends up in our environment, this is clearly problematic.

Additionally almost all paints, glazes, and adhesives contain VOCs [Volatile Organic Compounds] which are harmful to user's health, and there is an increase in cancer rates amongst regular users<sup>4</sup>. Considerable efforts have been made in recent years to reduce the 'nasty' components<sup>5</sup> in the products, and to reduce the VOC content - pretty much all of our scenic paints are classed as "Low VOC" [generally accepted to be less than 50 g/L<sup>6</sup>]. Of course these risks to health can [and should] be mitigated by the use of respirators [see page 342]. It is also worth noting that if you are diluting a pot of paint, a 1:1 dilution with water will halve the concentration of the VOCs.

The long and the short of it is, almost all products and materials we use commonly in theatre, film & TV - particularly in set construction & decoration, art department and props are problematic in terms of both ecology and health, so we need to find improvements and alternatives without compromising on quality.

**End of life:** What happens once your tool or scenery reaches the end of its life? We hope that for most of our clients they will be stripping down and reusing what bits they can, but ultimately some pieces simply won't be reusable. If the products used in the production of said pieces are not viable to be recycled then they will likely end up in landfill. In England alone in 2020 it is estimated that we created a 33.8 million tonnes of commercial and industrial waste<sup>7</sup> the majority of which is destined to end up in landfill. Imagine instead that the materials used in those un-reusable bits were instead compostable – what a difference that could make!

**To conclude,** it is nigh-on impossible to give emphatically clear answers over which product is more sustainable than another, or to calculate whether one production is "better" than another.

### What are Flints' aims?

Our aims are simple, though our task is complex! We are aiming to give you good, and truly, sustainable product options whilst also bearing in mind the difficulty of balancing a budget, and not compromising on practicality! We are intending to try to give a rough sliding scale of how good or bad a product is weighing up all the factors above, with different weightings being applied to different areas. If you are interested in helping us in this endeavour [we are already working with scenic artists from the Association of Scenic Artists and Makers] we would welcome your input. Please register your interest via this form, or scan the QR code:

<https://forms.office.com/e/DPFsNhWARM>



### Some exciting new Eco Products introduced into this catalogue:



Eco glazes! Plastic free and made in the UK.  
Check them out on pages 55 & 57!



Long lasting Eco brushes!  
See pages 72 & 73



Eco textures - Cork Granules  
See page 48



Eco Bio Beads. Made from Corn Starch  
and Sugar Cane. See page 101.

1 Taken from the report: *PLASTIC PAINTS - THE ENVIRONMENT; A global assessment of paint's contribution to plastic leakage to Land Ocean & Waterways* by Environment Action. Available at <http://www.e-a.earth/resources/publications>

2 See Footnote 1.

3 No comparable figure given; BCF site and statement <https://coatings.org.uk/page/Microplastic-Paint-in-the-Ocean>

4 See UK HSE: <https://www.hse.gov.uk/construction/healthrisks/cancer-and-construction/painting.htm>

5 See UK HSE: <https://www.hse.gov.uk/construction/faq-paint.htm>

6 See <https://ecospaints.net/low-voc-paint-vs-no-voc-paint>

7 See <https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste>



This beautiful faux marble was painted by Scenic Artist Anna Stamper for a hotel to cap a balcony. Anna chose to use Rosco SuperSaturated paints [page 12] as their high saturation allows them to be thinned with water or glaze to give a wash effect, perfect for marbling.



Splinter Scenery's scenic team headed by Toni Bysouth painted this colourful set for *Jack and the Beanstalk* at Oldham Coliseum Theatre, designed by Celia Perkins. Toni chose to use Rosco SuperSaturated Paints [page 12] for their intense and vibrant colours. Photos by Darren Robinson, kindly supplied by Toni Bysouth.

# ROSCO



This twisty and ultra-realistic tree trunk was made and painted by the TreeLocate tree build team who specialise in manufacturing artificial trees for events and themed spaces. They chose to use Rosco Off Broadway Paints [page 16] for the great colour range and durability.



Penny Spedding carved this set out of Polystyrene before coating it in Jesmonite AC730 stone finishes [page 116] for *Hakawatis*, designed by Rosa Maggiora, at the Sam Wanamaker Playhouse.

These beautiful sculptural reliefs of jellyfish were cast by artist Robin Tarbet in Jesmonite AC730 white marble [page 116] mixed with beach sand, and then acid etched [118]. They are also framed in cast AC100 [115] frames. Check out Robin's instagram for more beautiful casts.



# JESMONITE<sup>®</sup>

MADE FROM



Francesca Pappacoda of Salt Studios, based just around the corner from Flints in South East London, creates funky homeware, like these Chunky Chip Terrazo Plant Pots. Cast from Jesmonite AC100 [page 115] and Jesmonite pigments [page 117].

*With Sprinkles!* by artist Chris Thompson. Install shot from Exhibition "Instrument" 2020, Thames Side Studios Gallery, London. Image by Reinis Lismanis. Made from AC300 [page 115].



It's hard to convey the scale and drama of these cloths painted for Western Australian Ballet's production of *Dracula*. Designed by Phil R Daniels, Scenic Artist Brett Naylor of Visualscene chose to use Bristol StandTex Primary and Earth Palettes [pages 18-19] for their intensity of colour. Stunning.



# BRISTOL

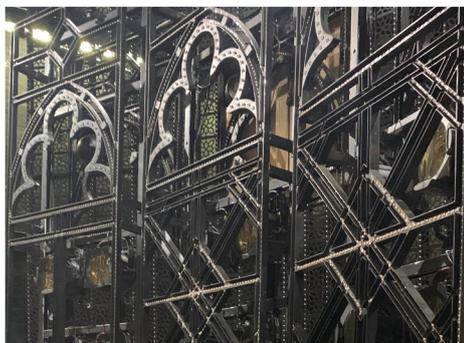


Lead Scenic Artist Laura O'Connell created this gorgeous floor with mostly Bristol StandTex [page 8] and Metallic [34] paints for Birmingham Rep's production of *Of Mice & Men*. She also used a little Flints Theatre Black [6], Bristol AquaLak [56], and copper leaf [37]. Designed by Ciarán Bagnall, images kindly supplied by Emily Hewlett.



These incredible vines were made from off cut materials and painted with Bristol SuperScenics [page 14] for *Rusalka*, the first Royal Opera House's production made with sustainability & The Green Book at its heart. Designed by Chloe Lamford, and created by the incredible scenic team headed up by Emma Troubridge, who also kindly supplied the images.

Lead Scenic Artist Laura O'Connell created this gorgeous floor with mostly Bristol StandTex [page 8] and Metallic [34] paints for Birmingham Rep's production of *Of Mice & Men*. She also used a little Flints Theatre Black [6], Bristol AquaLak [56], and copper leaf [37]. Designed by Ciarán Bagnall, images kindly supplied by Emily Hewlett.



The incredibly complex and detailed metal work that provides the backdrop for West End hit *Six - The Musical* was painted with Hato@Truss [page 9]. Chosen by Harrogate Set Production Services in the Black Semi Matt for it's durable, deep black finish that's easy to touch up. Image kindly supplied by Richard Bielby.



This stunning cloth was painted for the 30th anniversary of the Birmingham Royal Ballet's *Nutcracker*, designed by John MacFarlane. The scenic team, headed by Emma Troubridge, chose to use HatoCel for its fantastic adhesion to the plastic, whilst remaining non-tacky when stored and rolled. Image kindly supplied by Emma Troubridge.



These images are from the students of the Theatre Practice Course at the Royal Central School of Speech & Drama [RCSSD], painted in Hato@Design [page 17]. Above is from *London Road* at the Embassy Theatre, RCSSD, designed by Suzanne Emerson and painted by Emilia Perrone, Sophia Logan, Alice Greenacre, Jessica Linsey and Miya Tsuruda-Behan. To the left is a tableau from *Bridgerton* at the Dench Studio, RCSSD, painted by Charlotte Guy, Lauren Poole, Linsey McLachlan and Scarlett Fraser. Images kindly supplied by Kristen Gilmore.

# BASECOATS - BLACK & WHITE PAINTS

## WATER-BASED MATT BASE COATS



**Flints Theatre Black Paint** After Bolloms ceased production we needed to find a replacement for their Black Emulsion. We tried many of the paints already available on the market but soon realised that we would have to get a paint specially made to meet the demanding specification. As we sell very large quantities of black and white paint we were able to ensure a high specification, yet provide it at an economical bulk rate. We tested

many batch samples from different companies and made a series of subtle formula adjustments to create a great general purpose black which is economical in use. We hope you like it. Covers approximately 10 m<sup>2</sup> per litre – but watch the video to see just how far one roller full of Flints Black will go.

It just goes on and on and on!

- ✓ Intense deep black
- ✓ Brilliant one coat obliteration
- ✓ Very low reflectance
- ✓ Good durability
- ✓ Resistant to wear through, great for stage floors
- ✓ Easy flowing for roller, brush or spray
- ✓ Low VOC, just 1g/L [EU limit value for this product (cat A/a): 30 g/L]
- ✓ Economical in use, ideal for large areas and stage floors

Scored Good or Excellent for every feature by all our survey forms!



Flints Theatre Black Paint	size	code	price	5+	Tradeline 120+
	5 L	PAT023	£27.30	£25.50	£22.00



**Flints Exhibition White Paint** Formulated especially for use in studios, theatres and exhibition spaces where the requirement is for an easy-flowing, high obliteration matt white paint which will normally cover most backgrounds with just one coat! Please don't confuse this quality, specially formulated, industrial paint with domestic paint. Flints Exhibition White is impressively fast and smooth to apply by brush, roller or spray

while achieving staggering coverage and labour-saving obliteration. Covers approximately 10 m<sup>2</sup> per litre.

- ✓ Brilliant one coat obliteration
- ✓ Very low reflectance
- ✓ Good durability
- ✓ Excellent adhesion to canvas, plaster, MDF & hardboard
- ✓ Great for priming cloths
- ✓ Easy flowing for roller, brush or spray
- ✓ Low VOC, just 1 g/L [EU limit value for this product (cat A/a): 30 g/L]
- ✓ Economical, ideal for large areas and photographic studios

A brick wall with Flints Exhibition White obliterating Flints Theatre Black in just one stroke!



Flints Exhibition White Paint	size	code	price	5+	Tradeline 120+
	5 L	PAT026	£28.20	£26.40	£22.85

See also Flints Multi Purpose Primers on page 8.



**Rosco White Base** A concentrated vinyl acrylic emulsion with a titanium dioxide filler. For priming new canvas dilute in ratio 2:1 water to base, which will give a good surface to take colour etc. A 6:1 prime will create a more absorbent surface for watercolour effects, while 1:1 should be used to prime old paint surfaces.

SPECIFICATION: Covers 8 - 10 m<sup>2</sup> per litre.

White Base	code	1 L	code	5 L	code	10 L
	ROS16002	£19.25	ROS56002	£73.25	ROS26002	£119.25



**Rosco Velour Black** Use in the same way as the Rosco Supersaturated Paints. When diluted 1:1 it will provide an intense matt black permanent velvet finish. In Flints' tests Rosco Velour Black proved to be one of the blackest paints available with the advantage of remaining flexible and strong. It can be further diluted like the other supersaturated paints. SPECIFICATION: Covers 8 - 10 m<sup>2</sup> per litre.

Velour Black	code	1 L	code	5 L	code	10 L
	ROS16003	£19.25	ROS56003	£73.25	ROS26003	£119.25

**Bristol StandTex White** This paint is of exceptional quality and has been found to be a perfect water-based sealer primer for MDF having good edge filling properties. The exceptional coverage can save valuable time. Now also available in Ivory.

Bristol White	size	approx vol	code	price
Bristol White	3 kg	1.89 L	BRI3WHITE	£21.97
Bristol White	6 kg	3.87 L	BRI6WHITE	£34.88
Bristol White	15 kg	9.45 L	BRI2WHITE	£75.91
Bristol Ivory	3 kg	1.89 L	BRI31856	£21.97
Bristol Ivory	6 kg	3.87 L	BRI61856	£34.88
Bristol Ivory	15 kg	9.45 L	BRI21856	£75.91

**Bristol StandTex Black** A rich dense low reflectance black which is ideal for blacking out purposes. Its rapid drying and good bonding make it possible to paint directly onto difficult surfaces, such as steel.

Bristol Black	size	approx vol	code	price
	1 kg	780 ml	BRI11030	£13.72
	3 kg	2.35 L	BRI31030	£28.97
	6 kg	4.7 L	BRI61030	£47.04
	12.5 kg	9.8 L	BRI21030	£88.59



**Mylands Black & White FR Paints** A good quality, high obliteration, flame retardant paint especially formulated for theatre and studio use. Flints sells these paints at well below the manufacturer's list price of £53.42 per 5 L. Certified to BS 476 Part 6 & 7, Class 0 & 1.

Mylands Black & White FR Emulsion	code	price	5+
White	MYL025	£41.34	£37.21
Black	MYL023	£41.34	£37.21

## ULTRA DEEP BLACK PAINT

NEW



Flints Very Black on the right,  
Rosco Velour Black on the left.

**Flints Very Black** There is an arms race it seems with creating the deepest, blackest paint and although late to the party we have a new contender! And unlike some makers of black paint, we won't be keeping it to ourselves... Unlike Flints Theatre Black which is finely balanced to consider durability, colour, finish & price, Flints VERY Black focuses on depth of colour

with an ultra matt finish to make a paint that leaves all the other black paints we stock looking grey. This impressive finish comes at a cost however; it marks incredibly easily with finger prints and scuffs. This can be mitigated by adding a protective water based glaze to improve adhesion but appearance and finish will be affected. Designed to be used straight out of the tub without dilution; apply 3 coats minimum for most impressive finish. Call us for larger quantities. Water-based.

✓ Perfect for creating a 'void' space

✓ Great for outlining

✗ Not for use on floors or touch points

Flints Very Black	size	code	price
	1 L	FHSVB1	£35.00

## SPECIALIST FLOOR PAINTS



Gloss



Matt



**HATO@Stage** This new synthetic resin based paint from Haussmann leaves a very impressive black scratch resistant finish. It is designed to be used on newly laid stage floors or new rostra tops as a finish which will be much more durable than can be expected from waterborne paints. It is available in gloss and ultra matt finishes. It is the perfect paint to specify for new build theatre stages. The product acts as the primer and top coat. One coat should be applied at 100-130 g/m<sup>2</sup> then allowed to dry for 24 hours before sanding with 150 grit and a further coat applied. Although dust dry in 6 hours the paint continues to harden and become more robust over 9-10 days. If using the Ultra Matt HATO@Stage consider using HATO@Stage Cleaner to maintain the matt finish. SPECIFICATION: Touch dry in 6 hours, full cure in 24 hours. Leave full 24 hours before overcoating. Consumption: 8-10 m<sup>2</sup>/L. Technical Data Sheets can be accessed from the 'downloads' section of our website.

HATO@Stage	size	code	price
Ultra Matt Black	5 L	PAT2314405	£145.60
Ultra Matt Black	10 L	PAT2314410	£234.95
Gloss Black	5 L	PAT2314505	£148.05
Gloss Black	10 L	PAT2314510	£225.77

**HATO@Stage Cleaner** This cleaner has been specially developed for use with stages painted with HATO@Stage Paints. In particular it helps maintain the matt surface which can be spoiled when using conventional cleaning products.

HATO@Stage Cleaner	code	price
5 L	PAT23146	£39.98

## AIRLESS EMULSION



**Mylands Airless Emulsion Paint** Use with Airless Spraying Machines to cover very large areas extremely rapidly. Excellent for priming large cloths or spraying the insides of theatres or warehouses.

Mylands Airless Paint	code	list	10 L
White Emulsion	MYLO40	£99.74	£83.81

## VINYL SILK BASE COATS



**Flints Vinyl Silk Black** You've been asking, and we've listened! One of the most requested products over the last few years from our beloved customers has been for a Vinyl Silk version of our classic Flints Theatre Black Paint. This water-based vinyl silk is still highly pigmented, but has more durability than the standard, and has a soft silk finish. This paint carries the same FR certification as the popular Mylands Vinyl Silk listed

below, but is more safely transported thanks to the sturdy tin! NB: Surfaces must be well prepared to ensure good adhesion.

Coverage is approximately 12 m<sup>2</sup> per litre.

Flints Vinyl Silk Black	size	code	price	5+
	5 L	FHSVSB	£39.75	£35.00



**Mylands Black & White Vinyl Silk** Economically priced satin finish paints with good obliteration. Water-based. Flints sells these paints below the manufacturer's list price of £56.90 per 5 L. Covers 8 - 10 m<sup>2</sup> per litre.

Mylands Black & White Vinyl Silk	code	list	5 L
Black	MYLVS B	£56.90	£49.95
White	MYLVSW	£56.90	£49.95

## SPECIALIST FIRE PROTECTION BASE COATS



Light Grey

**HATO@Protect** Water-based fire prevention coating primer for timber structures. Certified to Euroclass C, DIN EN 13501-1. Although designed for use on timber [and only certified for

that use], we tried coating a block of polystyrene and were thoroughly impressed; when a flame was applied to the block, the paint proved impervious even when the polystyrene melted behind it, we were left with a shell of paint. We stock this in a light neutral grey - easy to overcoat - it's also available in a dark anthracite grey to order. To maintain the certification it must be overcoated with HATO@Design Paint [see page 17], but we suggest that any standard theatre paint would suffice. As always, certification is only valid on the actual sample tested and is otherwise a guideline - see our guidance on Flame Retardants from page 70.

SPECIFICATION: Apply by brush, roller or spray gun. Recommend 2 coats. Thin with water; max 3% dilution. Coverage: 225 g/m<sup>2</sup> per coat.

HATO@Protect	5 kg	price	12.5 kg	price
	PAT1530005	£94.00	PAT1530125	£198.00

# PRIMERS

1: PRIMERS

## MULTIPURPOSE WATER-BASED PRIMERS



### Flints Multi Purpose Primer

Flints popular water-based primer is suitable for painting wood, steel and plastics, and it is excellent as a substitute for etch primer. It is not suitable for electrostatic spraying. The water base ensures there are no unpleasant fumes. This product will provide a long-lasting protection for steel. The surface of the material should be free from grease before application.

Like other water-based products it takes longer to cure than solvent-based. Flints Matt Black Primer can also be used for masking out the back of BP screens. It adheres well and provides a completely opaque covering. Covers approx 12 m<sup>2</sup> per litre. Matt finish. Touch dry in 20-30 minutes, fully cured 7 days.

- ✓ Low odour
- ✓ No fire risk during use
- ✓ Environmentally sound

Flints Multi-Purpose Primer	code	5 L	Tradeline 5+
Black	PAT117	£54.71	£51.00
White	PAT118	£57.49	£54.00



A great stain blocker!

### Zinsser Bulls Eye 1-2-3

A universal interior and exterior, water-based, primer-sealer. It offers low odour application, quick-drying convenience and excellent adhesion to glossy surfaces. It offers excellent adhesion, without sanding, to hard-to-stick surfaces. Bulls Eye® 1-2-3 also prevents rust formation when applied over clean steel. Bulls Eye® 1-2-3 is great for blocking stains. It permanently and

completely seals graffiti, grease spots, tar and asphalt – inside and out. It dries to a smooth, tight, water-resistant film that is perfect for painting metal fabrications, steel doors, metal panels, duct work, galvanised gutters – any interior or exterior metal surface. It has a 35 minute touch dry time and is recoatable in just 1 hour. Covers 10 m<sup>2</sup> per litre. Rosco Colorcoat [page 55] is also waterborne and can be used as a primer.

Zinsser Bulls Eye 1-2-3 (White)	size	code	list	price
	1 L	PATZNI231		£21.25
	5 L	PATZNI235	£82.22	£75.00



### Rosco Tough Prime

A unique water-based primer which has special adhesion properties that allow it to bond onto hard-to-prime materials, including PVC

pipe, aluminium and plastics, as well as muslin, wood and foam core. Dries to a tough, durable coating that can be overpainted. Although touch dry in half an hour, this paint will require between 24 and 48 hours to fully cure to its maximum strength. Suitable for indoor and outdoor use. Covers 9 - 10 m<sup>2</sup> per litre.

Rosco Tough Prime	code	3.79 L	code	18.95 L
Black	ROS36055	£75.75	ROS66055	£313.00
White	ROS36045	£75.75	ROS66045	£313.00

**Bristol ExpoMulti** A high adhesion water-based paint for glass fibre, epoxy-painted steel and other hard-to-paint surfaces such as dance floors. Stocked in White, it can be overcoated with colours from the Bristol Primary Palette [see page 18]. For interior use.

Bristol ExpoMulti	code	2.5 L	code	5 L
White	BRIEPM3	£44.77	BRIEPM5	£77.35

## MULTIPURPOSE OIL-BASED PRIMERS



Primes glass fibre too



### Epifanes Multi Marine Primer

Epifanes manufacture a large range of superior quality primers for exacting marine use. Multi Marine Primer can be used on steel, wood, glass fibre, aluminium, galvanised and stainless steel! It has a satin finish which can be attractive just left or it can be overcoated with one- and two-component paints. In fact, it is the only single-component paint that I know of that can be overcoated with a two-component paint. Clean up with white spirit. Sandable after 6 hours, recoatable after 12 hours [48 hours for two-part products]. Available in White, Grey or Red Oxide.

- ✓ Super versatile primer
- ✓ Very tough finish

Epifanes Multi Marine Primer	750 ml	2 L	4 L
White	PATEMMW750 £24.57	PATEMMW2 £52.95	PATEMMW4 £104.81
Grey	PATEMMG750 £24.57	PATEMMG2 £52.95	PATEMMG4 £104.81
Red Oxide	PATEMMB750 £24.51	PATEMMB2 £52.95	-

## WOOD AND MDF PRIMERS

### MDF - To Prime or Not to Prime

MDF is very absorbent and some poorer quality boards can sometimes develop a slightly textured surface after paint application. This is caused by the fibres expanding, especially when water-based products are used. This is not normally much of a concern with scenic items and MDF is often just rolled with water-based paints with no problem at all. However, try not to soak the boards too much and encourage good drying conditions by working in a well heated and ventilated workshop. Rapid drying will help to prevent the fibres from swelling. If your work includes detailed joints or is to receive a high gloss finish then a coat of shellac [page 52] or a specialised fast drying MDF Primer should be used prior to painting.



Fast drying

### COO-var Water-Based MDF Primer

**Undercoat** Rapid drying water-based primer undercoat ideal where same day application of the finishing coat is required. Interior and exterior. Surface dry in 30 minutes, thoroughly dry in 2 hours. Covers 9-11 m<sup>2</sup> per litre.

COO-var Water-based MDF Primer (White)	code	2.5 L
	PATMDFP	£43.60



### Epifanes Woodprimer

A traditional one-component primer based on alkyd resins. For use on bare wood, with good filling, building and covering properties. Clean up with white spirit. Recoatable after 24 hours. Covers 8-12 m<sup>2</sup> per 750 ml. See also Epifanes gloss enamels [page 65].

Epifanes Woodprimer	code	750 ml
White	PAT993W	£19.00
Grey	PAT993G	£20.16

To seal flame retarded boards to paint or glue see Shellac [page 60].



**HATO®Stage** This new synthetic resin based paint from Haussmann leaves a very impressive black scratch resistant finish. It is designed to be used on newly laid stage floors or new rostra tops as a finish which will be much more durable than can be expected from waterborne paints. See page 7 for full details.



**METAL PRIMERS**



**HATO®Truss** This fast-drying, water-based paint has certainly impressed our projects and workshops teams. The satin-matt finish is particularly close to that of Doughty Clamps, and would blend in well. Excellent adherence to zinc, aluminium, copper, and brass, making it ideal for overcoating aluminium and steel trusses and beams. The finish is resistant to scuffs and will keep scenery and truss rigs looking smart. It will also provide strong anti-corrosive protection. We've tried it out by brushing on to aluminium tube with, and without, preparation work and have been impressed by results. We think it would also spray well. **2 coats recommended.** SPECIFICATION: Touch dry after 1 hour, Full cure in 6 hours. Coverage: approx 8 m<sup>2</sup>/L

HATO®Truss	1 litre	price	5 litre	price
Black Gloss	PAT260101	£19.38	PAT260105	£56.15
Black Silk Matt	PAT260111	£19.38	PAT260115	£59.95
Colourless Gloss	PAT260121	£17.80	PAT260125	£57.43
Colourless Semi-Matt	PAT260131	£17.80	PAT260135	£57.43



**Flints Rapid One-Pack Etch Primer** This primer was developed to have the advantage of a single pack etch primer but without the normal drawback of a very low flashpoint, common in most etch primers. Suitable for stoving or air-drying applications to ferrous and non-ferrous metals that have been cleaned. Formulated free of zinc chromates to reduce toxicity. Whilst this product contains anti-corrosive

pigments, its main purpose as with other etch primers, is to improve the adhesion of following coats and so it should be re-coated as soon as possible if being exposed to a damp environment. It can be applied by conventional spray, airless spray, hot spray, or brush. Steel tubes can be quickly and conveniently covered using long-arm radiator rollers [page 83]. See also Rosco Colorcoat [page 55] as a safer alternative to priming steel with an Etch Primer. Matt finish. SPECIFICATION: VOC: max 740 g/L. Mass solids: 20%. Flash point: 24°C. Surface dry: 20 minutes. Recoatable: after 30 minutes. Coverage: @ 15-DFT 12.5 m<sup>2</sup>. Consider using a 3M Organic Vapour Mask type 4251 when using these paints [page 342]. Good ventilation should also be provided. For water-based possible alternatives see Flints Multi Purpose Primer [listed on the previous page] or Colorcoat [page 55]. Galvanised products should be weathered before painting. See AQ Primer [page 11]

- ✓ Flash point 24°C
- ✓ Free of zinc chromates

Flints Rapid One-Pack Etch Primer	code	5L
Black	PAT115	£67.39
White	PAT116	£71.83
Thinner No. 115	PAT504	£47.11



**Epifanes Metal Primer [one-component]** An anti-corrosive steel primer based on zinc phosphate and a urethane/alkyd resin. Apply directly to degreased rust-free steel. For use above the waterline. Thinners: white spirit. 750 ml will cover 10 m<sup>2</sup>. See also Multi Marine Primer on the previous page.

Epifanes Metal Primer	code	750 ml
White	PAT994W	£21.87
Grey	PAT994G	£21.86



**Rustins Red Oxide** Water-based formulation. Smooth application, and easy clean up. Also useful as a base for Gold Leaf [page 37]. See also the red oxide-coloured Multi Marine Primer on the previous page and the Plasti-kote aerosol red oxide-coloured primer [page 66].

Rustins Red Oxide	code	1 L	code	2.5 L
	PAT0961N	£16.14	PAT0962N	£37.29



**Ambersil Cold Galvanising Spray [Galvafruid]** Zinc-rich spray for steel with a grey weathered appearance which provides a protective coating to ISO 1461:1999. 99% pure zinc content, 61% content in cured film. Sacrificial coating protects from corrosion. Excellent for touching up galvanised fittings and tubes after site welding.

Galvafruid	code	400 ml
	PATCGS1	£13.10



**Ambersil Galva Colour 2 in 1 Black Spray** 2-in-1 primer and top coat spray paint enhanced with Zinc Phosphate; it can be sprayed directly onto rusty or chipped paint surface to provide corrosion resistance. Satin Finish. Great for respraying Stage Weights. Available in White (RAL9010) & Black (RAL9005)

Galva 2-in-1	code	400 ml
Black	PAT20679	£14.12
White	PAT20681	£14.12



**Owatrol** Penetrating rust inhibitor which stops rust and protects the base metal from further rusting. Penetrates and protects down to the sound metal driving out moisture and air. It stabilises and leaves a bonding film on all surfaces. Excellent adhesion including galvanised materials, aluminium, zinc and wood. Maintains the natural look of the surface [metal, wood, etc.]. Enhanced adhesion, ideal foundation

for primers or finishing coats. Allows paint to be applied direct to firm rust. Heat resistant up to +175° C. Also a brilliant paint conditioner. Just add about 5 - 10% to any oil-based paint [which uses white spirit to clean up] and wave goodbye to brush marks!

Owatrol	code	500 ml	code	1 L
	PAT071	£16.73	PAT072	£28.20

**HAMMERITE**



**Hammerite Hammered** The paint for metal that stops rust. It is tough and attractive, touch drying to a glossy enamel-like finish in only 15 minutes. As it dries, millions of heat hardened glass flakes leaf together to form a super-tough barrier, and the familiar finish that is Hammerite. If required, further coats should be added within 4 hours of the first coat. Apply with brush or spray. For spray application, thin 2 parts paint to 1 part thinners. Covers 5 m<sup>2</sup> per litre.



Hammerite Hammered	code	250 ml	code	750 ml	code	2.5 L
Black	PAT1031	£8.79	PAT1037	£22.15	PAT1034	£58.56
White	PAT1011	£8.79	-	-	PAT1014	£49.87
Dark Green	PAT1141	£8.79	-	-	-	-
Silver	PAT1021	£8.79	PAT1027	£22.15	PAT1024	£58.56
Gold	PAT1081	£8.79	-	-	-	-
Copper	PAT1091	£8.79	-	-	-	-

Thinner/Brush Cleaner	code	250 ml	code	1 L
	PAT1281	£7.30	PAT1283	£18.24

**Hammerite Smooth [formerly Smoothrite]**

The one-can decorative treatment for metal. Transforms any rough metal surface into a glossy, smooth and attractive finish without the need for primers or undercoats. Further coats should be added within 4 hours of the first coat. Apply with brush. For spray application, thin 2 parts paint to 1 part thinners. Covers 5 m<sup>2</sup> per litre. For Budget Brushes see page 74.

Hammerite Smooth	code	250 ml	code	750 ml	code	2.5 L
Black	-	-	PAT1227	£22.15	PAT1224	£58.56
White	PAT1211	£8.79	PAT1217	£22.15	PAT1214	£58.56
Silver	PAT1291	£8.79	PAT1297	£22.15	PAT1294	£58.56
Dark Green	PAT1301	£8.79	-	-	PAT1304	£58.56
Red	PAT1231	£8.79	-	-	-	-
Gold	PAT1341	£8.79	-	-	-	-
Blue	PAT1361	£8.79	-	-	-	-

**Hammerite Smooth Spray** To be sprayed directly onto rust for 5-year protection. Easy to use and quick drying.

Smooth Spray	code	400 ml
Black	PAT965S	£11.94
White	PAT967S	£11.94
Red	PAT9611S	£11.94
Silver	PAT966S	£11.94
Dark Green	PAT969S	£11.94

**PLASTIC PRIMERS**



Highly elastic water-based

**Hatocel Plastic Sheet Paint**

Quick drying, highly elastic paints that achieve excellent adhesion to plastic sheeting, soft and hard foams, PVC flooring, artificial and real leather, and textiles. In fact, most difficult to paint surfaces can be painted flawlessly without any "owls eyes" or craters. Hatocel Plastic Sheet Paints can be applied by brush, roller or spray gun. Colours can be diluted with water and are intermixable. Metallic pigments can be mixed into the transparent colours. See page 31 for full details of Hatocel and colour swatches.

- ✓ Available in ten matt and six gloss colours
- ✓ Soluble in water ✓ Odourless
- ✓ Paints PVC dance floor and projection screens with ease



Great for dance floors!

**Spectrum Covent Garden Primer**

Designed for the Royal Opera House for priming vacuum-formed plastics. It is water-based, can be tinted and is ideal for difficult surfaces such as dance floor, PVC, clear plastics, and rubber flooring. Covent Garden Primer is formulated to be a first coat prior to conventional painting although adding 20% to your scenic paint will normally make it stick to dance floor materials.

- ✓ Aids adhesion of water-based paints to difficult substrates
- ✓ Use it when painting dance floors – see also Hatocel [# page 31]
- ✓ Very popular well tried product

CG Primer	code	1 L	code	2.5 L	code	5 L	5+ 5 L
	PAT0503	£24.50	PAT0504	£41.04	PAT0505	£82.37	£75.78

See also, Flag Aqualac Floor Glaze in our Glazes and Varnishes section [see page 54] - we've heard of people priming difficult surfaces with it, as well as our Binders and Adhesion Promoters section from page 22 to see other products that can be added to paints to improve their grip to tricky surfaces, and our Textures and Fillers Section from page 44. For vacuum-form sheets see our selection - four brick and stone textures [page 100].



Super tough stuff!



CrystalGel sprayed with Hopper Gun

**Rosco CrystalGel**

A non-toxic, water-based material which provides a clear, plastic-like coating on virtually any surface used on stage. It air dries quickly, usually within hours, to form a flexible translucent surface. When dry it can be painted with Rosco paint. Cloths can be rolled up without cracking, peeling or sticking. Sand, sawdust, or powdered clay can be added to make unique textures. Being clear, CrystalGel is perfect for permanently securing glitter and when splattered onto windows it makes a great rain effect. It will ferociously adhere to glass, plastics, canvas, foam, metal and wood and it is very effective on plexiglass-type materials. Less well suited for dance floors compared to those above. See other transparent coatings on page 47 for alternatives.

Rosco CrystalGel	size	code	price
	1 L	ROSCG1	£22.10
	3.79 L	ROSCG128	£69.75
	18.95 L	ROSCG210	£311.50

**GESSO PRIMERS**



**Acrylic Gesso White Primer**  
An intensely white primer with a slightly textured surface. Works well on the Worbla's Art Series products, see page 98.

Acrylic Gesso	size	code	price
	250 ml	PAT0594	£11.30
	1 L	PAT0595	£25.30



**HATO@Gesso** Highly flexible water-based primer for textiles, canvases, wood and sculptures. We think this could be an excellent choice for prop makers and costumiers especially those using sheet materials such as Worbla [page 98] in our propmakers materials section [page 95 - 102]. Thin with water. Apply by brush, roller or spray gun. SPECIFICATION: Coverage: 10 m<sup>2</sup>/L

HATO@Gesso	code	price
1 Litre	PAT11001	£14.71

**WHITING & SIZE FOR PRIMING CANVAS FLATS**



**Whiting** is refined, ground and washed calcium carbonate. Used to make gesso and as a primer for scenic canvas when mixed with size. This primer will tighten the canvas to a drum-like tension resulting in a perfectly flat surface to paint on to. The mix is a matter of choice but the following guide may help. Soak 1 part of Granular Size to 2 parts of water for one hour then warm in a double boiler until the size has completely dissolved. Two galvanised buckets with a brick in the bottom make a good double boiler. Stir in the whiting and more water until you achieve a mix that will just run from a stick in a continuous stream. To test the mix dip in a piece of paper and dry with a heat gun. There should be just one or two sparkles of size reflecting in the light, too many and the mix is too strong but too few and the whiting will not be fully bound. Apply to the flat while the mix is still warm. Note: When canvassing the flats be careful not to stretch the canvas too tightly as the shrinking effect of the warm size could "banana" your frame. For priming cloths we also recommend using Rosco White Base diluted 2:1 with water [page 6].

Whiting	code	per kg	code	25 kg
	PAT850	£1.58	PAT850B	£15.62

Size	code	per kg	code	25 kg
	PAT852	£11.38	PAT852B	£226.65

Priming Equipment	code	price
Galvanised Bucket	PBR619	£19.95
Hot Plate	PBR619HP	£36.78

**SPECIALIST PRIMERS AND ADHESION PROMOTERS**



**G4** A popular moisture-cured damp sealer. Excellent for sealing moulds as it will cure even on damp plaster. G4 can be used as a primer especially prior to bonding on GRP. It effectively seals damp walls after flood damage enabling decorations to be reinstated. Use it to protect timber or plywood troughs and surrounds used as stage water features. Rapid drying, G4 can be applied coat-on-coat without needing to sand between as long as the times are followed on the can. A very useful and effective product. Three coats will use approximately 550 g per m<sup>2</sup>.

G4 Damp Seal	code	1 kg	2.5 kg	5 kg
G4	PR012102	£25.64	PR012104 £51.36	PR012106 £80.86
G4 Thinner	PR012232	£14.00		



**Epifanes Washprimer AQ [one-component]** Water-based adhesion primer providing excellent bond to aluminium, zinc-coated and galvanised steel, non-ferrous metals, glass and ceramics. Can be overcoated with all Epifanes one- and two-component products. Off-white, dries clear. Recoatable after 2 hours [max 48 hours]. Covers 16 m<sup>2</sup> per litre.

Epifanes Washprimer AQ	code	500 ml
Off-white [dries clear]	PATEWAQ500	£31.80



**Owatrol E.S.P. Easy Surface Prep** If you need to paint old gloss enamel, varnish, glazed or ceramic tiles, baked enamel or even glass then Owatrol E.S.P. Easy Surface Prep will prepare the surface without the need to sand. Just wipe it on and wait for 2 hours before painting with oil or emulsion paint. In every case the paint will stick. Suitable for interior and exterior use. Covers approx 18 m<sup>2</sup> per litre.

- ✓ No need to sand
- ✓ Even prepares glass surfaces

E.S.P. Easy Surface Prep	code	1 L
	PAT070	£27.13

# SCENIC PAINTS

## ROSCO SUPERSATURATED PAINTS



Our biggest selling range of scenic paint

### Rosco Supersaturated Paint

Specifically designed to offer the scenic artist a matt non-reflective medium that can be used indoors or outdoors. It will adhere to most modern scenic surfaces, the acrylic base ensuring that it will not crack. The paint is conveniently packaged in a concentrated form that saves storage space. This can be particularly helpful for freelance scenic artists who may need to transport a wide range of colours

in their car. The paint provides the versatility of dry pigment with the permanence, ease of use and flexibility of acrylics.

Rosco Supersaturated Paints can be used direct from the pot for maximum obliteration, but they are really designed to be diluted at least 1:1 with water. They can be further diluted up to 15:1 to provide watercolour washes and dye effects. If you are heavily diluting the paint but want to use it on a difficult surface we advise that Rosco Neutral Base [below] is added to reinforce the binding power. Indeed Neutral Base can be added to Rosco Supersaturated to paint items such as brass door furniture where most paints would fail to adhere. When used to paint cloths, Rosco Supersaturated has the advantage over other paints in that it remains supple allowing the cloth to be rolled or folded without cracking. It is this flexibility that makes Rosco Supersaturated the preferred choice of virtually every major theatre paint shop. The paint can be easily flame retarded by the addition of Rosco Flamex PA [page 71]. Once diluted 1:1 the paint will cover approximately 8 - 10 m<sup>2</sup> per litre making it very good value.

## ROSCO WHITE BASE & VELOUR BLACK



**Rosco White Base** A concentrated vinyl acrylic emulsion with a titanium dioxide filler. For priming new canvas dilute in ratio 2:1 water to base, which will give a good surface to take colour etc. A 6:1 prime will create a more absorbent surface for watercolour effects, while 1:1 should be used to prime old paint surfaces.

SPECIFICATION: Covers 8 - 10 m<sup>2</sup> per litre.

White Base	code	1 L	code	5 L	code	10 L
	ROS16002	£19.25	ROS56002	£73.25	ROS26002	£119.25



**Rosco Velour Black** Use in the same way as the Rosco Supersaturated Paints. When diluted 1:1 it will provide an intense matt black permanent velvet finish. In Flints' tests Rosco Velour Black proved to be one of the blackest paints available with the advantage of remaining flexible and strong. It can be further diluted like the other supersaturated paints. SPECIFICATION: Covers 8 - 10 m<sup>2</sup> per litre.

Velour Black	code	1 L	code	5 L	code	10 L
	ROS16003	£19.25	ROS56003	£73.25	ROS26003	£119.25

We stock a handy little canvas toolbag [page 325] which will neatly fit 10 x 1 L of Rosco Supersaturated Paints. Great for tours or travelling to paint frames.

Rosco Supersaturated Paint	code	1 L	code	5 L
Chrome Yellow	ROS15981	£38.00	ROS55981	£159.50
Spectrum Red	ROS15977	£38.00	ROS55977	£159.50
Turquoise	ROS15989	£38.00	ROS55989	£159.50
Lemon Yellow	ROS15988	£38.00	ROS55988	£159.50
Magenta	ROS15975	£38.00	ROS55975	£159.50
Ultramarine Blue	ROS15969	£38.00	ROS55969	£159.50
Hunter Green	ROS15997	£38.00	ROS55997	£159.50
Raw Sienna	ROS15983	£38.00	ROS55983	£159.50
Yellow Ochre	ROS15982	£26.75	ROS55982	£99.00
Purple	ROS15979	£38.00	ROS55979	£159.50
Green Shade Blue	ROS15968	£38.00	ROS55968	£159.50
Pthalo Green	ROS15973	£38.00	ROS55973	£159.50
Leather Lake	ROS15993	£38.00	ROS55993	£159.50
Moly Orange	ROS15984	£38.00	ROS55984	£159.50
Cerulean Blue	ROS15996	£38.00	ROS55996	£159.50
Chrome Green	ROS15971	£38.00	ROS55971	£159.50
Burnt Sienna	ROS15987	£26.75	ROS55987	£99.00
Raw Umber	ROS15986	£26.75	ROS55986	£99.00
Iron Red	ROS15980	£26.75	ROS55980	£99.00
Navy Blue	ROS15991	£38.00	ROS55991	£159.50
Emerald Green	ROS15972	£38.00	ROS55972	£159.50
Burnt Umber	ROS15985	£51.25	ROS55985	£215.75
Van Dyke Brown	ROS15998	£26.75	ROS55998	£99.00
Red	ROS15965	£38.00	ROS55965	£159.50
Prussian Blue	ROS15990	£38.00	ROS55990	£159.50
Grass Green	ROS15994	£38.00	ROS55994	£159.50
Brilliant Red	ROS15976	£51.25	ROS55976	£215.75
Paynes Grey	ROS15992	£51.25	ROS55992	£215.75
Imperial Green	ROS15974	£51.25	ROS55974	£215.75

## ROSCO SUPERSATURATED STARTER KIT



### Rosco Starter Kit

These kits are ideal for painting stage models in the paint preferred by scenic artists. Contains 32 small pots covering the whole Rosco Supersaturated colour range plus white, black and neutral base.

SPECIFICATION: Contains 32 x 28 g pots. Each pot will cover around 0.25 m<sup>2</sup>.

Rosco Starter Kit	code	price
32 x 28 g pots	ROS6030	£83.25



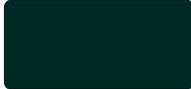
**Rosco Neutral Base** An acrylic binder with no pigment to use to increase adhesion when paint has been diluted with water. It is especially useful with heavily diluted supersaturated paints that are being used on difficult surfaces. Add it to Rosco paint when painting items such as door handles.

SPECIFICATION: Covers 8 - 10 m<sup>2</sup> per litre.

Rosco Neutral Base	code	1 L	code	5 L
	ROS16001	£19.25	ROS56001	£73.25

# SUPER SATURATED

## 1: SCENIC PAINTS

					
Chrome Yellow ROS×5981	Spectrum Red ROS×5977	Turquoise ROS×5989	Lemon Yellow ROS×5988	Magenta ROS×5975	Ultramarine Blue ROS×5969
					
Hunter Green ROS×5997	Raw Sienna ROS×5983	Yellow Ochre ROS×5982	Purple ROS×5979	Green Shade Blue ROS×5968	Pthalo Green ROS×5973
					
Leather Lake ROS×5993	Moly Orange ROS×5984	Cerulean Blue ROS×5996	Chrome Green ROS×5971	Burnt Sienna ROS×5987	Raw Umber ROS×5986
					
Iron Red ROS×5980	Navy Blue ROS×5991	Emerald Green ROS×5972	Burnt Umber ROS×5985	Van Dyke Brown ROS×5998	Red ROS×5965
					
Prussian Blue ROS×5990	Grass Green ROS×5994	Brilliant Red ROS×5976	Paynes Grey ROS×5992	Imperial Green ROS×5974	

Due to the limitations of the printing process used in this catalogue, the colour chart should only be used as a rough guide to the range. For accurate colour matching please use starter kits as Rosco Colour Cards no longer use real paint so are as restricted as this document.



This beautiful safety curtain was painted by Chris and Liz Clark for the refurbished Theatre Royal Drury Lane. A replacement for the original 1922 curtain, they were asked to replicate it with some 'artistic licence'. Chris took inspiration from Leonardo da Vinci's atmospheric backgrounds to improve the landscape, and then visited the theatre during the restoration process to ensure the complex gilt fretwork that was overpainted tied into the decor of the theatre. The gilt fretwork was painted to give the illusion of footlights. Simply stunning. The photo is kindly supplied by Chris Clark.

## BRISTOL SUPERSCEMIC

**Bristol SuperScenic** The SuperScenic range from Bristol UK is a collection of highly concentrated acrylic-based matt paints, primarily suited to use on fabrics but able to achieve an opaque colour field on a range of different surfaces. These paints are designed to be diluted 1:1 with water prior to use. The hue of the colour doesn't change as significantly as other ranges do, so it's great for colour matching! The binder is available separately to allow colour dilution without reducing the adhesion.

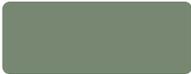
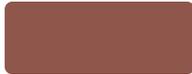
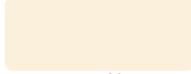
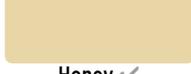
Bristol SuperScenic Binder	size	code	price
	1 kg	BSSB1	£26.71
	4 kg	BSSB4	£98.64

Bristol SuperScenic	size	code	price
White	1 kg	BSS11000	£19.06
	4 kg	BSS41000	£72.44
Black	1 kg	BSS11030	£26.71
	4 kg	BSS41030	£98.64
Plum	1 kg	BSS11039	£26.71
Tomato	1 kg	BSS11041	£26.71
Orange	1 kg	BSS11043	£26.71
Chrome	1 kg	BSS11049	£26.71
Emerald Green	1 kg	BSS11095	£19.06
Brunswick	1 kg	BSS11055	£26.71
Viridian	1 kg	BSS11063	£26.71
Ultramarine	1 kg	BSS11035	£26.71
Deep Blue	1 kg	BSS11079	£26.71
Sky Blue	1 kg	BSS12001	£26.71
Yellow Ochre	1 kg	BSS11046	£19.06
Raw Sienna	1 kg	BSS11087	£19.06
Venetian Red	1 kg	BSS11092	£19.06
Burnt Sienna	1 kg	BSS11089	£19.06
Burnt Umber	1 kg	BSS11091	£19.06
Raw Umber	1 kg	BSS11090A	£19.06
Coffee	1 kg	BSS11070	£26.71



These paintings which use the Bristol SuperScenic range, were made by our very own Liz and Lydia from the trade counter. The SuperScenic range is great for creating impressions of surfaces, such as marble and rust as shown here, as well as more detailed imagery.

## MYLANDS COLOURED FLAME RETARDANT EMULSION PAINTS

 Canary Yellow MYLEP755 ***	 Mid Green* MYLEP365 ***	 Sage MYLEP465 **	 Sylvian Green MYLEP655 **	 French Rose MYLEP245 ***	 Terracotta MYLEP675 ***	 Light Cream MYLEP315 **
 Deep Lemon* ✓ MYLEP875 ***	 Turquoise MYLEP765 ***	 Olive MYLEP925 ***	 Blue Grey MYLEP085 **	 Indian Red MYLEP285 ***	 Red Oxide* ✓ MYLEP455 **	 Dawn Glow MYLEP205 **
 Mid Chrome ✓ MYLEP625 ***	 Deep Green* MYLEP865 ***	 Lime MYLEP745 ***	 Jade MYLEP835 **	 Brick Red MYLEP635 ***	 Copper MYLEP155 ***	 Cream MYLEP165 **
 Golden Yellow MYLEP775 ***	 Privet Green MYLEP805 ***	 Bright Green MYLEP095 **	 Dark Blue* MYLEP615 ***	 Rouge MYLEP825 ***	 Vermillion MYLEP575 **	 Honey ✓ MYLEP275 **
 Yellow Chrome* ✓ MYLEP595 **	 Veridian MYLEP565 ***	 Emerald Green* ✓ MYLEP235 **	 Monastral Blue MYLEP685 ***	 Dark Red* MYLEP885 ***	 Orange Chrome* ✓ MYLEP395 **	 Light Grey MYLEP325 **
 Mustard MYLEP795 ***	 Brunswick Green* ✓ MYLEP105 **	 Apple MYLEP075 ***	 Midnight Blue MYLEP785 ***	 Deep Red* MYLEP895 ***	 Orange MYLEP695 ***	 Medium Grey MYLEP355 ***
 Yellow Ochre ✓ MYLEP045 *	 Dark Green* MYLEP715 ***	 Duck Egg MYLEP225 ***	 Cobalt Blue* ✓ MYLEP145 **	 Venetian Red MYLEP555 **	 Satinwood MYLEP485 ***	 Lead MYLEP295 ***
 Sand Yellow MYLEP475 ***	 Monastral Green MYLEP375 **	 Pastel Blue MYLEP405 **	 Oxford Blue MYLEP725 ***	 Rowanberry MYLEP935 ***	 Buff MYLEP115 ***	 Dark Grey ✓ MYLEP195 ***
 Golden Brown ✓ MYLEP065 *	 Shepherds Bush Green ✓ MYLEP505 **	 Pompadour MYLEP435 **	 Prussian Blue Dark ✓ MYLEP445 ***	 Bright Red* ✓ MYLEP605 ***	 Mushroom MYLEP385 ***	 Grey Green MYLEP265 ***
 Raw Sienna ✓ MYLEP025 *	 Vandyke Brown ✓ MYLEP545 **	 Pale Blue MYLEP645 **	 Deep Blue* ✓ MYLEP855 ***	 Poppy MYLEP905 ***	 Peach MYLEP415 ***	 Stone MYLEP525 ***
 Dark Coffee ✓ MYLEP185 ***	 Shepherds Bush Brown ✓ MYLEP495 **	 Wedgewood MYLEP585 **	 Smalt MYLEP515 **	 Shocking Pink MYLEP665 ***	 Pale Rouge MYLEP815 ***	 Dove Grey MYLEP215 ***
 Dark Brown ✓ MYLEP175 ***	 Raw Umber ✓ MYLEP055 *	 Light Blue ✓ MYLEP305 **	 Ultra Blue* ✓ MYLEP705 ***	 Magenta* MYLEP345 ***	 Tan MYLEP535 ***	 Pebble Grey MYLEP425 ***
 Burnt Sienna ✓ MYLEP015 *	 Burnt Umber ✓ MYLEP035 *	 Glacier Blue MYLEP255 **	 Ultra Violet* MYLEP915 ***	 Amethyst MYLEP955 ***	 Cedar MYLEP125 **	 Light Stone MYLEP335 **

A professional-grade flame retardant [see note on page 70 about FR] emulsion paint formulated for the theatre, film, and TV industries. The more popular colours, which are marked with a ✓, are held in stock. Other colours are normally with us in 2 days. The colours marked with an \* next to the name are extra-strength colours ideal for colouring, staining and tinting emulsions but they can also be used as standard emulsion paint. Our colour chart only shows a selection of the full colour range. These paints are priced according to Mylands' three colour ranges.

To BS 476 Part 6 & 7, Class 0 & 1

Due to the limitations of the printing process used in this catalogue the colour chart should only be used as a rough guide. For accurate matching please ask for Mylands colour swatches.

Colours marked with a ✓ are normally held in stock.

### KEY

- \* Range 1
- \*\* Range 2
- \*\*\* Range 3

Mylands Coloured Flame Retardant Emulsion Paint 5L	code	price
Mylands Colour Range 1 [Earth Colours]	MYLEPXXX	£81.90
Mylands Colour Range 2	MYLEPXXX	£97.96
Mylands Colour Range 3	MYLEPXXX	£102.87

ROSCO OFF BROADWAY PAINTS



**Rosco Off Broadway Paint**

Rosco's biggest selling paint range in America but in the UK it is used far less than the Supersaturated range despite its economical price. This versatile matt vinyl acrylic paint may be used on a variety of surfaces. Off Broadway is available in the full range of scenic colours plus some highly effective water-based metallics. It is ready to use straight from the pot or may be diluted with water to stretch your budget. Off Broadway is ideally suited to educational establishments. SPECIFICATION: Covers 8 - 9 m<sup>2</sup> per litre.



**Rosco Off Broadway Starter Kit** Ideal for painting scenic models, props or small murals. Also good for colour matching, now that Rosco Colour Cards no longer use real paint. Contains 22 pots of Off Broadway colour paint plus 5 x 28 g pots of the metallics, a gloss and flat glaze.

SPECIFICATION: Contains 29 x 28 g pots. Each pot will cover 0.25 m<sup>2</sup>.

Rosco Off Broadway Starter Kit	code	29 x 28 g
29 x 28 g pots	ROS5300	£83.25

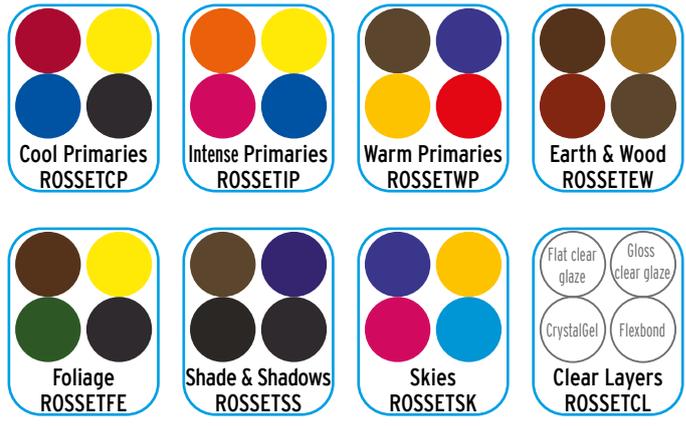
Rosco Off Broadway Paint	code	3.79 L	code	18.95 L
Black	ROS35352	£47.75	ROS45352	£221.75
White	ROS35350	£39.75	ROS45350	£192.25
White White	ROS35351	£47.75	ROS45351	£221.75
Lemon Yellow	ROS35366	£61.50	-	-
Golden Yellow	ROS35367	£61.50	-	-
Yellow Ochre	ROS35353	£47.75	-	-
Orange	ROS35363	£61.50	-	-
Brilliant Red	ROS35376	£61.50	-	-
Deep Red	ROS35361	£61.50	-	-
Fire Red	ROS35360	£61.50	-	-
Magenta	ROS35369	£61.50	-	-
Purple	ROS35368	£61.50	-	-
Sky Blue	ROS35372	£61.50	-	-
Pthalo Blue	ROS35373	£61.50	-	-
Ultramarine Blue	ROS35359	£61.50	-	-
Chrome Oxide Green	ROS35365	£61.50	-	-
Emerald Green	ROS35364	£61.50	-	-
Pthalo Green	ROS35371	£61.50	-	-
Imperial Green	ROS35374	£61.50	-	-
Paynes Grey	ROS35382	£61.50	-	-
Burnt Sienna	ROS35356	£47.75	-	-
Burnt Umber	ROS35354	£47.75	-	-
Raw Sienna	ROS35355	£47.75	-	-
Raw Umber	ROS35357	£47.75	-	-
Earth Umber	ROS35358	£47.75	-	-
Van Dyke Brown	ROS35380	£116.75	-	-
Navy	ROS35375	£116.75	-	-

ROSCO SCENIC SETS

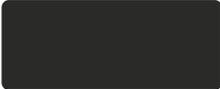
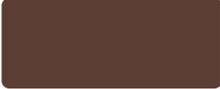
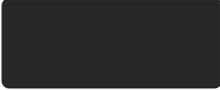


**Rosco Scenic Sets** Scenic Artists working closely with Rosco have created these kits perfect for exploring colours theory and mixing, or for a particular effect. Each Kit contains 4 x 6 oz [177 ml] jars of Off Broadway paints, other than the Clear Layers which contains a selection of useful clear coatings and glazes [see pages 55, 47, & 128].

Scenic Set	code	price
Cool Primaries [Deep Red, Lemon Yellow, Pthalo Blue, Paynes Grey]	ROSSETCP	£40.50
Intense Primaries [Orange, Lemon Yellow, Magenta, Pthalo Blue]	ROSSETIP	£40.50
Warm Primaries [Raw Umber, Ultra. Blue, Golden Yellow, Brill. Red]	ROSSETWP	£40.50
Earth & Wood [Burnt & Raw Umber, Burnt & Raw Sienna]	ROSSETEW	£40.50
Foliage [Burnt Umber, Lemon Yellow, C-Oxide Green, Paynes Grey]	ROSSETFE	£40.50
Shade & Shadows [Raw Umber, Purple, V-D Brown, Paynes Grey]	ROSSETSS	£40.50
Skies [Ultramarine Blue, Golden Yellow, Magenta, Sky Blue]	ROSSETSK	£40.50
Clear Layers [Flat & Gloss Clear Acrylic Glaze, CrystalGel, Flexbond]	ROSSETCL	£40.50



## HATO@DESIGN - SCENIC COLOURS

				
Ochre PAT22801X	Deep Black PAT22554X	Milor Blue PAT22309X	Ultramarine Blue PAT22307X	White PAT22100X
				
Green Raw Umber PAT228051X	Caput Mortum PAT22813X	Phtalo Blue PAT22310X	Cobalt Blue PAT22305X	Lemon PAT22101X
				
Raw Sienna PAT22802X	Velvet Brown PAT22511X	Navy Blue PAT22311X	Turquoise Blue PAT22301X	Dark Chrome Yellow PAT22103X
				
Raw Umber PAT22803X	Sepia Bronze Brown PAT22506X	Sky Blue PAT22312X	Red Violet PAT22225X	Straw Yellow PAT22105X
				
Burnt Sienna PAT22804X	Bronze Green PAT22414X	May Green PAT22401X	Violet PAT22215X	True Yellow PAT22106X
				
Burnt Umber PAT22806X	Hunter Green PAT22412X	Chrome Green PAT22402X	Telemagenta PAT22211X	True Orange PAT22151X
				
Satin Glaze PAT22808X	Grass Green PAT22411X	Phtalo Green PAT22403X	Light Rose PAT22210X	Brown Orange PAT22152X
				
Orange Brown PAT22809X	Emerald Green PAT22407X	Cinnabar Green PAT22404X	Deep Maroon PAT22209X	True Red PAT22201X
				
Oxide Red PAT22812X	Imperial Green PAT22409X	Sea Green PAT22405X	Madder PAT22206X	Brilliant Red PAT22202X
				
Cigar Brown PAT22814X	Blue Green PAT22408X	True Green PAT22406X	Spectrum Red PAT22205X	Carmine Red PAT22203X

**HATO@Design** This fantastic range of colours is the latest paint range from Haussmann. Offering a huge range of colours, this high-quality acrylic paint has a smooth matt finish. We found in our testing that most of the colours thinned well and could be used as a wash without losing consistency of colour. The Velvet Black is especially impressive for a super-matt black finish, but the deep black thins better to make a wash. All the colours mix well without muddying. Designed to be used straight out of the pot, it will cover 6 - 8 m<sup>2</sup> per litre. Haussmann recommend that you thin with water to a maximum of 3:1, but in testing we found that we could push the dilution to up to 20:1 creating a very thin wash. One of the biggest benefits of this range of paints is the consistent pricing - with every colour priced the same it makes costing jobs a lot easier!

- ✓ Excellent value and consistent pricing
- ✓ Brilliant, wide range of colours
- ✓ High quality - as you'd expect from Haussmann
- ✓ Best for school productions and fringe theatre
- ✓ Offers better value when purchasing a wider range of colours than other paint ranges

We can supply larger pots to order - please call for further details.

HATO@Design	size	code	1 L	5+
	1 L	PAT22XXX 1	£19.95	£18.50
	5 L	PAT22XXX 5	£85.00	£76.50

N.B. Colours may vary between ranges from Haussmann

**BRISTOL STANDTEX PRIMARY PALETTE**



**Bristol StandTex Primary Palette** Formulated by Bristol Paints working in collaboration with some of the country's leading scenic artists. Ready to use straight from the pot, the heavily pigmented colours provide a rich colour medium for any artist. Bristol's StandTex range is a quick drying water-based decorative paint for interior use, with exceptional covering power and a matt finish. Extra bonding power can be achieved by adding Bristol AquaLak [page 56]. AquaLak can also be mixed with the paint to achieve eggshell finishes. The paint will be touch dry in about one hour but will continue to harden and the bond will improve over a further 48 hours. Covers 8 - 10 m<sup>2</sup> per litre. To convert kilos to litres simply multiply the weight by the conversion figure in the first column.

**Why Weight?**

You'll have noticed that Bristol Paints are a little unusual in that instead of selling their products by volume (L), they are sold by (kg). There is an extremely good reason for this though - it's because they focus on how much pigment is being included in the paint, and that's the expensive bit! The choice to measure it by weight is a reflection of the high quality products that they make.

However, you need to know what the coverage is going to be, and how much (volumetrically) you are buying! That's why we include the handy conversion figure. All you have to do is multiply the weight of the pot you are buying by the conversion figure to get an idea of the volume.

For example, Vermillion has a conversion figure of 0.7, so a 3 kg pot will give 3 kg x 0.78 = 2.38 L

Most of the paints in the Primary Palette have a conversion figure of 0.7 which has been used to give the approximate volumes listed.

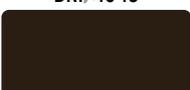
Bristol Primary Palette		1 kg	3 kg	6 kg	12.5 kg
conversion figure	approx vol:	0.75 L	2.25 L	4.5 L	9.37 L
[0.78]	Red Oxide	BRI11096	BRI31096	BRI61096	BRI21096
[0.78]	Coffee	BRI11070	BRI31070	BRI61070	BRI21070
[0.78]	Hawaii Blue	BRI12007	BRI32007	BRI62007	BRI22007
		£17.78	£38.79	£64.20	£124.40
[0.7]	Chrome Yellow	BRI11049	BRI31049	BRI61049	BRI21049
[0.7]	Naples Yellow	BRI11058	BRI31058	BRI61058	BRI21058
[0.7]	Mid Chrome	BRI12002	BRI32002	BRI62002	BRI22002
[0.7]	Orange	BRI11043	BRI31043	BRI61043	BRI21043
[0.7]	Coral	BRI11042	BRI31042	BRI61042	BRI21042
[0.7]	Crimson	BRI11040	BRI31040	BRI61040	BRI21040
[0.7]	Tomato	BRI11041	BRI31041	BRI61041	BRI21041
[0.7]	Madder	BRI11038	BRI31038	BRI61038	BRI21038
[0.78]	Vermillion	BRI11098	BRI31098	BRI61098	BRI21098
[0.7]	Purple	BRI11054	BRI31054	BRI61054	BRI21054
[0.7]	Plum	BRI11039	BRI31039	BRI61039	BRI21039
[0.7]	Azure Blue	BRI11094	BRI31094	BRI61094	BRI21094
[0.7]	Oxford Blue	BRI11062	BRI31062	BRI61062	BRI21062
[0.7]	Deep Blue	BRI11079	BRI31079	BRI61079	BRI21079
[0.7]	Midnight Blue	BRI11034	BRI31034	BRI61034	BRI21034
[0.7]	Orient Blue	BRI11052	BRI31052	BRI61052	BRI21052
[0.7]	Sky Blue	BRI12001	BRI32001	BRI62001	BRI22001
[0.7]	Turquoise	BRI11053	BRI31053	BRI61053	BRI21053
[0.7]	Royal Blue	BRI12003	BRI32003	BRI62003	BRI22003
[0.7]	Lime Green	BRI11099	BRI31099	BRI61099	BRI21099
[0.7]	Emerald Green	BRI11095	BRI31095	BRI61095	BRI21095
[0.7]	Imperial Green	BRI12006	BRI32006	BRI62006	BRI22006
[0.7]	Brunswick	BRI11055	BRI31055	BRI61055	BRI21055
[0.7]	Viridian	BRI11063	BRI31063	BRI61063	BRI21063
[0.7]	Mint Green	BRI11057	BRI31057	BRI61057	BRI21057
		£19.56	£55.98	£95.05	£187.98
[0.77]	Lemon Yellow	BRI11082	BRI31082	BRI61082	BRI21082
[0.77]	Signal Red	BRI11078	BRI31078	BRI61078	BRI21078
[0.7]	Ultramarine	BRI11035	BRI31035	BRI61035	BRI21035
[0.7]	Prussian Blue	BRI11085	BRI31085	BRI61085	BRI21085
		£31.28	£83.78	£141.44	£227.84
[0.8]	Magenta*	BRI11093	BRI31093	BRI61093	BRI21093*
[0.8]	Bengal Rose	BRI12000	BRI32000	BRI62000	BRI22000
[0.8]	Blue Violet	BRI11097	BRI31097	BRI61097	BRI21097
	Bristol full colour chart [at cost price]		BRICC		£16.00

\*The largest pot available for Bristol Magenta Pure Colour is 10 kg [8 L].

**BRISTOL STANDTEX EARTH PALETTE**

**Bristol StandTex Earth Palette** These superb rich earth colours are based on the same paint technology as Bristol's Primary Range listed above. They are water-based, totally matt and give exceptional coverage. The paint will be touch dry in about one hour but will continue to harden and the bond will improve over a further 48 hrs. Covers 8 - 10 m<sup>2</sup> per litre. To convert kilos to litres simply multiply the weight by the conversion figure in the first column.

Bristol Earth Palette		1 kg	3 kg	6 kg	12.5 kg
conversion figure	approx vol:	0.75 L	2.25 L	4.5 L	9.37 L
[0.78]	Yellow Ochre	BRI11046	BRI31046	BRI61046	BRI21046
[0.78]	Raw Sienna	BRI11087	BRI31087	BRI61087	BRI21087
[0.78]	Venetian Red	BRI11092	BRI31092	BRI61092	BRI21092
[0.78]	Burnt Sienna	BRI11089	BRI31089	BRI61089	BRI21089
[0.78]	Burnt Umber	BRI11091	BRI31091	BRI61091	BRI21091
[0.78]	Raw Umber	BRI11090	BRI31090	BRI61090	BRI21090
[0.78]	Dark Umber	BRI12010	BRI32010	BRI62010	BRI22010
[0.78]	Bronze Green	BRI12011	BRI32011	BRI62011	BRI22011
[0.78]	Green Umber	BRI12012	BRI32012	BRI62012	BRI22012
[0.78]	Earth Green	BRI12013	BRI32013	BRI62013	BRI22013
	Bristol full colour chart [at cost price]		BRICC		£16.00

					
Lemon Yellow BRI×1082	Chrome Yellow BRI×1049	Naples Yellow BRI×1058	Orange BRI×1043	Coral BRI×1042	Signal Red BRI×1078
					
Mid Chrome BRI×2002	Bengal Rose BRI×2000	Magenta BRI×1093	Crimson BRI×1040	Madder BRI×1038	Tomato BRI×1041
					
Vermillion BRI×1098	Red Oxide BRI×1096	Coffee BRI×1070	Purple BRI×1054	Plum BRI×1039	Blue Violet BRI×1097
					
Hawaii Blue BRI×2007	Azure Blue BRI×1094	Ultramarine BRI×1035	Oxford Blue BRI×1062	Deep Blue BRI×1079	Prussian Blue BRI×1085
					
Midnight Blue BRI×1034	Orient Blue BRI×1052	Sky Blue BRI×2001	Turquoise BRI×1053	Royal Blue BRI×2003	Lime Green BRI×1099
					
Earth Green BRI×2013	Emerald Green BRI×1095	Imperial Green BRI×2006	Brunswick BRI×1055	Viridian BRI×1063	Mint Green BRI×1057
					
Yellow Ochre BRI×1046	Raw Sienna BRI×1087	Venetian Red BRI×1092	Burnt Sienna BRI×1089	Burnt Umber BRI×1091	Raw Umber BRI×1090
					
Dark Umber BRI×2010	Bronze Green BRI×2011	Green Umber BRI×2012			

Due to the limitations of the printing process, the colour chart should only be used as a rough guide. For accurate matching, please ask for a Bristol colour chart.



Filled cloth painted for The Sarasota Ballet's *A Comedy of Errors*; Painted by Visualscene. Brett Naylor and Duncan Parker, the scenic artists, chose to use Bristol StandTex Primary and Earth palettes for this piece in large part for the vibrancy and strength of colour of the blues in the range. Perfect for creating those intense Mediterranean seas and skies. This production was performed in Sarasota, Florida, and designed by Dick Bird. Image kindly supplied by Brett Naylor of Visualscene.

# FILM & TV PAINTS

1: FILM & TV PAINTS

## ROSCO TV PAINT



Rosco TV Black  
R074017



Rosco TV White  
R0S73517

**Rosco TV Paint** The TV paints are specifically formulated for the sensitive contrasts of standard television. TV White is a neutral grey that meets the requirements of only 60% reflectance. TV Black is a rich matt black with only 3% reflectance. Designed for one-coat coverage straight from the can.

Rosco TV Paint	size	code	price
TV Black	3.79 L	R0S74017	£53.50
TV White	3.79 L	R0S73517	£53.50

## ROSCO FILM AND VIDEO PAINTS & TAPE

**Rosco DigiComp HD Paint** Use for digital compositing. The pigments found in these paints produce the right spectral reflectance and high-gain reflectivity to produce the narrow bandwidth of green or blue needed for clean separation of foreground and background. Simple to light and easy to key, with less tidying up in post production.



DigiComp Blue  
R0S5750



DigiComp Green  
R0S5751

Rosco DigiComp HD Paint	size	code	price
DigiComp HD Paint Blue	3.79 L	R0S5750	£98.75
DigiComp HD Paint Green	3.79 L	R0S5751	£128.50

**Rosco Chromakey Paint & Tape** Formulated to provide high luminance values and colour saturation for keying effects. The acrylic colours provide high-build, one-coat coverage for use on nearly any surface. Matching tapes available.



Chromakey Blue  
R0S57101



Chromakey Green  
R0S57111

Rosco Chromakey Paint	code	price	code	price
	946 ml		3.79 L	
Chromakey Blue Paint	R0S57109	£29.50	R0S57101	£88.75
Chromakey Green Paint	R0S57119	£29.50	R0S57111	£88.75

Rosco Chromakey Tape [50 m]	width	code	price
Chromakey Blue Tape	48 mm	R0S571015050	£30.25
Chromakey Green Tape	48 mm	R0S571115050	£30.25

### Need a VFX Cloth?

Bristol can provide fabric that matches their paints perfectly. Available to order by the metre [1.5 m or 1.8 m wide] or as made up cloths to any size or specification - perfect for when you need the background and physical objects to seamlessly blend!

Standtex Colour	Fabric colour
Digi Blue 1083	Digi Blue
Deep Optic Blue 1079B	Deep optic Blue
Deep Optic Green 1080	Deep Optic Green
Optic Green 1069	Optic Green
Optic Green 2013	Digi Green

**BRISTOL VFX**

## BRISTOL STANDTEX NEUTRAL PALETTE



TV White  
BRIx1077



Mastic  
BRIx1051



Warm Grey  
BRIx1050



Cool Grey  
BRIx1076



Steel  
BRIx1075



Flannel  
BRIx1074



Anthracite  
BRIx1073

### Neutral Greys and TV White

Ready-mixed greys suited for jobs which may need touching up or repainting after tours. The TV white is actually a grey designed to comply with the requirement for the maximum 60% reflectance needed for transmission purposes.

Bristol Neutral Palette	code	6 kg	code	12.5 kg
approx vol:		4.3 L		9.0 L
TV White	BRI61077	£36.96	BRI21077	£67.62
Mastic	BRI61051	£36.96	BRI21051	£67.62
Warm Grey	BRI61050	£36.96	BRI21050	£67.62
Cool Grey	BRI61076	£36.96	BRI21076	£67.62
Steel	BRI61075	£36.96	BRI21075	£67.62
Flannel	BRI61074	£36.96	BRI21074	£67.62
Anthracite	BRI61073	£36.96	BRI21073	£67.62

## BRISTOL STANDTEX VFX PALETTE



Optic Green 2013  
BRIx2013VFX



Deep Optic Blue  
BRIx1079AVFX



Digi Blue  
BRIx1083VFX



Optic Green 1069  
BRIx1069VFX



Deep Optic Green  
BRIx1080VFX

### Bristol StandTex VFX Palette - Blue & Green Screen

These colours have been developed for shooting visual effects sequences and are compatible with all current keying formats and VFX techniques. These water-based paints are made from pure pigment and are totally matt. They have matching synthetic loop fabrics which are available to order either by the metre [1.5 m or 1.8 m wide] or as made up cloths to any size or specification. Optic Green 1069 has a translucent base, so for best results apply as a top coat on top of a base of Deep Optic Green 1080.

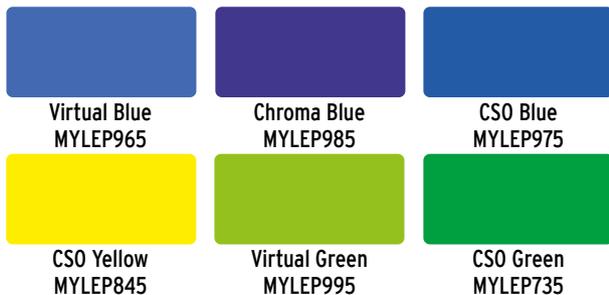
Bristol VFX Palette	6 kg	12.5kg
approx vol:	4.3 L	9.0 L
	£59.87	£116.01
Deep Optic Green*	BRI61080VFX	BRI21080VFX
	£102.43	£192.48
Optic Green 2013	BRI62013VFX	BRI22013VFX
Deep Optic Blue	BRI61079AVFX	BRI21079AVFX
Digi Blue	BRI61083VFX	BRI21083VFX
	6 kg	10 kg
approx vol:	4.8 L	8.0 L
	£102.43	£191.09
Optic Green 1069 [topcoat]	BRI61069VFX	BRI21069VFX

for Optic Green use BRI61080VFX [6 kg] or BRI21080VFX [12.5 kg] as an undercoat



Optic Yellow and Optic Red have been discontinued, but they match Bristol Standtex Chrome Yellow 1049 and Signal Red 1078 respectively, see pages 18-19.

### MYLANDS VR CHROMAKEY EMULSION PAINTS



To BS 476 Part 6 & 7, Class 0 & 1

A range of intense flame retardant paints for colour separation purposes. For use in television.

Mylands Virtual Reality Emulsion Paint size	code	price
Virtual Blue	5 L MYLEP965	£108.29
Chroma Blue	5 L MYLEP985	£108.29
Virtual Green	5 L MYLEP995	£156.42
CSO Yellow	5 L MYLEP845	£108.29
CSO Green ✓	5 L MYLEP735	£108.29
CSO Blue	5 L MYLEP975	£108.29

### MYLANDS TEMPORARY FLOOR PAINTS

**Mylands Temporary Floor Paint** Temporary colour coating for studio floors. You can apply up to 20 coats [i.e. colour changes] before needing to remove the build up of layers with Mylands semi-permanent wash off solution. Quick drying and available in the 90-colour Television Colour range, as well as special [non-standard] colour matches. This product offers studio show flexibility. Available in matt, satin and gloss. Not suitable for outside application.

Mylands Temporary Floor Paint	code	5 L	10 L
Matt Black	MYLTFPMB	-	£150.47
Semi-gloss Black	MYLTFPSB	-	£144.17
Gloss Black	MYLSPHSB	-	£150.47
Standard Colours	MYLSP	-	£150.47
Non standard colours	MYLSPPN	-	£200.61
Temporary Gloss Glaze	MYLSPPG	£77.18	-
Temporary Matt Glaze	MYLSPMG	£77.18	-
Wash Off Solution	MYLWOS	£37.01	-

See also Mylands Emulsion Paints [page 15].

### PROJECTION PAINT



Photo courtesy of Studio Hamburg – the back image is projected onto Black HATOScreen.

HATO@Screen	size	code	price
Black [appears dark grey]	1 L	PAT24002	£72.78
Black [appears dark grey]	5 L	PAT24003	£289.00
White	1 L	PAT24001	£69.98
White	5 L	PAT24004	£289.00

### HATO@DESIGN - KEYING COLOURS



**HATO@Design** This fantastic range of colours is the latest paint range from Haussmann. Offering a huge range of colours, this high-quality acrylic paint has a smooth matt finish [see page 15 for the full range]. Designed to be used straight out of the pot, it will cover 6 - 8 m<sup>2</sup> per litre. We have been really impressed with the price point of these keying colours, and we're sure you will be too.

- ✓ Excellent value and consistent pricing
- ✓ Brilliant, wide range of colours

Watch our YouTube Video to see this paint in action!



- ✓ Good quality - as you'd expect from Haussmann
- ✓ Best for school productions and fringe theatre
- ✓ Offers better value when purchasing a wider range of colours than other paint ranges

We can supply larger pots to order - please call for further details.

HATO@Design	code	1 L	5+
Blue Screen	PAT223081	£19.95	£18.50
Chroma Key Blue	PAT223511	£19.95	£18.50
Green Screen	PAT224001	£19.95	£18.50
Green Box	PAT224151	£19.95	£18.50
Ultimatte Green	PAT224201	£19.95	£18.50



**HATO@Screen Black or White Projection Paint** We were very impressed when we saw painted surfaces burst into life with colour-faithful projections. Sounds extravagant but this HATO@Screen Projection Paint turns wood, concrete and, as it's flexible, even textiles into a surface that will reproduce a very good image with uniform brightness. Excellent luminance – sends more

ABTT Widget of the Year 2016!

Black\* projection paint!

light back than you throw onto it – and image reproduction when seen from almost any angle. Preparation is everything: if brushed on it will show the grain so for best results spray first with a primer then apply by spraying. People were so impressed when we demonstrated this at the ABTT in 2016 - they quite often thought our screen was an LCD display!

\*NB: The paint's metallic sheen makes it appear more dark anthracite rather than pitch black when put next to black surfaces. Water-based. For large areas we can also supply 5 L and 12.5 L sizes, call us to discuss your project. Covers 6-8 m<sup>2</sup> per litre.

# BINDERS & ADHESION PROMOTERS

## Binders - when to use them?

Many people think of binders as only being useful for when they wish to make their own paint from scratch, using pigments and powders, however, they are far more useful than that! For example if you have a paint, like Rosco SuperSaturated [page 12], which gives you the perfect colour, but you want to reduce the concentration of the colour down to a wash, most people would just dilute with water - no problem? Unfortunately, by doing this, you are also reducing the concentration of the binders, which in turn will dramatically reduce the adhesion of the diluted paint and make it much less hardwearing. The solution is to instead dilute the paint using the base binder (if available), thus reducing the concentration of the pigments, but not the adhesion of the paint. Winner winner, chicken dinner.

## BASE BINDERS



**Rosco Neutral Base** An acrylic binder with no pigment to use to increase adhesion when paint has been diluted with water. It is especially useful with heavily diluted supersaturated paints that are being used on difficult surfaces. Add it to Rosco paint when painting items such as door handles.

SPECIFICATION: Covers 8 - 10 m<sup>2</sup> per litre.

Rosco Neutral Base	code	1 L	code	5 L
	ROS16001	£19.25	ROS56001	£73.25



**Bristol SuperScenic Binder** This pigment-free binder from the Bristol SuperScenic range [see page 14] is available separately to allow colour dilution without reducing the adhesion - vital when a durable finish is required, but can also be used

to make your own highly flexible paints. Why not check out our scenic pigments and powders on page 24 Primarily designed to be used on fabrics, it can also be used on other surfaces.

Bristol SuperScenic Binder	size	code	price
	1 kg	BSSB1	£26.71
	4 kg	BSSB4	£98.64



**Hato@Silk SM** Strictly this is not a binder designed to be used stand-alone, but rather it's the base of the incredible Hato@Silk range [see page 28] but we reckon it's useful to be listed here. If used with your own pigments [liquid pigments -page 29- might work best] we are confident you could create a huge array of fabric paints which are washable at 40°C. We of course can make no promises, and as usual, you will need to do

your own tests. The real genius of this binder is that it's water-dilutable, however you will need to ensure that you don't over-dilute it or you will remove all the binding agents [max 1:3 binder: water]. Suitable for spraying, or application by brush - it will hold a very clean line without bleeding into adjacent fibres.

- ✓ Very soft "hand"
- ✓ Machine washable for costumes
- ✓ Virtually bleed-free
- ✓ No extra fixing required

Hato@Silk SM	code	1 L pot	5+
Colourless	PAT12220	£37.80	£32.00

## TRADITIONAL BINDERS



**Granular Size** The most popular traditional glue for sticking canvas to timber flats and also used in the preparation of traditional scenic paints [page 24]. To prepare size as a glue, mix 1 part of size with 1.5 parts of water whilst agitating. Leave to soak for one hour. Then dissolve by warming in a double bucket [water jacket] diluting further to a working consistency. Do not exceed 55°C.

Granular Size	code	1 kg	code	25 kg
	PAT852	£11.38	PAT852B	£226.65

See also Scenic Pigments & Powders [page 24] for a full description of how to make paints with Granular Size.

## GLAZES AS BINDERS

### Making Paint with Flints Glaze

When Flints Emulsion Glaze is used with powder pigments to make up a paint, the result will be a very tough coating difficult to scratch with a coin. Some powders are harder to mix than others. Fluorescent powders seem to be the hardest. The best way to make the paint is to use a little water to make up a thick smooth paste. Use as little water as possible or it will affect the viscosity of the paint and its ability to hold the pigment in suspension. Never try mixing powders directly with the glaze. If you are finding the powders hard to mix with the water then use our Flints Dispersant [see next page] which should solve the problem. If you don't have any Flints Dispersant to hand, you could try adding a drop of meths or washing-up liquid to break the surface tension. Scenic Powder Colours are listed on pages 24 and 27.



**Flints Emulsion Glaze** Flints Emulsion Glaze is different to most PVA emulsion glazes. You will find it has greater strength and durability and more water resistance.

- ✓ Reliably clear even on black
- ✓ Good gloss level from Gloss Glaze
- ✓ Low reflectance from Matt Glaze
- ✓ Apply over artwork to protect from marking
- ✓ Can be wiped down with a damp cloth
- ✓ Amazingly tough scratch resistant finish
- ✓ Excellent water resistance
- ✓ Mix with scenic paints for extra strength or eggshell effects
- ✓ Good flowing characteristics make these glazes easy to brush
- ✓ May be sprayed
- ✓ Fantastic value. Covers 15-20 m<sup>2</sup> per litre.

Flints Emulsion Glaze	code	1 L	code	5 L
Gloss	PAT120	£15.25	PAT130	£45.00
Matt	PAT121	£15.25	PAT131	£45.00



## Mylands Emulsion Glazes

Very popular glazes, excellent value. Available in matt or gloss. Always do a test area before using. Try to ensure good drying conditions to avoid any blooming. Flints sells the larger size well below the list price of £64.87 per 5 L

Mylands FR Glaze	code	1 L	code	5 L	Tradeline 5+
FR Gloss	MYL120	£19.98	MYL130	£46.28	£43.97
FR Matt	MYL121	£19.98	MYL131	£46.28	£43.97

For more advice on Flame Retardants see page 70.



**Polyvine Decorators Varnish** A best-selling water-based varnish of exceptional clarity which will protect scenic artists' work both indoors and out\*. The varnish has UV filters to help prevent work from fading and will bond to emulsion, wood, latex, plaster, wallpaper, glass and non ferrous metals. It is not recommended on oil-based paints or on exterior horizontal surfaces. \*For further information and other Water-Based Glazes go to page 51.

Superb dead flat finish!

Polyvine Decorators Varnish - Dead Flat	code	price
500 ml	POL2032	£12.60
1 L	POL2033	£20.88
2 L	POL2034	£37.77
4 L	POL2035	£70.45

Polyvine Decorators Varnish - Satin	code	price
500 ml	POL2012	£12.60
1 L	POL2013	£20.88
2 L	POL2014	£37.77
4 L	POL2015	£70.45

Polyvine Decorators Varnish - Gloss	code	price
500 ml	POL2022	£12.60
1 L	POL2023	£20.88
4 L	POL2025	£70.45

## SPECIALIST BINDERS & ADHESION PROMOTERS

**Bristol AquaPlus** This is the binding medium in the metallic intermixing system which enables you to mix Bristol Metallic Palette [page 34] with Bristol Primary Palette [page 18]. It also gives excellent protection and enhanced durability to painted surfaces with solid and metallic colours.

Bristol AquaPlus	code	price
1 L	BRIAP1	£10.00
2.5 L	BRIAP3	£22.69
5 L	BRIAP6	£43.16



**Bristol AquaGrip** This coating when mixed 1:1 with Bristol paints will give excellent adhesion to Plexiglass and other difficult surfaces. Allow 2 days for full cure. See page 56 for Bristol Glazes.

Bristol AquaGrip	code	1 L	code	2.5 L
	BRIAG1	£35.19	BRIAG3	£79.96



## Cellulose Bronzing Medium

Ormaline metallic paint medium for making metallic paints using the powders listed on page 35. See also shellac-based Transparent Polish [page 60] which can also be used as an economical medium for the powders.

Cellulose Bronzing Medium	code	250 ml	code	1 L
Ormaline Medium Base	PATBM2	£17.33	PATBM1	£51.43

## USEFUL BITS



**Flints Dispersant** Add pigment powder to a very small quantity of dispersant whilst stirring until a very thick paste is achieved. This thick paste can be diluted slightly with water before mixing with a glaze. Add the paste to the glaze to produce the desired depth of colour. Be careful because the dispersant is a retarder and if you add too much the paint will take a long time to dry.

- ✓ Very effective – makes mixing smooth paint fast and easy
- ✓ There is a little video of the dispersant on our YouTube site

Flints Dispersant	size	code	price
	50 ml	PATFPD	£2.40



**Polymeric Paint Thickener** Used to thicken PVA or acrylic paints when the existing paint has too much flow. Add the thickener drop by drop whilst stirring vigorously until the desired thickness is achieved. The thickener may be diluted slightly with water to improve the mixing. Do not exceed 3% of thickener to paint.

Polymeric Paint Thickener	size	code	price
	250 ml	PAT0662	£11.65

## PAINT CONDITIONERS



Kills Roller Marks!

**Floetrol** Maintains paint quality! Mix Floetrol into emulsion paint to:

- ✓ Extend the life of spray guns
- ✓ Improve spray pattern and coverage
- ✓ Minimize holidays when rolling or brushing
- ✓ Reduce spray pressure by 20%
- ✓ Reduce roller pressure and avoid paint build up giving a spray-like finish
- ✓ Reduce tip clogging and piston freeze up when spraying

Mix 1 L of Floetrol to 10 L of emulsion.

Floetrol	size	code	price
	1 L	PAT073	£20.09
	2.5 L	PAT074	£44.01

See also Glazes [page 52].

# SCENIC PIGMENTS & POWDERS

Any suggestions given as to the preparation and usage of materials in this section are given in good faith and taken from advice given, in-house testing, or from reference works. We should state that every artist consulted had slightly different techniques and ideas for the usage and application of the materials. Our intention is to provide a reference point for general guidance only.

## HAUSSMANN DRY SCENIC COLOURS



These vibrant colours really need to be seen!



The Haussmann pigments are pure pigments with some really vibrant bright colours. They contain no lead or cadmium. Together our suppliers can provide you with a full range of scenic colours which, when correctly mixed, will provide a dust-free and smudge-proof coating to enhance your scenery. A hand-painted colour chart is available for a nominal sum.

**Methods** There are three ways of converting your dry pigment into liquid paint. In all cases firstly add sufficient cold water to your powder to make a thick paste. Never try to mix powders directly into your binding medium. Some powders, especially yellows, reds and fluorescent pigment, can prove difficult to mix. This can be helped by using Flints Dispersant [page 23]. Adding a drop of washing-up liquid or some meths can also help to break the surface tension. Because dry powders darken when wet, some artists will mix the powders while dry to achieve the desired colour rather than mixing wet paint. Once you have mixed up your thick paste try to leave as long as possible before making your paint – overnight is ideal. Then proceed with one of the following methods:

**The Traditional Method** is to use Granular Size [page 128]. In a galvanised bucket mix 500 g of size with 1 L of cold water, agitate well and leave for at least an hour to swell into a thick gel. Place the bucket into another bucket half full of water and warm on a hot plate. Take care that the size does not exceed 55° C. Once the size has completely dissolved, gradually dilute it further with warm water. The mix should feel sticky between the fingers and should run smoothly from a stick without dripping. Finally mix the liquid size with the pigment paste. Check the mix by dipping a piece of paper and drying it with a hairdryer. The paint should not rub off, if it does, add more size. If the surface sparkles all over then the mix is probably too strong. The paint should be applied to the primed canvas [page 134] whilst still warm. Canvas flats painted with this method can be tightened by applying warm water to the back of the flat. Cloths painted this way remain soft and will roll and tour well. The paint can be removed by scrubbing hard with warm water but this will have a detrimental effect on any flame retarding chemicals in the canvas.

**The Modern Method** is to fix the pigment with a binder medium such as Flints Emulsion Glaze [page 22] or any PVA glaze. Just add the medium to the pigment paste until a smooth thin cream is obtained. This paint is applied cold.

**The Temporary Method** is to use the pigment with little or no binder. This will make an un-fixed paint useful as temporary graffiti for film location work. It will wash off with water. The paint will cover between 8 - 10 m<sup>2</sup> per litre.



Due to the limitations of the printing process used in this catalogue the colour chart should only be used as a rough guide

Haussmann Dry Scenic Colour	code	price	code	price
	500 g		5kg	
Turquoise Blue	DPP19301	£13.35	DPP193015	£79.98
Ultramarine Blue	DPP19308	£15.75	DPP193085	£78.15
May Green	DPP19401	£12.29	DPP194015	£57.50
Emerald Green	DPP19407	£12.12	DPP194075	£55.03
Leaf Green	DPP19410	£11.47	DPP194105	£58.15
Lemon Yellow	DPP19101	£12.55	DPP191015	£46.92
Chrome Yellow Light	DPP19103	£11.23	DPP191035	£49.50
Yellow Oxide	DPP19104	£11.95	DPP191045	£59.95
Indian Yellow	DPP19107	£12.55	DPP191075	£48.94
True Orange Medium	DPP19155	£13.39	DPP191555	£63.39
True Red Light	DPP19201	£12.55	DPP192015	£63.45
Raw Sienna	DPP19803	£15.82	DPP198035	£69.48
Burnt Sienna	DPP19804	£11.55	DPP198045	£67.25
Raw Umber*	DPPRU0500	£11.20	DPPRU5000	£67.50
Burnt Umber*	DPPBU0500	£7.75	DPPBU5000	£49.19
Deep Black	DPP19554	£14.66	DPP195545	£86.40
White	DPP19100	£14.25	DPP191005	£74.25
Hand-painted colour chart			DPPCC	£2.00

\*Haussmann has been unable to maintain a supply of Umber pigments so we have sourced another, also very reputable, supplier.

### Safety

When handling dry colours always wear gloves and a mask such as the 3M 8825 [page 342]. The powders listed are of low toxicity. Flints does not stock the toxic lead-based pigments. Health and safety sheets can be downloaded from [flints.co.uk/downloads](http://flints.co.uk/downloads).

## FLINTS LIQUID PIGMENTS



**F Flints Concentrated Liquid Pigments** These powerful liquid pigments are non-toxic and lead-free. They are fully intermixable water-based products containing no solvent. Use them as tints in paints and glazes. They are a preferable choice for colouring textures as only a small quantity of liquid is needed so the consistency of the texture is preserved. Pigments can be mixed with PVA binder or a glaze such as Flints Glaze to make a paint. 30 g per litre will make a strong paint or 10 g per litre will make a medium paint [as shown in the chart above].

Liquid Pigments	code	250 g	colour	code	250 g
White	CLP0012	£12.88	Violet	CLP0152	£17.47
Black	CLP0032	£12.88	Royal Blue	CLP0172	£17.47
Lemon	CLP0052	£17.47	Turquoise	CLP0192	£17.47
Buttercup	CLP0072	£17.47	Emerald	CLP0212	£17.47
Orange	CLP0092	£17.47	Chestnut	CLP0232	£17.47
Scarlet	CLP0112	£17.47	Red	CLP0132	£17.47

## DUSTING TOOLS



**Dustin-Mizer** A hand-cranked dust blower ideal for applying Fuller's Earth or walnut dust to set dressings. The deflector is now included at no extra cost and allows the user to blow upwards.

Dustin-Mizer	code	price
Mizer [now includes deflector]	PATDM1085	£59.80
Spare Deflector	PATDM1094	£7.90

## SOME USEFUL POWDERS



**Fuller's Earth** Beige coloured powder more widely used by the printing trade. It absorbs grease and is commonly used in the entertainments' industry by set dressers and wardrobe departments for ageing and dusting down scenery and costumes. We pick up quite a few sales on the internet from people using it to de-grease fly fishing leaders. One fisherman bought a 25 kg bag – keen or what!

Fuller's Earth	code	1 kg	code	25 kg
	PAT870	£2.98	PAT870B	£29.00



**Walnut Dust** An ecological alternative to Fuller's Earth for ageing and dusting down scenery and costumes. Contains nuts.

Walnut Dust	code	1 kg	code	22.5 kg
	PATWD	£4.87	PATWDB	£66.39



**Marble Dust** Commonly used in mortar made with slaked lime putty to replace some of the sand but in theatre its main use is to help create a frost-like appearance on winter scenery. The crystalline sparkle has the illusion of snow. It can be sprinkled onto wet resin, glue, or varnish to create the effect. For a more pronounced result mix in some M11 crystals or for more iridescence add White Iris Glitter [page 40] or Opalina Random Cut Snow [page 41].

SPECIFICATION: Grain size: 300 - 710 micron.

Marble Dust	code	1 kg	code	25 kg
	PAT867	£3.80	PAT867B	£20.50



**Black Sand** An economical material with various uses. It can be applied onto, or mixed into, adhesives, paints, or consolidating binders etc. to provide a black non-slip surface or interesting low reflectance texture. It can be used loose just scattered over areas for events or to disguise road marking etc. The product is a natural volcanic sand varying in size from 0.1 - 0.3 mm. It is kiln-dried and colourfast so it will not cause stains. It is also suitable for use underwater.

Black Sand	code	20 kg	Tradeline 10+
	PROSANDB	£16.50	£13.20



**French Chalk [TALC]** This fine powder is often used in theatres to stop cut cloths treated with Copydex, Flintdex or Weave Filler from sticking together. French Chalk will also stop floor boards and treads from creaking. It has nothing to do with chalk and is actually magnesium silicate used widely for its slippery effect. I don't think it even comes from France! It is not suitable for making gesso.

French Chalk	code	500 g
	PAT873	£6.00

See also Flints Graphite Powder [page 36], Fillite [page 48] and Iron Powder [page 32].

# FLUORESCENT PAINTS & POWDERS

## A note on fluorescent paints

To make really vibrant colours the manufacturers must use very pure pigments without bulking agents or fillers. For this reason the obliteration power of all fluorescent paints is poor so we highly recommend using a white basecoat.

## ROSCO VIVID FX FLUORESCENT PAINT



### Rosco Vivid FX Fluorescent Paint

A remarkably vivid range of clean and pure colours that bring a new depth to fluorescent paints, with colours so intense that they give an extra dimension to your designs. The range contains 13 colours, which can be intermixed to obtain intermediate colours. They can be used on most scenic surfaces with

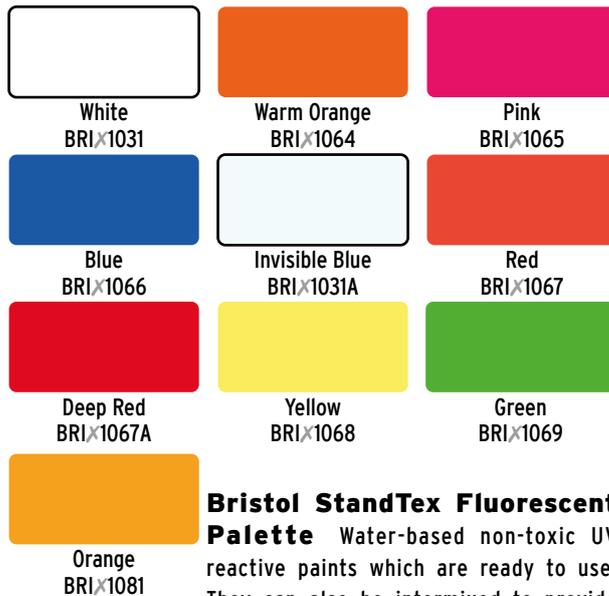
one or two coats. As with all fluorescents, apply onto a white basecoat. Water-based. The printing process used in this catalogue cannot do justice to these bright colour. N.B. Rosco are discontinuing this range, with a replacement due anyday.

SPECIFICATION: Covers 8 - 9 m<sup>2</sup> per litre.

Vivid FX Fluorescent Paint	473 ml	946 ml	3.79 L
Bright White	£40.25	£73.50	£217.75
Lemon Yellow	ROS1526250	ROS2526250	ROS3526250
Lemon Yellow	ROS1526251	ROS2526251	ROS3526251
Orange	ROS1526253	ROS2526253	ROS3526253
Orange Sunset	ROS1526252	ROS2526252	ROS3526252
Scarlet Red	ROS1526254	ROS2526254	ROS3526254
Hot Pink	ROS1526255	ROS2526255	ROS3526255
Magenta	ROS1526256	ROS2526256	ROS3526256
Violet	ROS1526257	ROS2526257	ROS3526257
Aquamarine	ROS1526260	ROS2526260	ROS3526260
Brilliant Blue	ROS1526259	ROS2526259	ROS3526259
Deep Blue	ROS1526258	ROS2526258	ROS3526258
Deep Green	ROS1526262	ROS2526262	ROS3526262
Electric Green	ROS1526261	ROS2526261	ROS3526261

Sadly the **Vivid FX Fluorescent Paint Starter Kit** is no longer available.

## BRISTOL WATER-BASED FLUORESCENT PAINT



### Bristol StandTex Fluorescent Palette

Water-based non-toxic UV reactive paints which are ready to use. They can also be intermixed to provide

an infinite range of shades. Fluorescent paints should always be applied onto a white base. For UV Lights see page 351.

Fluorescent Palette	100 ml	1 kg	3 kg	6 kg	10 kg
approx vol:		800 ml	2.4 L	4.8 L	8 L
White	£6.45	£31.30	£83.78	£141.54	£227.97
White	BRI91031	BRI11031	BRI31031	-	BRI21031
Warm Orange	BRI91064	BRI11064	BRI31064	BRI61064	BRI21064
Pink	BRI91065	BRI11065	BRI31065	BRI61065	BRI21065
Blue	BRI91066	BRI11066	BRI31066	BRI61066	BRI21066
Invisible Blue	BRI91031A	BRI11031A	BRI31031A	-	BRI21031A
Red	BRI91067	BRI11067	BRI31067	BRI61067	BRI21067
Deep Red	BRI91067A	BRI11067A	BRI31067A	BRI61067A	BRI21067A
Yellow	BRI91068	BRI11068	BRI31068	BRI61068	BRI21068
Green	BRI91069	BRI11069	BRI31069	BRI61069	BRI21069
Orange	BRI91081	BRI11081	BRI31081	BRI61081	BRI21081

### Bristol StandTex Fluorescent Palette Set

Fluorescent Set	code	price
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## HAUSSMANN WATER-BASED FLUORESCENT PAINT



### Haussmann Visible UV Paint

High quality fluorescent paints. Highly inter-mixable

and water-dilutable. As with most fluorescents they are best applied neat onto a smooth white painted surface, but also suitable for use on primed fabric surfaces. See the invisible versions on the next page.

Visible Ultraviolet Paint	code	1 litre
HatoTex Visible	PAT342XX	£38.00
Visible UV Paints Test Kit	code	price
8 x 40 ml pots	PAT34200	£38.00

**ROSCO FLUORESCENT PAINT**



**Rosco Fluorescent Paint** Vivid vinyl acrylic colours that will fluoresce under ultraviolet or black light. Invisible Blue is milky under normal light and fluoresces light blue. Inter-mixable with the Off Broadway range it will brighten these colours. For maximum effect fluorescents are best applied onto a white surface and may be used to paint virtually any substrate including canvas, wood, plaster, various plastics and metal. For UV Lights see page 351.  
SPECIFICATION: Covers 8 - 9 m<sup>2</sup> per litre.

**INVISIBLE UV PAINT**



**Hausmann InVisible Ultraviolet Paint** Produces high quality fluorescent effects which are invisible in normal daylight. Under UV light, however, they burst forth from obscurity with radiantly luminescent colours – their words, not mine! They can be applied to many different surfaces such as fabric or wood by brush, roll or spray. A Test Kit is available with one of all the colours. The drying time depends on the prevailing temperature and humidity. At 20°C, the setting process is largely completed after approximately 24 hours. See also the visible version on the previous page.

Rosco Fluorescent Paint code	473 ml code	946 ml code	3.79 L
White	ROS15779	ROS25779	ROS35779
Gold	ROS15787	ROS25787	ROS35787
Yellow	ROS15782	ROS25782	ROS35782
Orange	ROS15781	ROS25781	ROS35781
Red	ROS15780	ROS25780	ROS35780
Pink	ROS15786	ROS25786	ROS35786
Invisible Blue	ROS15785	ROS25785	ROS35785
Blue	ROS15784	ROS25784	ROS35784
Green	ROS15783	ROS25783	ROS35783

Invisible Ultraviolet Paint	code	500 ml	5+
Blue	PAT343185	£49.95	£44.00
White	PAT343475	£49.95	£44.00
Orange	PAT343925	£49.95	£44.00
Green	PAT343935	£49.95	£44.00
Pink	PAT343945	£49.95	£44.00
Magenta	PAT343965	£49.95	£44.00
Yellow	PAT343975	£49.95	£44.00
Red	PAT343985	£49.95	£44.00
Invisible UV Paints Test Kit	code	price	
8 x 40 ml pots	PAT34300	£52.48	

**FLUORESCENT POWDERS**



**Flints Fluorescent Powders** Very pure and vibrant. They have not been heavily bulked up with chalk like many of the powders on the market. The pigments are neatly packaged in plastic tubs. To make up into a paint, firstly add a little water or ideally Flints Dispersant [page 23] to the powder and mix into a thick paste. It is best to leave the paste to stand for as long as possible, ideally overnight, before adding emulsion glaze to achieve your ideal consistency. For large jobs a hand drill with a paint mixer will speed things up. As with all fluorescent paints, they are best applied onto a white basecoat. 1 kg will make around 10 litres of very intense paint.

Now available in 100 g pots!



**Note about UV Light** Both the LED UV Light and the Non-LED Floodlight [page 351] work well with the Flints Fluorescent Powders. The Peacock Blue\* and Violet\* are included to provide a complete range of colours however these colours will never really fluoresce like the others but are just very vibrant.

Fluorescent Powders	code	100 g	code	1 kg	5+
Magenta	DPPFM100	£5.50	DPPFM	£23.18	£16.00
Pink	DPPFP100	£5.50	DPPFP	£23.18	£16.00
Red	DPPFR100	£5.50	DPPFR	£23.18	£16.00
Orange	DPPFO100	£5.50	DPPFO	£23.18	£16.00
Golden Yellow	DPPFG100	£5.50	DPPFG	£23.18	£16.00
Super Yellow	DPPFS100	£5.50	DPPFS	£23.18	£16.00
Glow Green	DPPFG100	£5.50	DPPFG	£23.18	£16.00
Peacock Blue*	DPPFPB100	£5.50	DPPFPB	£23.18	£16.00
Violet*	DPPFV100	£5.50	DPPFV	£23.18	£16.00

# TEXTILE PAINTS & DYES

## HATO@SILK PAINTS FOR SILK AND LIGHT FABRICS



## HATO@SPRILA



**HATO@Sprila** Designed for use on silks with a sheen, these water-based paints will maintain the material's lustre, rather than mattifying it down. When used straight out of the pot, HATO@Sprila will not bleed at all. It has

a very thin consistency which makes it suitable to spray as well as paint by brush. To reduce the intensity of the colour, dilute with the colourless HATO@Sprila [we tried water, but found it started to bleed heavily making it impossible to achieve a clean line]. When using on FR fabrics [page 134] ensure the fabric has been washed and completely dried before applying the HATO@Sprila, as the salts from the Flame Retardant can interact negatively with the paints. Always do a test first. Once dry, the finished article can be washed on a gentle cycle with a mild detergent [30°C] without affecting the finish. We think this product would work well for costumers and window dressers who need to maintain the finish of the fabric they are working with, without affecting the fabric's hand. SPECIFICATION: Coverage 6-8 m<sup>2</sup>/L Dilute with Colourless.



**Hato@Silk SM** is a concentrated paint system for use on lightweight fabrics made of natural or synthetic fibres [such as silk, tulle or voile]. Based on a new type of binder, which when dry produces an extremely soft "hand" in the fabrics painted. Hato@Silk SM is free of lead or cadmium pigments and is water-soluble and odourless. It is colourfast and safe to use in washing machines using the delicate cycle and mild detergents at temperatures up to 40° C.



- ✓ Very soft "hand" ✓ Machine washable for costumes
- ✓ Virtually bleed-free ✓ No extra fixing required

Hato@Silk SM is intended to be diluted with water in ratios from 1:1 to 1:3. It can be applied either by brush or spray gun. Even when heavily diluted, sharp cut lines can be painted without bleeding into adjacent fibres. When dry, it does not need a further fixing. See also Hato@Sprila 🖌️ .

Hato@Silk SM		1 L pot		5+ 1 L	
		£37.80		£32.00	
*Lemon	PAT12201	*Yellow	PAT12202		
*Ochre	PAT12203	*Orange	PAT12204		
*Carmine	PAT12205	*Bordeaux Red	PAT12206		
Light Rose	PAT12230	Light Violet	PAT12207		
*Violet	PAT12208	Light Blue	PAT12209		
*Steel Blue	PAT12210	*Ultramarine Blue	PAT12211		
Milori Blue	PAT12231	*Light Green	PAT12212		
*Sap Green	PAT12213	*Leaf Green	PAT12214		
*Bistre	PAT12215	*Sepia	PAT12216		
*Black	PAT12217	*White	PAT12218		
Colourless	PAT12220				

Hato@Silk Starter Kit	code	price
16 x 50 ml pots	PAT12200	£99.95
[Included colours are marked above with an *]		

HATO@Sprila Paint	code	1 litre
Lemon	PAT17301	£29.95
Yellow	PAT17302	£29.95
Ochre	PAT17303	£29.95
Orange	PAT17304	£29.95
Carmine Red	PAT17305	£29.95
Bordeaux Red	PAT17306	£29.95
Violet	PAT17308	£29.95
Steel Blue	PAT17310	£29.95
Ultramarine Blue	PAT17311	£29.95
Light Green	PAT17312	£29.95
Sap Green	PAT17313	£29.95
Leaf Green	PAT17314	£29.95
Bistre	PAT17315	£29.95
Sepia	PAT17316	£29.95
Black	PAT17317	£29.95
White	PAT17318	£29.95
Colourless	PAT17320	£29.95

HATO@Sprila Paint Starter Kit	code	1 litre
16 x 50 ml pots [doesn't include colourless]	PAT17300	£89.00

### FLINTS WATER-BASED DYES



**F**

**Flints Safe Water-Based Dyes** are ideal for working on cloths and gauzes which need to remain supple and they normally require no fixing. The dye can be applied by brush or spray like conventional scenic paints. Items such as rope can be soaked directly in the dye and hung up to dry. Our blue dyes are used worldwide for skycloths. Supplied as a powder in easy to store 250 g pots. To use just add 2 litres of hot water to 25 g of dye. Each container holds enough dye to make approximately 20 litres depending on the final colour tone required [the chart shows the colours full and half strength]. Our silver grey is made from one dye type so it remains grey even when heavily diluted, many dyes veer towards brown or blue as they are diluted. This dye is ideal for weathering timber. Flints dyes are not suitable for use on synthetics. ✓ Safe and simple to use ✓ Normally require no fixing ✓ Keeps cloths supple

Flints Safe Water-Based Dyes	size	price
	250 g pot	£19.30



**Fixitol P** If the dyes are being used on very thick fabrics such as velour or if the cloths are being handled frequently then the dyes can be additionally fixed by spraying with Fixitol P which will help prevent any rub off. To spray, add 40 g Fixitol per litre of water.

Fixitol P	code	1 kg	code	5 kg
	DPP20011	£6.95	DPP20015	£21.00



Check out the **HATO® Nano Textile Protector** on page 33! It's ideal for protecting cloths from spillages once finished, or dyed / painted costumes from messy actors eating when they shouldn't! We tested it with Pigs Might Fly Blood and

it prevented the blood from saturating the cloth. Even better, treated materials can be machine washed several times before requiring reapplication! We think this is a great tool for costumers.

### HAUSSMANN LEATHER PAINT



**Haussmann Leather Paint** This water-based paint can be applied direct to leather, artificial leathers, PVC films and fabrics. A useful product for any propmaker or costumer - perfect for detailed leather work, or to simply change the colour of a pair of shoes on set or the runway. It works especially well with soft ballet slippers providing lasting

results. Prepare the leather surface thoroughly with White Spirit [page 61] first to degrease. Semi-matt finish. SPECIFICATION: Coverage: 6-7 m<sup>2</sup>/L. To reduce the intensity of the colour, thin using the colourless paint.

Leather Paint	code	500 ml
Lemon *	PAT51801	£23.50
Yellow *	PAT51802	£23.50
Ochre *	PAT51803	£23.50
Orange *	PAT51804	£23.50
Carmine Red *	PAT51805	£23.50
Wine Red *	PAT51806	£23.50
Telemagenta *	PAT51807	£23.50
Light Violet	PAT51808	£23.50
Violet *	PAT51809	£23.50
Light Blue	PAT51810	£23.50
Steel Blue *	PAT51811	£23.50
Ultramarine Blue *	PAT51812	£23.50
Light Green *	PAT51813	£23.50
Sap Green *	PAT51814	£23.50
Leaf Green *	PAT51815	£23.50
Brown *	PAT51816	£23.50
Black *	PAT51820	£23.50
White *	PAT51821	£23.50
Colourless	PAT51800	£23.50

Leather Paint Starter Kit	code	unit
16 x 50 ml pots [included colours marked *]	PAT1899	£90.25

# GLASS & PLASTIC PAINTS

## FEVS FRENCH ENAMEL VARNISH

French Enamel Varnish (F.E.V.) is made from bleached and chemically dyed shellac. Traditionally used by carpenters on wood, it acts as both as stain and a varnish enabling the user to create unusual tones on the wood with a high gloss finish, and maintaining the grain of the wood below. It is also widely used by Scenic Artists and Propmakers to achieve a transparent wash of colour on hard surfaces such as gilded pieces or to create stained glass windows. Whilst these should adhere to most surfaces we recommend avoiding the use of them on flexible or semi-flexible surfaces as the varnish could scratch off as it hardens and is flexed.



**F** **Flints French Enamel Varnishes (FEVs)** A wide range of excellent value FEVs for use in many applications - from staining wood, to tinting a gilded piece, to creating faux stained glass panels. A wash of colour can be achieved by diluting the main colour with the colourless varnish. Building up layers can increase the intensity of colour. Wash up with Methylated spirits. When testing we noticed very few brush marks.

Flints French Enamel Varnish	code	1 L	code	5 L
Black	FHSFEVBK1	£29.62	FHSFEVBK5	£99.98
Dark Brown	FHSFEVDB1	£29.62	FHSFEVDB5	£99.98
Orange	FHSFEVOR1	£29.62	FHSFEVOR5	£99.98
Bright Red	FHSFEVBR1	£29.62	FHSFEVBR5	£99.98
Bordeaux Red	FHSFEVBD1	£29.62	FHSFEVBD5	£99.98
Purple	FHSFEVPR1	£29.62	FHSFEVPR5	£99.98
Royal Blue	FHSFEVRB1	£29.62	FHSFEVRB5	£99.98
Turquoise Blue	FHSFEVTB1	£29.62	FHSFEVTB5	£99.98
Forest Green	FHSFEVFG1	£29.62	FHSFEVFG5	£99.98
Lime Green	FHSFEVLG1	£29.62	FHSFEVLG5	£99.98
Lemon Yellow	FHSFEVLY1	£29.62	FHSFEVLY5	£99.98
Golden Yellow	FHSFEVGY1	£29.62	FHSFEVGY5	£99.98
Colourless	FHSFEVTP1	£29.62	FHSFEVTP5	£99.98



**FEV French Enamel Varnish** This popular range of FEVs can also be used to colour low wattage light bulbs although Hatolite is more effective. See also Rosco Premiere Clear [page 54] which can be tinted with food dyes to provide a tough transparent finish. Dilute with Methylated Spirit, but reduce the intensity of the colour by diluting with the colourless.

FEV French Enamel Varnish	code	1 L	code	5 L
Black	PAT361	£49.63	PAT3615	£156.55
Yellow	PAT366	£49.63	PAT3665	£156.55
Red	PAT363	£49.63	PAT3635	£156.55
Purple	PAT360	£49.63	PAT3605	£156.55
Blue	PAT375	£49.63	PAT3755	£156.55
Green	PAT374	£49.63	PAT3745	£156.55
Amber	PAT377	£49.63	PAT3775	£156.55
Brown	PAT378	£49.63	PAT3785	£156.55
Colourless	PAT376	£49.63	PAT3765	£156.55

## Self-adhesive Window Lead Tape



An easy to use self-adhesive lead tape to make realistic leaded windows, see page 96. Use Regasheen [page 96], a special water-based product, to produce an aged effect on lead window tape. See above for French Enamel Varnish and for Hatolite see next page.



Glass window with self-adhesive lead and painted with Hatolite [next page].

See also Methylated Spirit to clean up [page 61].  
See also Self-Adhesive Window Lead [page 96].

## HATO@LITE LIGHTBULB AND GLASS PAINT



# Hatolite

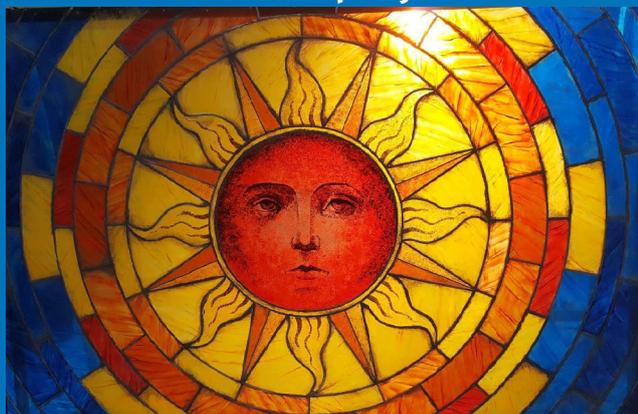
### Hato@Lite Lightbulb and Glass Paint

Designed for use on stage to tint bulbs up to 60 W. The paint can be applied by brush, spray or, in the case of bulbs, dipped. The paints can be effectively used for making glass slides and for painting stage props and stained glass. It is very quick drying and covers remarkably smoothly. The paint should not be diluted but, if the colour is too intense, it can be mixed with clear Hatolite. Brushes should be cleaned with Hatolite Thinner and containers should be tightly closed immediately after use. The product is flammable and should be kept away from sparks and open flames. If you are spraying it is advised that you wear a suitable mask, work in a well ventilated area using an extraction system to draw fumes or particles away from the painter. Refer to the Supergel Swatchbook [page 350] for an approximate representation of the colour [for guideline purposes only]. Available in 1 L containers. UN 1263 Class 3. Flammable 32° C.



Hato@Lite	colour	Approx Supergel ref	code	1 L
H	Fire Red	24 Scarlet	DPP2105	£35.15
a	Violet	356 Middle Lavender	DPP2110	£35.15
t	Blue	80 Primary Blue	DPP2112	£35.15
o	Steel Blue	65 Daylight Blue	DPP2121	£35.15
i	Green	89 Moss Green	DPP2114	£35.15
e	Orange	20 Medium Amber	DPP2102	£35.15
	Yellow	11 Light Straw	DPP2101	£35.15
	Black	N/A	DPP2120	£35.15
	Clear	N/A	DPP2122	£33.55
	Thinner	N/A	DPP2123	£19.95

### Product Spotlight



This stunning stained glass window was created by Scenic Artist Inga Jastrumskaite, designed by Daniel Scott for the Bristol Old Vic Theatre School's production of *The Taming of the Shrew*. A combination of materials and products were used to achieve the effect, including Hatolite (above), Crystal Gel [page 47], Acrylic colourants [page 58], Flints Theatre Black Paint [Page 6], Mylands Matt Glaze [page 55], Bristol Silver Paint [32], 9mm self-adhesive lead tape [page 96]. A true work of Scenic Art!

## SPECIALIST GLASS TOOLS



**Glass Cutter** This single wheeled glass cutter made by Faithfull has a tungsten carbide wheel, and is ideal for the occasional user. The variety of notches in the solid metal- die cast handle are perfect for nibbling away waste glass after cutting.

Faithfull Glass Cutter	code	price
	TOLFAIGC	£5.58

## HATO@CEL PLASTIC SHEET PAINT - MATT

Lemon* PAT115001	Yellow* PAT115002	Ochre* PAT115003
Orange* PAT115004	Carmine Red* PAT115005	Wine Red* PAT115006
Telemagenta* PAT115007	Light Violet PAT115008	Violet* PAT115009
Light Blue PAT115010	Steel Blue* PAT115011	Ultramarine Blue* PAT115012
Light Green* PAT115013	Sap Green* PAT115014	Leaf Green* PAT115015
Brown* PAT115016	Black* PAT115020	White* PAT115021

## HATO@CEL PLASTIC SHEET PAINT - GLOSS

Yellow* PAT116001	Ochre* PAT116002	Orange* PAT116003
Red* PAT116004	Violet* PAT116005	Blue* PAT116006
Green* PAT116007	Brown* PAT116008	Black* PAT116009
Colourless* PAT116000		

Highly elastic,  
water-based

N.B. Colours  
may vary between  
ranges from  
Haussmann



**Hato@Cel Plastic Sheet Paint** Quick drying, highly elastic and achieves excellent adhesion to plastic sheeting, soft and hard foams, PVC flooring, artificial and real leather [but better to try Hato@Leather page 29], and textiles. In fact, most difficult to paint surfaces can be painted flawlessly without any "owls eyes" or craters. PVC dance floor and projection screen surfaces can be painted with ease. Available in 18 opaque matt and 9 transparent glossy colours plus a colourless gloss glaze. The glaze can be used to make dance floor material high gloss. They are soluble in water and are almost odourless. Not for use on "oily" plastics. SPECIFICATION: Hato@Cel Plastic Sheet Paints can be applied by brush, roller or spray gun. Colours can be diluted with water and are inter mixable. Metallic pigments can be mixed into the gloss colours. Surfaces must be clean, dry and free from contamination. Coverage: Hato@Cel Matt covers 5-7.5 m<sup>2</sup> per litre, Gloss covers 6.5-10 m<sup>2</sup> per litre.

Hato@Cel	code	1 L	5+
Matt paints	PAT1150XX	£36.75	£31.25
Gloss colours	PAT1160XX	£38.60	£32.80
See above for full codes.			

Hato@Cel Starter Kit	code	Tradeline
Matt [16 x 50 ml pots]	PAT1350	£88.65
Gloss [10 x 50 ml pots]	PAT1360	£53.35
[Colours marked with an * are included in their respective starter kits]		

# SPECIALIST SCENIC FINISHES

## HATO@RUST EFFECT



Avoid discolouring other paints on the piece

Objects rusted with the HATO@Rust system; above a piece of fibre rope, below a galvanised Key Clamp.

**HATO@Rust** Our favourite effect! The benefit of this system over the classic iron-fillings-and-vinegar method is that the activator should not interfere with other paints. Apply the primer to the surface of the object, allow to dry for 14 hours before applying the activator. We offer a choice of 2 activators; the liquid form—can give the user more control, as the effect can be built up gradually, but has a low viscosity and will drip off objects; this can of course help add to an effect on a piece of scenery, but it's worth noting [takes a few hours to develop rust effect]—and the gel form—ideal for creating a strong rust effect quickly [starts to work in minutes], and we recommend it for working on 3-D objects/vertical surfaces it will not drip off. We recommend sealing with the Rust Effect Varnish, as without it, the rust can rub onto clothes and skin, causing marks. The Rust Effect Varnish barely altered the appearance of the rust whereas conventional glazes can tend to spoil the effect.

SPECIFICATION: Primer Coverage: 4 m<sup>2</sup>/kg. Liquid Activator Coverage: 8-10 m<sup>2</sup>/L. Gel Activator Coverage: 8-10 m<sup>2</sup>/L. Varnish Coverage: 8-10 m<sup>2</sup>/L.

HATO@Rust Effect System	size	code	price
HATO@Rust Primer	2.5 kg	PAT233658	£41.98
Liquid Activator	1L	PAT233662	£8.25
Gel Activator	1L	PAT233662G	£8.98
Varnish	1L	PAT233660	£11.65

## IRON POWDER

**F**

See also Dirty Down Rust Effect Spray [page 65]



**Iron Powder** This fine iron powder will rust quickly with water and is excellent for realistic rust effects. For best results apply a coat of a matt glaze such as Polyvine Dead Flat [page 55] onto your base colour. While the glaze is still wet sprinkle liberal quantities of iron powder into the glaze and spray with vinegar using a hand-held mister [page 94]. The iron powder will

immediately begin to rust. Realistic-looking riveted steelwork can be achieved by glueing our Wooden Rivets [page 98] to MDF and applying some flat glaze around the edges and letting it run. Sprinkle with iron powder, spray with vinegar and it will look like rust is weeping from the rivets. Excess powder can be swept off when the glaze is dry. We can also recommend trying the HATO@Rust Effect see above.

Iron Powder	code	1 kg	10 kg+
	DPP258	£15.85	£14.28

See also Graphite Powder [page 36].

## DIRTY DOWN PAINT-ON EFFECTS

**Dirty Down Paint-on Effects** This range of highly effective paint-on products provides the propmaker and scenic artist with a ready made effect which can either be left as it is or worked into and adapted to suit the designer's exact requirement. See also Fuller's Earth on page 25.

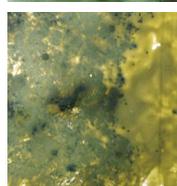
**Rust Effect by Dirty Down** The rust effect forms as the product dries. Light coats dry lighter, heavier coats dry darker. The colour will be varied and interesting rather than even. See notes below. See also Dirty Down Rust Spray [page 69], and Haussmann's Rust Effect .



**Green Verdigris Effect by Dirty Down** This corroded copper effect can be applied lightly or in many coats or splatters to provide a highly effective and attractive finish. See notes below.



**Moss Effect by Dirty Down** This light shade can be varied and darkened by the application of more coats. The product intentionally produces an effect with colour variations. See notes below.



See also Dirty Down Mould Spray [page 69].

**Notes:** Solvent-based. Works best at room temperature. Only apply to non-porous surfaces. Porous surfaces should be sealed with a matt varnish. We would suggest Plasti-kote clear sealer [page 69]. The effect looks best on rough surfaces. They do not adhere well to smooth polished surfaces. Do a test sample first. UN 1993 classified

Dirty Down Paint-on Effects	code	list	250 ml
Rust [lighter shade]	PATDDR	£35.00	£28.40
Verdigris [corroded copper effect]	PATDDV	£35.00	£28.40
Moss [lighter shade]	PATDDM	£35.00	£28.40

## MICA FLAKES



Gold  
DPP060



Silver  
DPP058



Bronze  
DPP056

**F**



Black/Silver  
DPP059



Clear  
DPP057

### Mica Flakes

Mica is an inert complex silicate which forms naturally in thin transparent layers. It

makes an interesting sparkling decorative finish which can be easily fixed by sprinkling onto wet PVA adhesive or glaze. We supply it in 500 g tubs. See also Black Sand [page 25], Glitters [page 40], and Metal Powders [page 35].

Mica Flakes	code	500 g
Gold	DPP060	£17.50
Silver	DPP058	£17.50
Bronze	DPP056	£17.50
Black/Silver	DPP059	£17.50
Clear	DPP057	£17.50

**WATER-BASED WOOD STAIN**



**Water-Based Wood Stain** Very popular water-based stains for hard and soft woods, formulated to reduce the grain-raising effect normally associated with water stains. Covers 8 - 10 m<sup>2</sup> per litre.

Water-Based Wood Stain	code	1 L	code	5 L
Black	PATN0111	£11.39	PATN0115	£33.37
Dark Oak	PATN0071	£11.39	PATN0075	£33.37
Grey	PATN0181	£11.39	PATN0185	£33.37
Light Oak	PATN0051	£11.39	PATN0055	£33.37
Medium Oak	PATN0061	£11.39	PATN0065	£33.37
Old Pine	PATN0221	£11.39	PATN0225	£33.37
Walnut	PATN0081	£11.39	PATN0085	£33.37
Brown Mahogany	PATN0091	£11.39	PATN0095	£33.37

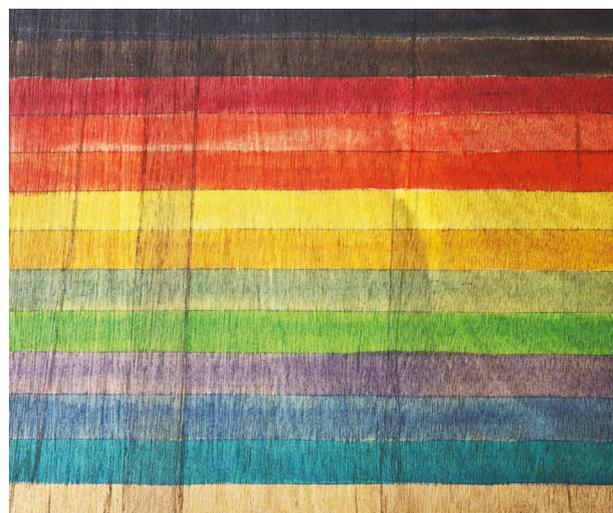
**VAN DYKE**



**Van Dyke Crystals** Used to provide a warm-brown aged look to wood. Vandyke can be mixed with warm water, glaze or size. The amount of dilution depends on the depth of colour required. Apply liberally with a wide brush.

Van Dyke Crystals	code	500 g
	DPP061	£14.80

See also FEVs French Enamel Varnish [page 30] and Scumbles [page 57].



Flints FEVs painted in a single stroke onto a wooden board. See page 30.

**OIL-BASED WOODSTAIN**



**Rustin's Wood Dye** An economical penetrating stain which will not raise the grain. Spirit-based. We can supply other sizes and makes of stain to order.



Rustin's Wood Dye	code	250 ml	code	1 L
Light Oak	PAT3571	£5.71	PAT35711	£16.31
Medium Oak	PAT3572	£5.71	PAT35721	£16.31
Dark Oak	PAT3573	£5.71	PAT35731	£16.31
Pine	PAT3574	£5.71	PAT35741	£16.31
Walnut	PAT3575	£5.71	PAT35751	£16.31
Antique Pine	PAT3576	£5.71	PAT35761	£16.31
Red Mahogany	PAT3577	£5.71	PAT35771	£16.31

For driftwood effects take a look at Flints Silver Grey Driftwood dye [page 33]. See also Dyes [page 29] and Glazes [page 51].

**GLOW-IN-THE-DARK PHOSPHORESCENT PAINT**



**Hato@Tex Phosphorescent Paint** This excellent glow-in-the-dark paint from Haussmann is perfect for both specialist effects on stage, and also for marking up back stage. Although the binder of the paint has been specially formulated to improve adhesion and flexibility when applied to fabric surfaces (in our testing we were really impressed with the flexibility), it is equally well applied to solid substrates such as wood, thermoplastics etc. We found that although it was a neutral coating, when applied onto Flints Black it was a little creamy (not noticeable on white surfaces). Once charged with UV / Tungsten light the pale green glow is incredibly effective. Well priced for a glow-in-the-dark paint, we stock the 50 ml tester pots for those smaller jobs.

Phosphorescent	50 ml	price	1 Litre	price
	PAT342755	£9.00	PAT342751	£69.90

**HATO@NANO TEXTILE PROTECTOR**



**HATO@Nano Textile Protector** HATO@Nano Textile Protector has been specially developed to seal fabrics and paintings with a self-cleaning, lotus effect. Various stage materials, paintings, furniture, as well as natural and synthetic clothing and costumes

can be protected with HATO@Nano Textile Protector. It has been tested with oil and water-based substances such as mustard, ketchup, and wine. We tested it with Pigs Might Fly Blood [page 107] and it rolled right off. Garments treated with HATO@Nano can survive several washes [up to 30° C, max. 4 cycles before re-application]. Apply by brush, low pressure, or airless sprayer. For small surfaces HATO@ Nano Textile Protector can be applied with a hand-held spray gun. We recommend testing the product on a small section of the fabric before use. SPECIFICATION: Consumption: approx. 120 - 150ml / m<sup>2</sup>.

HATO@Nano	1 Litre	price	5 Litres	price
	PAT15601	£28.65	PAT15605	£97.75

# METALLIC PAINTS & POWDERS

## BRISTOL STANDTEX METALLIC PALETTE



**Bristol StandTex Metallic Palette** The Silver is a best-seller with Flints for good reason [two swatches shown; the top on canvas, the bottom on a piece of PVC pipe]. Like all the Bristol metallics it is water-based with exceptional coverage and is ready to use. A unique feature of Bristol Paints which proves popular is that they can be mixed with the Bristol Primary Palette [see page 18] to create metallic colours which are very durable. Simply mix the paints together to the desired effect then add 25% of AquaPlus [page 23] to prevent the colour and metallic from separating. This range of metallics is also available in a durable high adhesion water-based polyurethane. Please phone for details.

Bristol Metallic Palette 100 ml	1 kg	3 kg	5 kg	10 kg
approx vol:	800 ml	2.4 L	4 L	8 L
£6.45	£23.42	£58.98	£83.60	£159.52
Silver BRI91060	BRI11060	BRI31060	BRI51060	BRI21060
Bristol Metallic Palette 100 ml	1 kg	3 kg	6 kg	10 kg
approx vol:	800 ml	2.4 L	4.8 L	8 L
£6.45	£31.30	£83.78	£141.54	£227.97
Lemon Gold BRI91061A	BRI11061A	BRI31061A	BRI61061A	BRI21061A
Light Lem Gold BRI91061B	BRI11061B	BRI31061B	BRI61061B	BRI21061B
Mid Gold BRI91061C	BRI11061C	BRI31061C	BRI61061C	BRI21061C
Deep Gold BRI91061D	BRI11061D	BRI31061D	BRI61061D	BRI21061D
Antique Gold BRI91061E	BRI11061E	BRI31061E	BRI61061E	BRI21061E
Bronze BRI91061H	BRI11061H	BRI31061H	BRI61061H	BRI21061H
Copper BRI91061G	BRI11061G	BRI31061G	BRI61061G	BRI21061G
Gun Metal BRI91061N	BRI11061N	BRI31061N	BRI51061N	BRI21061N
Pewter* BRI91061J	BRI11061J	BRI31061J	BRI51061J	BRI21061J
Bristol full colour chart [at cost price]	BRICC			£16.00

\*Please note, the Pewter comes as 5 kg (approx 4 L), not 6 kg



**Bristol Standtex Metallic Collection Set** All ten of the metallic colours in the 100 ml size at a reduced price.

Bristol Metallic Collection Set	code	price
10 x 100 ml pots	BRI90004K	£60.10

## ROSCO OFF BROADWAY METALLIC PAINTS



**Rosco Off Broadway Metallic Paint** Water-based metallic paints which are economically priced. SPECIFICATION: Covers 8 - 9 m<sup>2</sup> per litre.

Off Broadway Metallic Paint	code	473 ml	code	946 ml	code	3.79 L
Silver	ROS25385	£20.00	ROS15385	£34.75	ROS35385	£116.75
Copper	ROS25386	£20.00	ROS15386	£34.75	ROS35386	£116.75
Gold	ROS25384	£20.00	ROS15384	£34.75	ROS35384	£116.75
Bright Gold	ROS25383	£20.00	ROS15383	£34.75	ROS35383	£116.75
Antique Gold	ROS25387	£20.00	ROS15387	£34.75	ROS35387	£116.75

See also Metallic Finishes and Spray Paints [page 34].

## ACRYLIC METALLIC PAINT



**Polyvine Acrylic Metallic Paint** Polyvine's metallic paint is produced without using metallic powders. The product has unusually good brushing and spreading properties making it a good choice for large areas such as walls. They can be tinted with Polyvine colourisers. The finish can be burnished with a soft cloth to a shine.



Polyvine Acrylic Metallic Paint	size	code	price
Pale Gold	500 ml	POL32075	£17.44
Bright Gold	500 ml	POL32085	£17.44
Antique Gold	500 ml	POL32095	£17.44
Copper	500 ml	POL32105	£17.44
Pewter	500 ml	POL32125	£17.44
Silver	500 ml	POL32115	£17.44

Everything is available to buy online! [flints.co.uk](http://flints.co.uk)

**ARDENBRITE PRODUCTS**



**Ardenbrite Metallic Paint** A range of high quality, quick-drying metallic paints, suitable for external and internal use. When used externally, they should be given a coat of protective glaze. May be used on wood, stone, expanded polystyrene as well as metal. Ready mixed for application by brush or spray. Touch dry in 15 minutes, hard dry in 3 hours.

Ardenbrite Metallic	125 ml	250 ml	500 ml
Silver	£16.98	£26.27	£48.05
Antique Gold	PAT7110	PAT7111	PAT7112
Green Gold	PAT7030	PAT7031	PAT7032
Sovereign Gold	PAT7100	PAT7101	PAT7102
Bronze	-	PAT7071	PAT7072
Deep Gold	-	PAT7021	PAT7022
Light Gold	PAT7010	PAT7011	PAT7012
Old Penny Bronze	PAT7090	PAT7091	PAT7092

**Basecoat** A water-based, fast-drying primer that improves adhesion.

Ardenbrite Quick Drying Basecoat	code	500 ml
	PAT73002	£11.37

Ardenbrite Glaze	code	1 L
Protective Glaze	PAT7203	£46.31

**TREASURE GOLD - LIQUID LEAF**



**Treasure Gold Liquid Leaf** See page 38 for full details. Each 30 ml bottle will

cover approx. 2 m<sup>2</sup>. Use the brush bath thinners at 15-20% to spray.

Liquid Leaf	code	30 ml	code	30 ml	
Silver	PAT79408	£9.97	Pewter	PAT79406	£9.97
White Fire	PAT79404	£9.97	Florentine Gold	PAT79402	£9.97
Classic Gold	PAT79401	£9.97	Renaissance G.	PAT79403	£9.97
Copper	PAT79407	£9.97	Brass	PAT79405	£9.97
	code	60 ml	code	250 ml	
Treasure Sealer	PAT79601	£9.57	PAT79604	£23.34	
Brush Bath Thinner	PAT79602	£9.57	PAT79603	£23.34	

**FLINTS METALLIC POWDERS**



**Flints Bronze and Aluminium Powder** Technically speaking these bright powders are actually termed "flakes". They are suitable for making

bright metallic paints when mixed with a glaze, Cellulose Bronzing Medium or Shellac [page 60]. If you require a metallic powder for mixing with polyester resin then refer to the specialist powders [page 120]. Opinions vary, but allow 500 g for 2.5 litres as a guideline.

Flints Metallic Powders	size	code	price	Tradeline 4+
Deep Gold [Orange/copper gold]	250 g	DPP500	£19.98	£17.98
Lemon [Medium yellow]	250 g	DPP050	£24.38	£21.95
Rich Gold [Pale slightly acidic yellow]	250 g	DPP259	£18.95	£17.05
Pale Gold [Pale slightly copper yellow]	250 g	DPP051	£19.35	£17.40
Natural Copper	250 g	DPP055	£18.95	£17.05
		code	250 g	code 1 kg
Silver [Aluminium]	DPP25712	£20.15	DPP2571	£67.80

First time users should ask for health and safety data sheets or download them from the "Downloads" section of flints.co.uk.

**BRONZING MEDIUM**



**Cellulose Bronzing Medium** Ormaline metallic paint medium for making metallic paints using the powders above. See also shellac-based Transparent Polish [page 60] which can also be used as an economical medium for the powders.

Cellulose Bronzing Medium	code	price
250 ml	PATBM2	£17.33
1 L	PATBM1	£51.43

See also Polyvine Glazes [page 55].

**METAL LACQUERS**



**Rylard Brass Lacquer [Incralac]**

This brass lacquer is used in many demanding situations for protecting such metals as brass and copper, and is intended for interior or exterior use. With an excellent balance of hardness, adhesion and film toughness, it has superb resistance to UV light and resists yellowing and loss of gloss and clarity as it ages. The applied film also provides excellent flexibility and resistance to cracking and flaking. Brushes can be cleaned with Cellulose Thinners [page 61]. See also Polyvine Crystal Clear Lacquer [page 38].

Rylard Brass Lacquer	size	code	price
Can	500 ml	PATBL500	£17.85
Aerosol	400 ml	PATBL400	£23.29

GRAPHITE POWDER



**Flints Graphite Powder**

Graphite powder is a crystallised form of carbon. This Flints Graphite Powder is particularly fine and is warm grey in colour. It is excellent for lubricating lock mechanisms. Mixed with emulsion glaze and emulsion paint it will, when brushed onto a surface, resemble a lead/metallic surface, especially if

lightly abraded or polished. It can also be used as a powder with polyester resins to give an aged metallic effect. Do not use graphite powder near electrical equipment such as weighing scales, calculators and computers as it may cause short circuits. See also Liberon Iron Paste below.

Flints Graphite Powder	code	200 g	code	2.4 kg
	PATGP0200	£5.95	PATGP2400	£57.14

IRON POWDER

**F**



**Iron Powder** This fine iron powder will rust quickly with water and is excellent for realistic rust effects. For best results apply a coat of a matt glaze such as Polyvine Dead Flat [page 23] onto your base colour. While the glaze is still wet sprinkle liberal quantities of iron powder into the glaze and spray with vinegar using a Hand-held Mister [page 94]. The iron powder will immediately

begin to rust. Realistic-looking riveted steelwork can be achieved by glueing our Wooden Rivets [page 98] to MDF and applying some flat glaze around the edges and letting it run. Sprinkle with iron powder, spray with vinegar and it will look like rust is weeping from the rivets. Excess powder can be swept off when the glaze is dry. We can also recommend trying the HATO@Rust Effect on page 32.

Iron Powder	code	1 kg	10 kg+
	DPP258	£15.85	£14.28



This lovely rusty crab was made by Jack our Product Manager using Worbla [page 98] and painted with HatoRust [page 32]

See also the Rust Effect by Dirty Down [page 32] and Spray [page 69] and HATO@Rust [page 32]

METALLIC PASTES



**Liberon Iron Paste** This paste will restore the appearance of cast and wrought ironwork such as grates, fire surrounds and fire irons. For scenic use it can be used on firebacks, stoves, boilers and pipes but it shouldn't be used on working wood-burning stoves or radiators. Apply sparingly with a brush or cloth and buff up after at least 4 hours with a cotton cloth. Makes wooden scenery look like solid cast iron. 250 ml is enough for up to seven fireplaces.

Liberon Iron Paste	size	code	price
	250 ml	PAT396	£13.33

METALLIC SPRAYS

Flints stocks several makes of metallic spray paint all chosen for their brilliance and evenness of finish. The range covers most metals. Coverage will depend on the surface being sprayed but as a rough guide a 400 ml can will normally cover about 2 m<sup>2</sup>.



Gold PATKOB045

Copper PATKOB046

Silver PATKOB047



**Kobra Metallic Spray** A high "solid" content ensures great rapid coverage on any surface. It is perfect for painting on canvas, wood, metal, glass, paper, card, plastic, concrete, brick and more. We are particularly impressed by the gold, which is the best we've tried. Flints stocks a selection of Kobra Sprays in vibrant colours and fluorescents. See page 67.

Kobra Spray Paint	code	400 ml	Tradeline 12+
Gold	PATKOB045	£5.35	£4.80
Copper	PATKOB046	£5.35	£4.80
Silver	PATKOB047	£5.35	£4.80

**Kobra Spray Nozzles** Flints stocks a variety of cap sizes. Use the "fat" nozzle to quickly cover a large area with intense colour and the "skinny" nozzle to write, see page 67.



The swatches and below are photos taken by Flints of the actual products sprayed onto vinyl pipe.

**Air Craft Metallic Spray** Extra quality including an excellent silver chrome. Many of our clients consider the Air Craft Silver Chrome to be the most realistic chrome aerosol.

Air Craft Metallic	code	400 ml	6+
Silver Chrome	BOL950010	£6.67	£6.03
Gold	BOL950002	£6.67	£6.03



**Plasti-Kote Brilliant Metallic Spray** By popular demand!

Plasti-Kote Metallic	code	400 ml	6+
Gold	PAT160	£9.32	£7.95
Silver	PAT161	£9.79	£8.35
Copper	PAT162	£9.79	£8.35



**Decoration Metallic Spray** An extensive range of metallics.

Decoration Metallic	code	400 ml	Tradeline 12+
Brite Gold	BOL9002	£8.45	£7.05
Brite Silver	BOL9003	£8.45	£7.05
Coppertone	BOL9004	£8.45	£7.05
Brass	BOL9032	£8.45	£5.85
Antique Gold	BOL9085	£8.45	£7.05

# GILDING

## DUTCH METAL



Scenic artist Anna Stamper gilded this wall with Dutch Metal for the entrance of the 'Beyond El Dorado' exhibition at the British Museum.



**Dutch Metal** An economic substitute for real gold and silver leaf. It is available as loose leaf or transfer. The transfer is pressed onto tissue paper and is easier to apply, but we have heard it can resist some protective glazes. If you are going to protect your gilding with Bona Mega [page 53] we recommend using loose leaf. Metal Leaf Lacquer ➡, Rylards Brass Lacquer [page 56] and Renaissance Wax [page 58] will also protect your gilding. We can supply all types of leaf including Italian, English and German real gold plus copper and silver. Please phone for a quote. One book of Dutch Metal will cover a maximum of 0.49 m<sup>2</sup>. Sheet size is 140 x 140 mm.

Dutch Metal [imitation leaf]	code	book [25 pages]	10-49 bks	50 bks+
Gold Loose Leaf [imitation]	PAT981	£3.58	£3.25	£2.85
Gold Transfer [imitation]	PAT982	£5.50	£4.95	£4.45
Silver Loose Leaf [imitation]	PAT983	£3.58	£3.25	£2.85
Silver Transfer [imitation]	PAT984	£5.50	£4.95	£4.45
Copper Loose Leaf	PAT985	£3.58	£3.25	£2.85
Copper Transfer	PAT986	£5.50	£4.95	£4.45



**Dutch Metal on Rolls** When working with books of Dutch Metal over large areas the square leaf shape will tend to show up. These rolls of loose Dutch Metal can provide seamless gold effect on architraves and mouldings etc. [See also Metallic Foil Leaf ➡].

Dutch Metal on Rolls	length	width	code	Tradeline per roll
Gold	50 m	150 mm	PATDMRG	£68.95
Silver	50 m	150 mm	PATDMRS	£68.95

The art to a good quality finish is in the preparation. The size should be applied to a perfectly smooth base as the slightest imperfection will show in the final work. If applying to a red oxide painted surface [page 9], prepare the substrate by sanding with 400 - 600 grit abrasive paper and remove all the dust with a Tack Rag [page 85]. The size should be applied with a soft brush held at 45° to the stroke to avoid brush marks. The leaf should be applied to the size while it is still just tacky. The drier the size, the brighter the shine but too dry and the leaf will not adhere. A taut knuckle when rubbed across the size should produce a slight squeak when the size is ready. See also books on Gilding [page 375].

## GILDING FLAKES



**Gilding Flakes** Gilding Flakes are fine decorative flakes that add a vintage metallic sparkle. Gilding Flakes can be used together with size & glue to create metal effect backgrounds and highlights. Adorn anything you want, just make sure there isn't breeze when you open the pot! 200 ml pot.

Gilding flakes	code	price
Gold	PATGFGD200	£4.11
Silver	PATGFSR200	£4.11
Copper	PATGFGR200	£4.11
Aztec Gold	PATGFAG200	£4.11
3 Colour Mix	PATGF3C200	£4.11
Gold Silver Mix	PATGFGS200	£4.11
Green Verde	PATGFGV200	£4.11
Red Verde	PATGFRV200	£4.11

## REAL GOLD LEAF



**Real Gold Leaf** 23.5 carat Italian Deep Gold real gold leaf. Real gold is sold in books of 25 leaves which are 80 x 80 mm. Real gold will not tarnish and is suitable for exterior and marine uses. We recommend using Le Franc Charbonnel Gold Size ➡ when using real gold leaf. One book of real gold leaf will cover a maximum of 0.16 m<sup>2</sup> [about two sheets of A4 paper].

Real Gold Leaf	book	code	Tradeline
Loose Leaf	25 leaves	PAT980L	£29.00
Transfer	25 leaves	PAT980	£29.17



What you do with those scissors?

**Gilder's Tip** Medium thin squirrel hair between two pieces of card 3.5" wide. Used to transfer real gold loose leaf. Gilder's Tips are not necessary for Dutch Metal.

Gilder's Tip	code	price
	PBR907	£6.18

**TREASURE GOLD GILDING PASTE & LIQUID LEAF**



**Treasure Gold Gilding Paste**

This highly diverse paste can be applied by finger or cloth, or by bush if thinned with turpentine. Suitable for use on practically any surface - wood, metal, glass, wax, leather, plaster, plastics etc. Tint-able with artists oil colours, a wide range of metallic colours can be achieved. Popular for repairing antique gilded picture frames; a small amount goes along way - the 25 g pot of paste will cover 2 m<sup>2</sup>. In it's paste form it will even fill very small holes and cracks. Ready to polish with a soft cloth after 10 minutes - allow the paste to dry for a full 12 hours before varnishing with a sealer. To protect your finished surface, the Treasure Sealer is a perfect choice.

**Treasure Gold Liquid Leaf** These amazing gilding paints give a fantastic lustrous finish, thanks to the emulsion of primer and ultra-thin leaf particles. Like the paste, these paints are suitable for use on a wide range of surfaces - wood, glass, ceramics, papier-mache, cardboard etc. The paint goes really far - 30 ml will cover approximately 2 m<sup>2</sup> - and the smooth flow makes it really easy to spread without leaving any brush marks, alternatively it can be sprayed - just thin with the Brush Bath solvent [15-20%] listed below which is also used to clean up. To protect your finished surface, the Treasure Sealer is a perfect choice as it also retards tarnishing.

**Treasure Sealer** The perfect choice for sealing all Treasure Gold Products - ensure the effect has dried for a full 12 hours before sealing. Clear, non-yellowing, and retards tarnishing.

**Brush Bath** Thinner and solvent for the Liquid Leaf paints - use 15-20% to thin liquid leaf for spraying.

Treasure Gold	paste	25 g	liquid leaf	30 ml
Silver	PAT79318	£9.97	PAT79408	£9.97
Pewter	PAT79316	£9.97	PAT79406	£9.97
White Fire	PAT79314	£9.97	PAT79404	£9.97
Florentine Gold	PAT79312	£9.97	PAT79402	£9.97
Classic Gold	PAT79311	£9.97	PAT79401	£9.97
Renaissance Gold	PAT79313	£9.97	PAT79403	£9.97
Copper	PAT79317	£9.97	PAT79407	£9.97
Brass	PAT79315	£9.97	PAT79405	£9.97
	code	60 ml	code	250 ml
Treasure Sealer	PAT79601	£9.57	PAT79604	£23.34
Brush Bath Thinner	PAT79602	£9.57	PAT79603	£23.34

**CRYSTAL CLEAR LACQUER**

**Polyvine Crystal Clear Lacquer** A water-based lacquer for most surfaces, it also works well for gilded surfaces providing extra protection. It dries crystal clear with a satin or gloss finish, and is non-yellowing. Can be used inside or outside, and is food safe to boot! See also Rylard's Brass Lacquer [page 56].

Crystal Clear Lacquer	Satin	price	Gloss	price
100 ml	POLGL0100S	£3.76	POLGL0100G	£3.76
1 L	POLGL1000S	£19.56	POLGL1000G	£19.56
4 L	POLGL4000S	£67.30	POLGL4000G	£67.30

**METALLIC FOIL LEAF**



**Metallic Foil Leaf** This popular product consists of an extremely thin metal transfer foil on a plastic backing measuring approximately 640 mm wide [widths can vary slightly] and 15 m or 122 m long. To use, apply two coats of a water-based size such as Polyvine size to the item to be gilded. Allow to dry and then place the foil onto the size with the metallic side up and rub it hard with



a damp cloth. The protective backing can then be peeled away leaving a realistic worn metallic finish. Cut off the selvedge prior to use to avoid any discoloured edge from showing. The benefits of using this foil over Dutch Metal are that it will not show up the small square pattern associated with using small leaves and this foil will not tarnish. Available in ten brilliant metallic colours.

Metallic Foil Leaf	code	15 m	code	122 m
Green	PAT6062S	£15.00	PAT6062L	£75.00
Red	PAT6058S	£16.50	PAT6058L	£82.50
Blue	PAT6075S	£16.50	PAT6075L	£82.50
Pink	PAT6038S	£16.50	PAT6038L	£82.50
Bronze	PAT6990S	£16.50	PAT6990L	£82.50
Copper	PAT6814S	£16.50	PAT6814L	£82.50
Bright Gold	PAT6220S	£16.50	PAT6220L	£82.50
Pewter	PAT6705S	£16.50	PAT6705L	£82.50
Chrome	PAT6010S	£16.50	PAT6010L	£82.50
Dull Gold	PAT6128S	£16.50	PAT6128L	£82.50

**GOLD SIZE - WATER-BASED**

These water-based sizes are suitable for all scenery applications and the lack of solvents makes them a very popular choice.



**Wundasize** Waterbased size. Leave for 15 minutes for it to become tacky, it's then workable for up to 24 hours.

Wundasize	code	price
500 ml	PAT2020	£11.75
1 L	PAT2021	£19.95
5 L	PAT2025	£93.50



**Polyvine Size** An acrylic adhesive with an extended open time formulated for bonding gold leaf and Dutch Metal. Covers 15 m<sup>2</sup> per litre. Leave 15 minutes. Workable for 24 hours.

Polyvine Size	code	price
500 ml	POL3371	£9.40
1 L	POL3370	£16.13

**GOLD SIZE - OIL-BASED**



**Le Franc Charbonnel Gold Size** Regarded as the finest gold size. Ideal for use with real gold leaf. Oil-based.

Gold Size	size	code	price
3 hour	75 ml	PAT2009	£9.12
3 hour	1 L	PAT20121	£54.93
12 hour	75 ml	PAT2011	£10.76
12 hour	1 L	PAT20051	£61.53

# PEARLESCENT PAINTS & POWDERS

## PEARL LUSTRE PAINTS



**Flints Pearl Lustre Paint** This range of ready mixed pearlescent paints allows the designer to add a subtle extra dimension to the colour. The semi-gloss pearl sheen manages to avoid the garishness of high gloss and glitter finishes whilst achieving a far more interesting surface than plain flat colour. Water-based. Covers 8 - 10 m<sup>2</sup> per litre.

Flints Pearl Lustre Paint	code	50 ml	code	1 L
Pearlescent	PATPPPL5	£2.45	PATPPPL1	£17.89
Silver	PATPPSL5	£2.45	PATPPSL1	£17.89
Gold	PATPPGD5	£2.45	PATPPGD1	£17.89
Dark Gold	PATPPDG5	£2.45	PATPPDG1	£17.89
Dark Bronze	PATPPDB5	£2.45	PATPPDB1	£17.89
Light Bronze	PATPPLB5	£2.45	PATPPLB1	£17.89
Yellow	PATPPYW5	£2.45	PATPPYW1	£17.89
Orange	PATPPOE5	£2.45	PATPPOE1	£17.89
Sunset Red	PATPPSR5	£2.45	PATPPSR1	£17.89
Crimson	PATPPCN5	£2.45	PATPPCN1	£17.89
Purple	PATPPPE5	£2.45	PATPPPE1	£17.89
Blue	PATPPBE5	£2.45	PATPPBE1	£17.89
Sapphire Blue	PATPPSE5	£2.45	PATPPSE1	£17.89
Aqua	PATPPAA5	£2.45	PATPPAA1	£17.89
Leaf Green	PATPPLG5	£2.45	PATPPLG1	£17.89
Lime	PATPPLE5	£2.45	PATPPLE1	£17.89

**Flints Pearl Lustre Paint Starter Kit** Perfect for sampling. If you're a designer this kit is great to give you access to paint for your model, that can also be used on stage by the Scenic Artists, Propmakers or costumers.

Flints Pearl Lustre Test Kit	code	price
16 x 50 ml pots with all the above colours	PATPPSETK	£32.00

## PEARL LUSTRE POWDERS



**F**

### Flints Pearl Lustre Powders

Can be mixed with a binder such as emulsion glaze to

provide a glistening pearl effect. If mixed thinly it allows the base colour to shine through. A thicker mix over a pale background will provide a solid pearl effect. Non-toxic, fire retardant and will resist temperatures of up to 800°C but if your scenery gets that hot you should have other things on your mind. See also Mica Flakes [page 42].

Pearl Lustre Powder	code	100 g	code	500 g
Clear Pearl Lustre	DPP1001	£6.48	DPP1005	£11.67
Silver Pearl Lustre	DPP3001	£7.56	DPP3005	£13.61
Pale Gold Pearl Lustre	DPP4001	£12.17	DPP4005	£21.87
Gold Pearl Lustre	DPP3031	£12.17	DPP3035	£21.87
Bronze Pearl Lustre	DPP5021	£12.17	DPP5025	£21.87
Copper Pearl Lustre	DPP5001	£12.17	DPP5005	£21.87
Red Wine Pearl Lustre	DPP5041	£13.50	DPP5045	£24.30
Red Violet Pearl Lustre	DPP5051	£13.50	DPP5055	£24.30

## METALLIC SHIMMER PAINT

**NEW TYPE**



**Polyvine Metallic Pearl** An acrylic pearl finish paint which can be used on its own or tinted with Polyvine Colourisers [see page 58] to create the type of lustrous effect reminiscent of mother-of-pearl.

The product has unusually good brushing and spreading properties making it a good choice for large areas such as walls. Can be burnished with a soft cloth to shine.

Touch dry in approximately 2 hours, re-coatable in 4 hours. This product is ready to use straight from the pot, and 2-3 coats will be required for a good finish. Coverage is approximately 8 square metres per litre.

Polyvine Metallic Pearl 500ml	code	size	price
	POL3202	500 ml	£14.54
	POL32027	2 L	£54.09

# GLITTER

## FLINTS PVC GLITTER



Black  
GLI0137



GLI0237



White  
GLI0106



GLI0206



Multi  
GLI0140



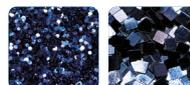
GLI0240



Emerald Green  
GLI0119



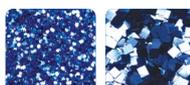
Turquoise  
GLI0127



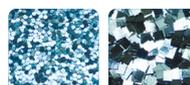
Navy Blue  
GLI0103



Violet  
GLI0121



Royal Blue  
GLI0110



Light Blue  
GLI0115



Pink  
GLI0114



Dusty Rose  
GLI0144



Lavender  
GLI0116



Fuchsia  
GLI0109



Purple  
GLI0113



Antique Brown  
GLI0105



Wine  
GLI0145



Red  
GLI0102



Golden Orange  
GLI0118



Rich Red Gold  
GLI0147



Dark Gold  
GLI0248



Gold  
GLI0104



Sand  
GLI0153



Silver  
GLI0101



**Flints PVC Glitter Prices** If very large quantities are needed at short notice we may have to add an air freight surcharge. We normally hold stocks of well over half a tonne. When bulk-buying we do not provide these in hundreds of tiny pots, but provide the glitter in a cardboard supported plastic sack.

PVC Glitter	size	code		size	code	
		jewels	squares		jewels	squares
Black	250 g	GLI0137	GLI0237	25 kg	GLI0137B	GLI0237B
White	250 g	GLI0106	GLI0206	25 kg	GLI0106B	GLI0206B
Emerald Green	250 g	GLI0119	GLI0219	25 kg	GLI0119B	GLI0219B
Turquoise	250 g	GLI0127	GLI0227	25 kg	GLI0127B	GLI0227B
Navy Blue	250 g	GLI0103	GLI0203	25 kg	GLI0103B	GLI0203B
Violet	250 g	GLI0121	GLI0221	25 kg	GLI0121B	GLI0221B
Royal Blue	250 g	GLI0110	GLI0210	25 kg	GLI0110B	GLI0210B
Light Blue	250 g	GLI0115	GLI0215	25 kg	GLI0115B	GLI0215B
Pink	250 g	GLI0114	GLI0214	25 kg	GLI0114B	GLI0214B
Dusty Rose	250 g	GLI0144	GLI0244	25 kg	GLI0144B	GLI0244B
Lavender	250 g	GLI0116	GLI0216	25 kg	GLI0116B	GLI0216B
Fuchsia	250 g	GLI0109	GLI0209	25 kg	GLI0109B	GLI0209B
Purple	250 g	GLI0113	GLI0213	25 kg	GLI0113B	GLI0213B
Antique Brown	250 g	GLI0105	GLI0205	25 kg	GLI0105B	GLI0205B
Wine	250 g	GLI0145	GLI0245	25 kg	GLI0145B	GLI0245B
Red	250 g	GLI0102	GLI0202	25 kg	GLI0102B	GLI0202B
Golden Orange	250 g	GLI0118	GLI0218	25 kg	GLI0118B	GLI0218B
Rich Red Gold	250 g	GLI0147	GLI0247	25 kg	GLI0147B	GLI0247B
Dark Gold	250 g	-	GLI0248	25 kg	-	GLI0248B
Gold	250 g	GLI0104	GLI0204	25 kg	GLI0104B	GLI0204B
Sand	250 g	GLI0153	GLI0253	25 kg	GLI0153B	GLI0253B
Silver	250 g	GLI0101	GLI0201	25 kg	GLI0101B	GLI0201B
Multi	250 g	GLI0140	GLI0240	25 kg	GLI0140B	GLI0240B

PVC Glitter	size	1 pot	10+	Tradeline 25 kg sack
See above for codes	250 g	£9.50	£8.95	£437.35

## CLEAR AND HOLOGRAPHIC GLITTER



**F Clear and Holographic Glitter** Polyester holographic glitter comes as "jewels" in two sizes 040 [approximately 0.75 mm across] and 125 [3.2 mm across]. See also Iridescent Disco in the Fine Cut range. Add B to end of code when ordering in bulk - 25 kg sack.

PVC Clear Glitter	code		1 pot	10+	Tradeline 25 kg sack
	jewels	squares			
Crystal Iris	GLI0133	GLI0233	£10.50	£9.98	£648.00
White Iris	GLI0149	GLI0249	£9.50	£8.95	£648.00
M11 Crystal	GLI0139	GLI0239	£9.50	£8.95	£648.00

Polyester Holo Glitter	code		1 pot	10+	Tradeline 25 kg sack
	jewels 040	jewels 125			
Silver Alpha Iris	GLI0130	GLI0230	£10.65	£9.69	£1,102.61
Gold Alpha Iris	GLI0131	GLI0231	£12.21	£11.13	£1,257.53
Black Alpha Iris	GLI0132	GLI0232	£13.30	£12.33	£1,257.53

See also Chinese Confetti [page 109], Giant Glitter [next page], Marble Dust and Black Sand [page 25].



**Flints PVC Glitter** Our range of popular non-tarnishing plastic glitters are non-abrasive and non-toxic. They are packed in convenient clear 250 g shaker pots, although large quantities may be supplied loose packed. PVA glue or glaze provides satisfactory results for most applications but for really tough high wear areas try using Rosco CrystalGel [page 47] or Flints Texture Binder [page 49]. We supply our standard glitters as small hexagonal "jewels" approximately 0.75 mm across or "squares" approximately 3.2 mm across. 500 g covers very approximately 1 m<sup>2</sup>.

**GIANT GLITTER AND FLUTTER GLITTER**

**F**



**Giant Glitter Squares and Flutter Glitter** These popular soft foil squares [20 x 20 mm] will fall slowly to the ground if thrown from a balcony making an impressive display ideal for any celebration. The rectangular Flutter Glitter [20 x 50 mm] will flutter down even more slowly for a prolonged effect.



Silver  
GLI0255



Silver Rectangle  
GLI0255R



Gold Rectangle  
GLI0256R



Red  
GLI0257R



Blue  
GLI0258R



Green  
GLI0259R

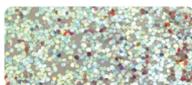
Giant Glitter & Flutter Glitter	code	code	price kg
	[square]	[rectangle]	
Silver	GLI0255	GLI0255R	£31.32
Gold	GLI0256	GLI0256R	£31.32
Red	-	GLI0257R	£31.32
Blue	-	GLI0258R	£31.32
Green	-	GLI0259R	£31.32

**FINE CUT POLYESTER GLITTER**

**F**



**Fine Cut Polyester Glitter** This range of very fine precision-cut glitters is for those requiring a top quality product for small items or close up work. Also suitable for spray applications for stunning results. Supplied as hexagon "jewels" 0.015 mm across. Non-toxic and water resistant.



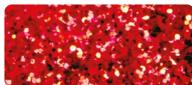
Iridescent Disco  
GLIHDISCO



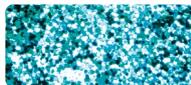
Gold  
GLIH627



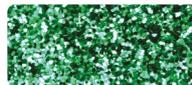
Silver  
GLIH615



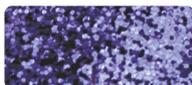
Bright Red  
GLIH601



Blue  
GLIH602



Emerald Green  
GLIH623



Purple  
GLIH605



Orange  
GLIH637



Black  
GLIH612

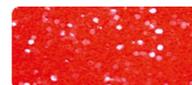
Fine Cut Polyester Glitter	code	125 g
Iridescent Disco	GLIHDISCO	£9.80
Gold	GLIH627	£9.80
Silver	GLIH615	£9.80
Bright Red	GLIH601	£9.80
Blue	GLIH602	£9.80
Emerald Green	GLIH623	£9.80
Purple	GLIH605	£9.80
Orange	GLIH637	£9.80
Black	GLIH612	£9.80

**FLOUORESCENT GLITTER**

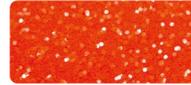
**F**



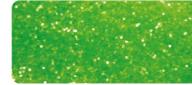
Yellow  
GLI0133F



Red  
GLI0137F



Orange  
GLI0135F



Green  
GLI0136F

**Fluorescent Glitter** Very bright PVC fluorescent glitters to make your item really stand out. Only supplied as small hexagonal "jewels" approximately 0.75 mm across.

Fluorescent	250 g pot	each	10+	25 kg sack	Tradeline
Yellow	GLI0133F	£9.03	£8.58	GLI0133FB	£360.38
Red	GLI0137F	£9.03	£8.58	GLI0137FB	£360.38
Orange	GLI0135F	£9.03	£8.58	GLI0135FB	£360.38
Green	GLI0136F	£9.03	£8.58	GLI0136FB	£360.38

**SPECIAL GLITTER**



**F**



**Opalina Snow [Random Cut]**

This transparent slightly iridescent glitter is randomly cut to provide an irregular appearance. It can be added to Marble Dust [page 25] or M11 crystals to provide a crystalline frosted snow effect or just use it by itself for an interesting surface. See also page 106 for Artificial Snow. Supplied in 100 g pots.



Opalina Snow	100 g pot	each	10+	25 kg sack	Tradeline
	GLI062	£7.37	£6.65	GLI062B	£484.95

**METALLIC GLITTER SPRAYS**



**Spring Metallic Glitter Craft Spray**

These sprays have a bolder glitter than the Plasti-kote ones but they are in a more transparent carrier. Use them over any colour base for a great overlay effect. Note: The glitter tends to rub off slightly and would benefit from a spray of Plasti-Kote Clear Sealer [page 69].

Spring Metallic Glitter	code	300 ml	Tradeline 12+
Silver Glitter	BOLPT1001	£7.95	£6.65
Gold Glitter	BOLPT1000	£7.95	£6.65



**Plasti-Kote Glitter Spray**

These sprays deliver a very fine glitter finish. Because the glitter is very fine they are more suited to close up display work rather than for use on stage. The aerosols are, of course, CFC-free. Covers approx 1.5 m<sup>2</sup> per 400 ml. See also Bristol Glitter Paint [page 43] for a water-based glaze.

Plasti-kote Glitter Spray	code	400 ml	Tradeline 6+
Silver	PAT173	£10.48	£9.06
Gold	PAT172	£10.48	£9.06

# BIOGLITTER

1: GLITTER



BioGlitter 015 jewels scaled next to a £1 coin



BioGlitter 040 jewels scaled next to a £1 coin

**Deco BioGlitter Sparkle** There's been a lot of requests to add a biodegradable glitter to our range, and so we have found a quality BioGlitter that is indistinguishable from traditional plastic glitter- except that its 100% plastic free! Made from cellulose plant material means that Deco BioGlitter Sparkle will naturally degrade into the environment. Available in two sizes of 'jewels': 015, a very fine cut glitter and 040, a 'jewel' of similar size to our smaller 'jewels' from the Flints PVC Glitter collection. It achieves a technical grade, perfect for printing, coating and other surface effects. In our tests we found it to cover roughly three-times the surface area of traditional glitter- making it nearly equivalent to our 250g tubs of Flints PVC Glitter, as whilst the 'jewels' are thinner and lighter they will cover a similar surface area. Supplied in biodegradable bags to help further reduce the environmental impact - reusable empty shaker pots are available to order separately. We appreciate that this may seem expensive compared to other glitter we stock, but once you look at the extended coverage, and improved environmental impact, we're sure you'll agree it's worth it.

Three-times more coverage than traditional glitter!

100% plastic free!  
100% bio-degradable

CERTIFICATION: Tested to ISO14851/2 Fresh water Biodegradability. Certificate on website.

## MICA FLAKES



**Mica Flakes** Inert complex silicate. For full details and images see page 32. 500 g tubs.

Mica Flakes	code	500 g
Gold	DPP060	£17.50
Silver	DPP058	£17.50
Bronze	DPP056	£17.50
Black/Silver	DPP059	£17.50
Clear	DPP057	£17.50

BioGlitter Sparkle Jewels 015 code	75 g bag	code	1 kg bag	
Silver	GLIBSR015	£9.10	GLIBSR0151	£99.00
Canadian Blue	GLIBCB015	£9.10	GLIBCB0151	£99.00
Aegan Blue	GLIBAB015	£9.10	GLIBAB0151	£99.00
Sky Blue	GLIBSB015	£9.10	GLIBSB0151	£99.00
Turquoise	GLIBTE015	£9.10	GLIBTE0151	£99.00
Emerald Green	GLIBEG015	£9.10	GLIBEG0151	£99.00
Lilac	GLIBLC015	£9.10	GLIBLC0151	£99.00
Pink	GLIBPK015	£9.10	GLIBPK0151	£99.00
Fushcia	GLIBFA015	£9.10	GLIBFA0151	£99.00
Fire Red	GLIBFR015	£9.10	GLIBFR0151	£99.00
Champagne Gold	GLIBCG015	£9.10	GLIBCG0151	£99.00
Light Gold	GLIBLG015	£9.10	GLIBLG0151	£99.00
Penny Copper	GLIBPC015	£9.10	GLIBPC0151	£99.00
Black	GLIBBK015	£9.10	GLIBBK0151	£99.00

BioGlitter Sparkle Jewels 040 code	75 g bag	code	1 kg bag	
Silver	GLIBSR040	£9.10	GLIBSR0401	£99.00
Canadian Blue	GLIBCB040	£9.10	GLIBCB0401	£99.00
Aegan Blue	GLIBAB040	£9.10	GLIBAB0401	£99.00
Sky Blue	GLIBSB040	£9.10	GLIBSB0401	£99.00
Turquoise	GLIBTE040	£9.10	GLIBTE0401	£99.00
Emerald Green	GLIBEG040	£9.10	GLIBEG0401	£99.00
Lilac	GLIBLC040	£9.10	GLIBLC0401	£99.00
Pink	GLIBPK040	£9.10	GLIBPK0401	£99.00
Fushcia	GLIBFA040	£9.10	GLIBFA0401	£99.00
Fire Red	GLIBFR040	£9.10	GLIBFR0401	£99.00
Champagne Gold	GLIBCG040	£9.10	GLIBCG0401	£99.00
Light Gold	GLIBLG040	£9.10	GLIBLG0401	£99.00
Penny Copper	GLIBPC040	£9.10	GLIBPC0401	£99.00

Reusable Empty Shaker Pot	code	each
Reusable empty shaker pot	GLIEGP	£0.95

# GLITTER PAINTS

## BRISTOL GLITTER PALETTE



## Product Spotlight



This spectacular display comes to us courtesy of Tamsin Reinsch of The Border Studio. This production of *Spamalot* was put on by the Dryburn Theatrical Workshop, photograph by Signature Times Photography. Bristol Glitter Palette Overlays were used to add a little sparkle to the Camelot lettering, and the piece of set at the back of the stage featuring the Knights' Coats of Arms.

1: GLITTER PAINTS

## Product Spotlight



Pam Piercy & Becca Spall of Merlin Entertainment kindly shared these images of glitter in use for props used in Dreamworks' *Shrek's Adventure! London* themeworld experience. Flints Glitter [page 40] was selected for its high quality, and great value.



### Bristol Glitter Palette - Paint and Overlays

This exciting range of water-based decorative paints is made from sparkling glitter particles suspended in a strong clear glaze. A single coat thinly applied will allow the base colour to shine through while a thicker layer, or several coats, will form a solid glittering surface.

Lots more  
glitter from  
page 40

With a wide choice of glitter paints on any base colour, the combined possibilities are countless. Application is best by spray, although it can be successfully rolled and small areas can be applied by brush. Care should be taken not to over-roll or over-brush as lapping or pulling may occur. The table shows the suggested basecoat to achieve the named colours.

Bristol Glitter Palette	500 g	2.5 kg	
approx vol:	417 ml	suggested basecoat [1 kg]	2.5 L suggested basecoat [3 kg]
	£18.56	£78.97	
Silver	BRI7SD906	BRI11060	BRI3SD906 BRI31060
Gold	BRI7SD304	BRI11061A	BRI3SD304 BRI31061A
Light Gold	BRI7SD303	BRI11061C	BRI3SD303 BRI31061C
Copper	BRI7SD905	BRI11061F	BRI3SD905 BRI31061F
Iris [iridescent]	BRI7C300	-	BRI3C300 BRI3WHITE
Aqua	BRI7SD104	BRI11053	BRI3SD104 BRI31053
Turquoise	BRI7SD131	BRI12001	BRI3SD131 BRI32001
Navy	BRI7SD177	BRI11035	BRI3SD177 BRI31035
Purple	BRI7SD234	BRI11093	BRI3SD234 BRI31093
Violet	BRI7SD235	BRI11097	BRI3SD235 BRI31097
Red	BRI7SD460	BRI11041	BRI3SD460 BRI31041
Bottle Green	BRI7SD682	BRI11063	BRI3SD682 BRI31063
Pink	BRI7SD223	BRI11065	BRI3SD223 BRI31065
Fuschia	BRI7SD444	BRI12000	BRI3SD444 BRI32000
Black	BRI7SD347	BRI11030	BRI3SD347 BRI31030
Bristol full colour chart [at cost price]		BRICC	£16.00

To view the suggested basecoats as swatches see Bristol StandTex - White on page 6, Primary Palette on pages 18-19, and Metallic Palette on page 34.

**We are committed to finding environmentally friendly solutions where possible, and are constantly looking for ways to reduce our industry's impact on the environment without compromising on effect!**

**We've also been improving our packaging; we've introduced cardboard boxes made from 100% recyclable materials and 100% recyclable, biodegradable and compostable reusable paper bags.**

**If you have any enviromental suggestions for how we can further improve please get in touch at: [feedback@flints.co.uk](mailto:feedback@flints.co.uk)**

# TEXTURES & FILLERS

## HARD COATINGS

**Textures for Styrofoam and Polystyrene** Versatile water-based fibre-reinforced coatings for Styrofoam and polystyrene. Application with a trowel is best but they can be diluted with water up to 5% to be applied with a brush; or up to 15% to be applied using Airless Spray Equipment [see page 94]. Clean immediately after use with water. Can be tinted using up to 8% Rosco Supersaturated Paint [page 12]. Very strong. See Page 71 for other Haussmann Coatings.



**Haussmann's Foam Armour 1075** An good value foam coating - an excellent choice if you have to cover a large area. Consumption: Undiluted allow around 1 - 1.8 kg per m<sup>2</sup>.  
 ✓ Economical

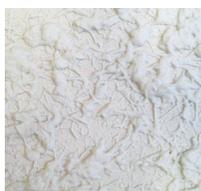


**Haussmann's Foam Armour Light 1080** This coating uses a new ultra-lightweight mineral extender to reduce weight. When applied to Styrofoam and polystyrene it only slightly increases their weight making it excellent for tours and flown pieces.  
 Consumption: Undiluted allow around 0.6 - 1.2 kg per m<sup>2</sup>.

Spot the difference. The top sample board has been covered with 1075, the board below with 1080.

- ✓ Good for touring
- ✓ Flown pieces

Haussmann's Foam Armour 1075	size	code	price
Off-white	18 kg [approx 10 L]	PAT1075	£158.75
Haussmann's Foam Armour Light 1080	size	code	price
Off-white	12 kg [approx 12 L]	PAT1080	£147.56



Rosco Foamcoat sprayed onto MDF with a hopper gun to get a deep texture.

**Rosco Foamcoat** A water-based protective coating for Styrofoam and polystyrene. Rosco Foamcoat has a consistency of wet plaster which dries to a hard durable coating that can be sanded, carved or smoothed. Uses include creating patterns such as bark or stone. Can also be used as a surface coating on fibre glass. This product can suffer slightly from consolidation in the pot and may need some aggressive mixing prior to use. See our Mixers [page 86]. Apply with a gloved hand, stiff brush, trowel or a Hopper Gun [page 93].

Rosco Foamcoat	size	code	price
Off-white	3.79 L	ROS60717	£80.50
Off-white	13.26 L	ROS60719	£263.50



This sample board was applied with varying thickness onto polystyrene and shows its natural stone colour.

**Haussmann's Styro-plast** This is our replacement for Hardkote which is no longer obtainable. It is a synthetic paste made with a coarse marble sand giving it a granular finish. The texture can be built up to a thick layer without it slumping. Once dry, Styro-plast provides a very tough flame-retardant coating that will withstand substantial knocks without cracking or denting. Apply with a trowel or gloved hand. Consumption: Allow around 1.8 - 2.2 kg per m<sup>2</sup>.

- ✓ Super tough coating
- ✓ Fire-retardant
- ✓ Granular texture finish
- ✓ Large container offering excellent value

Haussmann's Styro-plast	size	code	price
Off-white	20 kg [approx 16 L]	PROSTY1020	£124.20

**For power mixing machines and mixing tubs go to page 86.**



**Murex - all substrates** Exceptional adherence to all substrates including old painted surfaces, glazed tiles, primed wood, brick and even many plastics. Working time 30 minutes at 20°, can be over painted in 24 hrs. It is supplied as a powder for mixing with water.

- ✓ No thickness limitation
- ✓ Can be nailed or screwed into
- ✓ Impact resistant
- ✓ Interior or exterior

Murex	size	code	list	price
White	2 kg	PROMUR2		£19.31
White	5 kg	PROMUR5	£43.78	£36.95
White	15 kg	PROMUR15	£85.90	£77.31

See also Toupret TX110 [page 49] and Plaster of Paris [page 123].



**Artex Textured Finish AX** The original Artex Textured Finish AX is formulated from selected water-soluble binders combined with inert fillers. It is supplied as a powder for mixing with water. When applied to non-combustible surfaces Artex provides a Class 0 surface in accordance with National Building Regulations. Artex is non-toxic and non-hazardous, however the use of gloves and a dust mask are recommended to prevent irritations. Artex can be overpainted when dry.

Artex AX	size	code	price
White	25 kg	PAT835	£38.19

See also Toupret TX110 [page 49] and Jesmonite Water-based Glass Fibre System [pages 115 - 118].



**Dekozell - Creative** Dekozell Creative comes highly recommended from customers across Theatre as well as Film & TV as a sustainable, eco-friendly, texture coating. Used to create textures of all kinds, brickwork, rust, bark, moss or even fine weathering on paintwork. Dekozell Creative is made of 100% cellulose fibres, modified to be ultra lightweight and fine grade, these fibres are a by-product of wood fibre production only using

Brick work made with Dekozell wood from sustainable sources. The best way we could think of describing how it sticks to surfaces so well without anything other water is when at school you would soak toilet paper with water and throw it at the ceiling; as it dried it would stick fast and would become a permanent fixture of any school toilet. Not that anyone at Flints has ever done that. To use, simply mix with water, and colour using pigments or paint - it takes colour really well. Can be sprayed using a hopper gun [recommended 3-4 bar, 250 L/min flow], by trowel or scraper, or even by roller or brush. The 1.9 kg bag goes quite a long way; for a "standard" mixture prep, combine the whole bag with 16 L of water plus a L of Acrylic Paint (or PVA), and blend with a mixing paddle for 3 mins. For large surface areas, a blend of approaches may be most effective - spraying the bulk of the product using a stencil, and then working into it with a trowel or scraper.

Dekozell Creative	size	code	price	8+
	1.9 kg [makes 18 L]	PRODEK19	£68.50	£61.65

**HATO@PLAST - FILLING AND TEXTURING PASTES**



either can be over-coated with acrylic paint

**Hato@Plast** is an emulsion based filling and texturing paste. Available in 2 different finishes - hard and flexible [page 46]. Easily over coated with any acrylic emulsions - Haussmann of course recommend their range of paints - Hato@Design, but we have over coated samples with Rosco's Supersaturated paint with equal success. This highly versatile product is a dream to work with for Scenic Artists and Prop Makers alike.

**Hato@Plast 1070H - Hard** This water based paste dries quickly to a hard consistency which once fully cured can be easily sanded to give an extremely smooth finish. Suitable for application to wood, metal, and plastics it is a brilliant priming paste for inflexible props made from multiple materials. The viscosity of the paste allows it also to be easily applied to vertical surfaces, but it can

also be piped out of an icing bag for highly detailed embellishments. Available in both the original colouring of a very soft blush, and tinted black version which is very very matt black.

HATO@Plast Hard	1 kg	price	20 kg	price
1070H	PAT1070H01	£14.65	PAT1070H20	£127.77
1070H Black	PAT1070HB01	£18.09	PAT1070HB20	£149.95

**HATO@SAFE - CLASS 'O' COATING**



Hard foam coated with HATO@Safe and a layer of Quadraxial Fabric for reinforcement. Colour can also be added easily using water-based paint.

**HATO@Safe** This simple non-combustible [EN13501] coating system from Haussmann is great for propmakers on the go who need to reinforce small props. Easy to use, simply add water to the powdery base [37:100], mix thoroughly and apply to the surface [styrofoam, wood, hard-foam boards and plastics]. The result is a ceramic-like surface which is smooth and inflexible. We recommend using quadraxial fabric to reinforce, it can be susceptible to cracks when point pressure is applied. Water-based paint

can be added in small quantities to the mixture before application to introduce a colour. Normal colour: Off-White. See also Jesmonite [page 115]. SPECIFICATION: Ratio Water: HATO@Safe Powder - 37:100. Open time of 60 minutes, Full cure in 24 hours. Apply by brush, or palette knife.

HATO@Safe	1 kg	price	5 kg	price
	PAT1090001	£16.55	PAT1090005	£59.00

To build up areas of broken texture why not apply patches of our flame retardant underfelt [page 141].

Have fun and make a mess with the Flickatex machine [page 78]!

**PLIABLE COATINGS**



**Flintex** An economical, flexible and flame retardant texture compound which is water-based and can be tinted with any water-based pigment or paint. It is a durable product only marginally less tough than Idenden Brushcote. Ideally suited to theatre scenery and most other projects excepting those needed to endure very heavy traffic.

Adding Fillite [page 48] will create a lighter and more economical mix for larger areas. It will be slightly less flexible but will have a more matt finish – good for bricks or York stone on ply. Foam Crumbs or Cork Granules [page 48] can also be added for more texture. Only available in white. Suitable for interior and exterior use [although adding pigment and texture may effect its weather resistance]. May be applied with airless spray equipment [page 94] SPECIFICATION: Non-flammable when wet and BS 476 Parts 4, 6, 7 Class 0 when dry. Moisture vapour permeability: 0.11 perms. Fungal resistant. Weight: 1.35 kg per L

Flintex	code	10 L	10+	Tradeline 20+
White	PATFHS810	£84.75	£73.00	£67.65



**Flints Mud** A thick flame retardant waterborne texture that is perfect for creating stage landscapes. Apply with a gloved hand, trowel, stiff brush or airless spray onto canvas, underfelt, polystyrene or almost any substrate. Flints Mud dries to a tough but flexible finish complying to BS 476 Part 6 and Part 7 Class 0. Cloths textured with Flints Mud can be rolled up for transport. The surface will be resilient enough for use on floors in themed areas. Additional texture such as Foam Crumbs or Cork Granules [page 48] can be added to the Mud to vary the texture and the colour can be varied by adding concentrated Flints Liquid Pigments [page 25]. It can be smeared into artificial grass to break up monotonous areas. Colour approximately Pantone 4625U. Health and safety sheets can be downloaded from flints.co.uk. Covers approximately 1 m<sup>2</sup> per litre resulting in a dry film thickness of 0.5 mm.

- ✓ Perfect for theming work in museums or theme parks
- ✓ The slightly soft surface is quiet to walk on and comfortable to sit on making it perfect for opera use

Flints Mud	code	10 L	10+	Tradeline 20+
Mud Brown	PATMUD	£89.00	£76.50	£69.00





### Idenden Brushcote 30-150

A thick waterborne co-polymer that provides a durable and flexible texture coating that will not crack or flake. It can be easily applied with a brush, trowel or gloved hand directly to timber,

canvas, polystyrene, hessian, vacuum-formed plastics, underfelt and carpet. Its consistency makes it suitable for a wide range of textured applications, including wood grains, stippling, simulated mud and stone floors etc. When dry it is resistant to flame [BS 476 Part 7 Class 1, Building Regulations E15 Class 0] and most types of chemical attack. Idenden is available in three colours, the white can be coloured using one of the acrylic colour systems, Flints Liquid Pigments [page 25] or our dry pigment powders. It can be made lighter by adding Fillite or Glass Bubbles [page 121]. Health and safety sheets can be downloaded from flints.co.uk. Covers approximately 1 m<sup>2</sup> per litre resulting in a dry film thickness of 0.5 mm.

- ✓ Good adhesion to difficult surfaces
- ✓ Flame retardant to Class 1 and 0
- ✓ Will not crack or flake
- ✓ Can be tinted or overpainted
- ✓ Thixotropic, will not droop
- ✓ Flexible
- ✓ Durable
- ✓ Water-based
- ✓ Interior and exterior
- ✓ Reliable and easy to use

Idenden Brushcote 30-150	code	10 L	10+	Tradeline 20+
White	PAT810	£113.35	£103.29	£98.78
Grey	PAT812	£113.35	£103.29	£98.78
Black	PAT811	£113.35	£103.29	£98.78



### Idenden Spraycote ET-150

A slightly thinner product than the popular Brushcote listed above. Spraycote is a soft paste which can be sprayed with an airless system. For best results use airless spray equipment [page 94]. Air texture guns may also be used [page 93] or it can be applied by brush. Spraycote is water-based, flexible, durable and dries to a flame resistant finish [BS 476 Part 7 Class 1, Building Regulations E15 Class 0].

Idenden Spraycote ET-150	code	10 L
White	PAT813	£129.72
Grey	PAT814	£129.72
Black	PAT815	£129.72



**Rosco Flexcoat** is a non-toxic, white water-based coating that is excellent for use as a flexible protective coating over all types of polystyrene and soft foams. It is especially useful on foam scenery and props which require added protection yet need to remain lightweight. It performs well over concrete, primed metal and primed wood.

Flexcoat contains no plasticisers, so it will not become brittle with age or exterior exposure. It is compatible with all Rosco paints used either as tints or surface coatings. Flexcoat can be mixed with rubber and foam granules to provide a strong and flexible bonding agent [we recommend power mixing]. It is weatherproof and provides a Class A flame-retardant coating over most substrates.

Rosco Flexcoat	size	code	price
White	3.79 L	ROS6071201	£71.75
White	18.95 L	ROS6071202	£346.25



**Hato@Plast** is an emulsion based filling and texturing paste. Available in 2 different finishes - hard [page 42] and flexible. Easily over coated with any acrylic emulsions - Hausmann of course recommend their range of paints - Hato@Design, but we have over coated samples with Rosco's Supersaturated paint with equal success. This highly versatile product is a dream to work with for Scenic Artists and Prop Makers alike.

**Hato@Plast 1071F - Flexible** Also water-based, this version offers more flexibility to the finish, and can be built up or worked into more easily to give a textured finish that is flexible to the touch. Suitable for application onto hard and flexible surfaces alike. We found this worked particularly well as a smoothing coating on foam/polystyrene structures (can be sanded smooth), and would work well for many prop-applications. It can also be used in thick layers and worked into as a texturing paste so could also be good for touring scenic elements such as fake rocks or tree trunks. Can be applied to vertical or flat surfaces by trowel, float, or even piped through an icing bag. Dries without cracking and retains a flex once dry.

### Hato@Plast 1071SE - Flame Retardant Flexible

A production managers dream, this works in just the same way as the standard flexible Hato@Plast, but is also self-extinguishing! Perfect for scenic elements that need to meet FR standards. Please note, this does not flame retard an already flammable base, so it's designed to work in-conjunction with pre-treated base materials such as our Flame Retardant grade polystyrene (see page 101).



HATO@Plast Flexible	1 kg	price	15 kg	price
1071F	PAT1071F01	£18.67	PAT1071F15	£124.90
1071FSE Flame Retardant	PAT1071SE01	£15.43	PAT1071SE15	£127.77

**WEAVE FILLERS**



**Weave Filler 916** Weave Filler 916 and 916SE are highly elastic materials for filling open weave textiles from the finest bobbinet to massive one-inch-square architectural nets. The 916SE is the flame retardant version. This well-proven product will flow in one brush stroke to fill the very largest gauzes and nets. Once dry further layers can be applied for added texture. It is best to lay out your gauze onto a floor covered with polythene and dusted with French Chalk to help with the release and to prevent the cloth from sticking to itself when it is rolled for transport. The weave filler remains highly flexible for many years and even at sub-zero temperatures. Can also be used as a non-skid backing to rugs and druggets [page 63] and as an edge binder to prevent materials from fraying. A very impressive product.

Weave Filler 916	size	code	price
Ecru	1 kg	PROWF9161	£21.32
Ecru	5 kg	PROWF9165	£73.25

Weave Filler 916 SE	size	code	price
Flame Retardant	10 kg	PROWF91612	£199.98

NB: The 916 SE Flame Retardant version can discolour some dark cloths. Please try a sample first. It also has a very short shelf life, so we have to manufacturer to order - please order it about 10 days in advance of being required for optimum usage.



**Weave Filler and Texture 1047** Highly elastic, opaque and suitable for applying thick three-dimensional decoration to all kinds of textiles. 1047 SE is the flame retardant version. Its elasticity is not affected even by freezing temperatures. Custom colours can easily be made by mixing in, or overpainting with Rosco Supersaturated Paints [page 12]. The texture can be applied in a variety of ways including by syringe or pastry cook's decorator bag, otherwise a gloved hand or trowel can be used.

Weave Filler 1047	size	code	price
Buff	1 kg	PROWF10471	£21.20
Buff	5 kg	PROWF10475	£71.00

Weave Filler 1047 SE	size	code	price
Flame Retardant	10 kg	PROWF1047SE	£245.65

NB: The 1047 SE Flame Retardant version can discolour some dark cloths. Please try a sample first.

**TRANSPARENT COATINGS**



**Hato@Clar 1072** Water-dilutable, colourless and transparent, HatoClar is a glossy fabric filler. Ideal for use where high transparency is required. In testing we found it to be an excellent texture binder; when used with glitter on hard surfaces it retained the shine of the glitter, and when used on flexible surfaces it remained pliable and adhered to the cloth and texture well.

HATO@Clar	1 kg	price	12.5 kg	price
	PAT1072001	£21.50	PAT1072125	£172.50



**Transparent Plastik 1042** Water-dilutable, colourless and transparent coating. In testing we found it to be an excellent texture binder; especially on textiles with matt textures like micafil. It remained pliable and adhered to the cloth and texture well without leaving an obvious residue. It has a slight matt finish.

Transparent Plastik	1 kg	price	12.5 kg	price
	PAT1042001	£29.50	PAT1042125	£256.70



CrystalGel sprayed with Hopper Gun

**Rosco CrystalGel** A non-toxic, water-based material which provides a clear, plastic-like coating on virtually any surface used on stage. It air dries quickly, usually within hours, to form a flexible translucent surface. When dry it can be painted with Rosco paint. Cloths can be rolled up without cracking, peeling or sticking. Sand, sawdust, or powdered clay can be added to make unique textures. Being clear, CrystalGel is perfect for permanently securing glitter and when splattered onto windows it makes a great rain effect. It will ferociously adhere to glass, plastics, canvas, foam, metal and wood and it is very effective on plexiglass-type materials.

Rosco CrystalGel	size	code	price
	1 L	ROSCG1	£22.10
	3.79 L	ROSCG128	£69.75
	18.95 L	ROSCG210	£311.50

**COLOURED COSTUME COATINGS**



**PermBlood** Permanent realistic wet blood effect for costumes and props - not to be used on skin! Great for creating fresh blood effects on costumes as once it is set, costumes can be laundered and used again without having to reapply the blood effect. Also suitable for application to costumes or props being used underwater. Similar effect can be achieved by pigmenting the transparent coatings listed on above for larger scale effects. Available in Original (fresh blood) and Dark (dried/old blood). 250ml Jar. Not to be confused with washable ProBlood on page 107.

PermBlood	code	price
Original	SFXPMR250	£33.25
Dark	SFXPMD250	£33.25

TEXTURE ADDITIVES

NEW



**Cork Granules** Sustainable option for textures, cork granules are natural, renewable and a waste material from making wine cork stoppers. Cork Trees are left alone for 25 years before they can be harvested for the first time; this is done by prying off the bark with specially designed axes. The tree is then left to regrow and can be harvested again after 9 years so no tree has to be cut down to generate this material. Use Flints Texture Binder or Flints Wood Glue

to bind and colour with water based pigments/paints or dry scenic pigment (mixed into thick paste before adding) to create all manner of scenic effects. Can also be used on its own to dress a set. Image shows it tinted with black paint, and mixed with PVA to make a tarmac effect. Supplied in 12 L recycled, recyclable, reusable tubs that are quite handy. Contact Customer Services for bulk sizes.

Cork Granules	size	code	price
	2-3mm	PROCORK23	£19.98
	3-7mm	PROCORK37	£19.98
	5-15mm	PROCORK15	£19.98



**Rubber Chips** Ideal for creating onstage texture and foliage effects. Rubber chips are medium-soft and quiet so they are a good choice of texture for opera scenery. They can be mixed with Flints Texture Binder [next page] or added to Flints Mud, Flintex, Rosco Flexcoat or even Idenden Brushcote to create the desired effect. Great value. For a flame retardant texture additive see the next column.

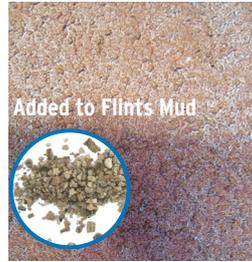
Approximate crumb size: 2 mm - 8 mm

Rubber Chips	code	25 kg bag	Tradeline 5+
Black	PROCHIP	£23.45	£21.00



**Foam Crumbs** Soft Class 0 flame retardant foam crumbs widely used for creating soft textures. Excellent for hedge foliage and earth effects. Light in weight and very soft underfoot. They can be mixed with Flints Texture Binder [next page], Cyclorama Glue [page 127] or added to Flints Mud, Rosco Flexcoat, Flintex or even Idenden Brushcote to create the desired effect. Supplied black in a choice of three crumb sizes. A 4 kg bag is approximately 3.13 cubic feet.

Foam Crumbs	type	code	Tradeline
up to 4 mm	fine	PROFCAMEDF	£127.98
up to 10 mm	medium	PROFCAMED	£127.98
up to 50 mm	chunky	PROFCAMEDL	£127.98



**Micafil [Vermiculite]** A naturally occurring inert flame resistant material which can be mixed with Flints Mud, Idenden, Flexcoat or one of the consolidating binders to form a lumpy but lightweight texture. Sparkly appearance. Stocked in two grades. Average particle size: standard approx 5 mm, coarse 10 mm.

Micafil	code	4 cubic ft bag	Tradeline 10+
Standard	PAT836	£31.65	£28.50
Coarse	PAT837	£31.65	£28.50



**Fillite** A glass-hard, inert, hollow silicate sphere. Fillite is primarily used to reduce the weight of textures or moulding materials. The spherical nature of the material ensures the lowest quantity of binder is needed to wet out the material. When mixed with Flintex or Idenden it will form a good texture for brick or York stone. The mix will be slightly less flexible but with a slightly matt finish.

SPECIFICATION: Average particle density: 600 - 850 g/L. Average bulk density: 350 - 450 g/L. Packing factor: 60% - 65%. Appearance: grey powder. Hardness: Mohs scale 5. Average wall thickness: 5% - 10% of sphere diameter. Melting temperature: 1,200° - 1,350°C. Thermal conductivity: 0.11 Wm - 1K-1. Loss on ignition: 2% maximum. Surface moisture: 0.3% maximum. Crush strength: 105 - 210 kg/cm<sup>2</sup> [1500 - 3000 psi].

- ✓ Lightweight – reduces the weight of your texture material
- ✓ Spherical – free-flowing
- ✓ Inert

Fillite	approx volume [bulk density]	code	price
20 kg	50 L	PRO500SG	£69.49



**Glass Bubbles** This very lightweight material can be mixed with textures such as Idenden and fillers to form a much less dense texture material. It is one third the density of Fillite. It is of particular use when applying textures to scenic cloths which will rapidly become too heavy using conventional textures. See also Colloidal Silica, Fillite and Micro Fibres [page 121].

SPECIFICATION: Composition: 'C' Glass. Appearance: white. Particle size: 40 - 80 microns. Particle density: 200 g/litre approx. Bulk density: 100 - 150 g/litre approx.

Glass Bubbles	approx volume [bulk density]	code	price
0.3 kg	3 L	FILA230001	£17.34
5 kg	50 L	FILA230003	£163.93

**CONSOLIDATING MEDIUMS**



**Flints Texture Binder**

An economical and powerful binder that has been developed to consolidate texture materials such as foam crumbs, rubber chips, Micafil [Vermiculite], sawdust etc. into a scenic coating that will adhere well to most materials and will remain flexible over the long-term.

Always try a small sample first to satisfy yourself that the product is suitable for your particular application. White in the pot but dries clear. Gives a water resistant finish.

Sadly we can no longer supply this as a small sample pot, or a larger 10 L pot!

Flints Texture Binder	code	5 L
Clear	PAT80305	£79.95

For other consolidating mediums see Flints Cyclorama Glue [page 127]; PVA glues such as Flints Bond [page 128]; Rosco Flexcoat [page 46]; Rosco CrystalGel [page 47] and Idenden Brushcote [page 46]. Haussmann Hato® Clar [page 47], and Transparent Plastik [page 47].

**TRADITIONAL POWDER FILLERS**



Can be used as a texture too!

**Toupret TX110** This is a rapid-drying filler to replace the old Toupret Rapide. It can be used as thick as you like, as a filler or texture. It will be set after 40 minutes [at 20°] and ready to rub down or overcoat in less than 3 hours. It will adhere to glazed ceramic tiles, old painted surfaces, brick, stone, primed timber, concrete etc. Once dry it can be screwed or nailed into. Interior use only. See also Murex [page 44] and Plaster of Paris [page 123].

Toupret TX110	size	code	list	price
Off-white	2 kg	PAT8322		£13.89
Off-white	5 x 1 kg	PAT8325		£25.20
Off-white	10 x 1 kg	PAT83210	£43.26	£36.49



**Polyfilla** The decorator's traditional filler. Powder mixed with water. A slower drying filler.

Polyfilla	size	code	price
Off-white	450 g	FIL160	£3.26
Off-white	900 g	FIL161	£5.03
Off-white	1.8 kg	FIL162	£9.56

**READY-TO-USE FILLERS**



**Fine Surface Polyfilla** A convenient tube filled with very fine ready-mixed super smooth filler for a perfect blemish-free finish. Also widely used by art restorers to repair damaged artwork.

Fine Surface Polyfilla	size	code	price
Off-White	400 g	FIL165	£5.33



**Red Devil One-time Filler** This super-lightweight, less than appropriately named, ready-to use filler has been requested many times by scenic artist and carpenters alike! You guys can't seem to get enough of it - we have to admit, that we were impressed when we tried it, and the price point works for most budgets

too. Extremely dry - they recommend adding a drop or two of water if required, it dried and it's coat-able with a water-based paint within 30 minutes. Definitely need to prime this filler with at least 2 coats of paint [Flints White is a great choice here, see page 6] before applying the finish of choice. Beware, it sets quite 'soft' so don't use this on any surface likely to withstand a high-impact. Claims to be used for interior and exterior work, we haven't tested in an exterior environment, but in any case, it would be over-coated and imagine it would be fine. Dries white.

Red Devil One-time Filler	size	code	price
	1 L	PATRDF1	£9.12
	4 L	PATRDF4	£26.32



**Terraco Handycoat Interior** Handycoat Interior is a multi-purpose, ready-mixed, interior skimming, jointing and patching compound which bonds extremely well to cementitious materials, gypsum based substrates and boards, spray-plaster, wood and all common types

of building surfaces. We think its particularly good for skimming joints between flats in exhibition spaces for a really clean finish. Consumption: Undiluted allow around 0.5 - 1.5 kg per m<sup>2</sup>.

- ✓ Excellent adhesion
- ✓ Can be applied up to 4 mm thickness
- ✓ Quick drying and no shrinkage
- ✓ Natural finish which doesn't flake off
- ✓ No need for primer or sealer
- ✓ Good for skimming joints

Terraco Handycoat Interior	size	code	price
	5 kg	PAT631100	£12.15

For black sand, marble dust and other powders see page 25.

**REPAIR FILLERS**



**Isopon P40 Repair Kit** A very useful polyester paste with glass fibres for bridging holes on steel [such as rust holes], most types of metal or GRP etc. Isopon P40 forms a very hard durable surface and can be sanded and shaped if required. It is easily covered with standard polyester filler [see previous page] or can be over-painted directly. See page 119-121 for more Glass Fibre products.

Isopon P40	size	code	price
	600 ml	FIL143	£35.23

**TWO-PART FILLERS**



**Isopon P38 Body Filler** A two-part polyester-based filler, designed as a standard-grade professional car body filler but suitable for most filling tasks. It is also widely used in model-making. Dries quickly and gives a very smooth finish. Comes complete with hardener but extra can be bought separately.

Isopon P38	size	code	price
	600 ml	FIL136	£21.00
	1.2 L	FIL137	£33.42
	2.25 L	FIL138	£51.66
	3.5 L	FIL139	£71.09

P38/P40 Hardener	size	code	price
Red	19.5 g tube	FIL140	£4.48



**U-Pol Easy One Body Filler** A hugely popular, creamy, very easy to sand, two-part polyester body filler which will not shake loose. It is extremely lightweight and the easiest U-Pol filler to sand. Will adhere to steel, GRP, wood, aluminium etc. Dries pink-grey.

Big Smooth Easy One	code	list	3 L	Tradeline
Grey	FIL196	£54.16	£36.43	3+ £34.50



**FEW Filler [Fine Elastic White]** A very fine-particle filler intended for surfacing work on metal, GRP, plywood and other fillers, prior to spraying. The filler is white in colour and the hardener is red, to aid mixing. The final colour being slightly tinted white. The dense finish generally requires no priming prior to topcoat application making it a great choice for final

imperfections. [20 min cure].

FEW Filler [Polyester]	size	code	price
Blush white	1.5 kg	PR09136	£20.78

**STYRENE-FREE TWO-PART FILLERS**



**Metolux - Two-Part Styrene-Free Wood Filler**

Recommended to us by the National Theatre's workshops teams, this clever filler has really impressed Gary from our technical team, he even said "all the benefits of the P38 I normally use, but without the noxious smell!" Available in a useful range of 'wood'

colours, and two sizes so as to allow for all jobs, whether it's a small model, a bespoke piece of furniture, or a large set for the West End. The pre-coloured high-strength polyester wood filler is provided in a hard wearing tin with dish lid for mixing; the hardener is package d separately in foil within. Gary said he found it quite stiff to mix at first, but also noted that it testing it mid-winter in a draughty workshop could have contributed to his difficulty - he ultimately found it mixed up just as easily as other 2-part fillers.

- ✓ Provides a durable repair; in our tests Gary found that once hard, a fingernail was unable to dent the surface, and it had very good adhesion to the wood substrate
- ✓ Styrene-Free, so workshop friendly without high-spec ventilation
- ✓ Non slump for corner work
- ✓ Sand-able (note in our test, the colour seemed to lighten once sanded)
- ✓ Paint-able stain-able and varnish-able
- ✓ For interior or exterior use

Metolux	770 ml	price	3.3L	price
White	PAT65432	£13.27	PAT65433	£46.90
Pine	PAT65438	£13.27	PAT65439	£46.90
Mahogany	PAT65447	£13.27	PAT65448	£46.90
Light Oak	PAT65441	£13.27	PAT65442	£46.90
Black Oak	PAT65626	£13.27	PAT65625	£46.90
Teak	PAT65435	£13.27	PAT65436	£46.90
Redwood (Light)	PAT65444	£13.27	PAT65445	£46.90

# GLAZE & VARNISH FINDER

Find your perfect glaze quickly!

Choose the features you require here →  
.....and find the glaze here ↓

	Suitable for floors	Suitable for murals or walls	Suitable for furniture or props	Very heavy wearing on floors	Normal wear on floors	Exceptional gloss	Gloss	Satin [eggshell/ribbed effect]	Matt	Dead Flat	Marine grade	Exterior grade	Interior near water	Water based	Oil or shellac based	Very clear	Pale	Slightly golden	Contains UV filters	Increased open time.	Frosting and staining windows	Fire retardant grade	Low slip	Protects metals against rust	Top finish only or primer only	Huge quantities held in stock	Speciality finish	Extra value	Eco-friendly
Bona Traffic HD	✓			✓			✓		✓			✓	✓		✓								✓		✓				
Bona Traffic HD Anti-slip	✓			✓				✓		✓		✓	✓			✓							✓			✓			
Bona Traffic HD RAW	✓			✓						✓		✓	✓			✓							✓			✓			
Bona Mega	✓			✓			✓	✓		✓		✓	✓			✓							✓			✓			
Bona Mega ONE	✓			✓				✓		✓		✓	✓			✓							✓						
Bona Classic Primer	✓															✓									✓			✓	
Bona Polish	✓						✓									✓							✓		✓				
Rosco Colorcoat	✓	✓	✓		✓		✓	✓				✓	✓	✓		✓													
Rosco Premiere Clear	✓	✓	✓	✓			✓	✓				✓	✓	✓		✓													
Rosco Clear Acrylic	✓	✓	✓				✓			✓		✓	✓	✓		✓										✓			
Polyvine Heavy Duty Extreme	✓			✓						✓		✓	✓	✓		✓			✓							✓			
Polyvine Heavy Duty Floor	✓		✓		✓			✓		✓		✓	✓	✓		✓													
Polyvine Decorators Varnishes		✓	✓				✓	✓		✓		✓	✓	✓		✓			✓							✓			
Polyvine Exterior Varnishes			✓					✓	✓			✓	✓	✓		✓			✓								✓		
Polyvine Wax Finish Varnish			✓					✓				✓	✓	✓		✓											✓		
Polyvine Glass Frost			✓					✓				✓	✓	✓		✓					✓						✓		
Polyvine Crackle Glazes		✓	✓									✓	✓	✓		✓										✓			
Polyvine Craquelure			✓									✓	✓	✓		✓											✓		
Polyvine Scumbles		✓	✓					✓				✓	✓	✓		✓										✓			
Polyvine Extra Pale Dead Flat		✓	✓							✓		✓	✓	✓		✓													
Polyvine Crystal Clear Lacquer		✓	✓				✓	✓				✓	✓	✓		✓										✓			
Aqualac Floor Lacquer	✓		✓		✓		✓	✓	✓				✓	✓		✓												✓	
Bolloms Intulac			✓					✓	✓				✓	✓								✓							
Bristol 780 coating gloss		✓	✓				✓	✓				✓	✓	✓		✓													
Bristol AquaLak/AquaFast	✓	✓	✓				✓	✓	✓			✓	✓	✓		✓													
Flints Emulsion Glazes		✓	✓				✓	✓				✓	✓	✓		✓											✓		
Earthborn Wall Glaze		✓	✓					✓				✓	✓	✓		✓											✓		✓
Earthborn Crackle Glaze		✓	✓									✓	✓	✓		✓										✓			✓
Hausmann Crackle Glaze		✓	✓									✓	✓	✓		✓										✓			
Mylands Emulsion Glazes		✓	✓				✓	✓				✓	✓	✓		✓						✓				✓			
Mylands Crackle Glaze		✓	✓									✓	✓	✓		✓										✓			
Coo-var Poly. Varnish		✓	✓				✓	✓	✓			✓	✓	✓		✓			✓								✓		
Rylard Incralac Lacquer							✓				✓	✓	✓	✓		✓								✓		✓			
Epifanes Clear Gloss Varnish			✓		✓						✓	✓	✓	✓		✓			✓	✓									
Epifanes Rapidclear Varnish			✓					✓			✓	✓	✓	✓		✓			✓	✓									
Epifanes Woodfinish			✓				✓		✓		✓	✓	✓	✓		✓			✓	✓									
Deks Olje			✓				✓				✓	✓	✓	✓		✓			✓	✓									
Owatrol Conditioner											✓	✓	✓	✓		✓				✓					✓				
Floetrol Conditioner												✓	✓	✓		✓				✓									
Special Pale Polish	✓		✓		✓							✓	✓	✓		✓													
Button Polish	✓		✓		✓		✓					✓	✓	✓		✓			✓										
Black Polish	✓		✓		✓		✓					✓	✓	✓		✓											✓		
White Polish	✓		✓		✓		✓					✓	✓	✓		✓													
Renaissance Wax		✓	✓					✓				✓	✓	✓		✓								✓	✓				
Briwax			✓					✓				✓	✓	✓		✓									✓	✓			
Slip Nomor	✓											✓	✓	✓		✓							✓		✓	✓			
Liquitex High Gloss Varnish		✓	✓			✓						✓	✓	✓		✓			✓								✓		

# GLAZES & VARNISHES

The glazes that we stock are reliable, well-tested products and should give perfect results, nevertheless problems can occur. We would always recommend testing a sample area first. Here are some tips to help you achieve the perfect finish.

## To avoid blooming and white patches

- ✓ 95% of blooming problems relate to inadequate drying conditions so try to apply glazes in the morning and always ensure the premises are adequately heated. Remember that cold air falls so if you are painting on a floor you really need to be careful.
- ✗ Always avoid applying in the evening in the winter when the high relative humidity combined with cold temperature will cause blooming.
- ✓ If applying over emulsion paint, allow the base coats to dry thoroughly. Moisture will be migrating out of emulsion paint for at least 24 hours.
- ✓ If blooming has occurred try applying a gentle fan heater to an area and you may find it will gradually clear.

## To avoid a patchy finish

- ✓ Matting agents will settle to the bottom of the pot. Make sure that you stir matt and satin glazes thoroughly or you will get a patchy surface. Occasionally, the matting agents will cause a slight bloom on black or dark surfaces. Do a test area first. If a bloom occurs mix in some of the paint with the glaze and continue.

## To avoid roller marks and poor bonding

- ✓ Always ensure correct coverage. If the glaze says it will cover 9 m<sup>2</sup> per litre then actually mark out an area 3 m x 3 m, pour some glaze into the roller tray and let the roller absorb it, then pour out exactly 1 litre of glaze and use it up over the marked area. It will probably be easy to spread it much further – but don't do this! If the glaze goes on too thinly it will get absorbed into the substrate too quickly leaving inadequate bonding and showing tell tale roller marks. When applied at the correct thickness the roller marks will fall out and both the bond and durability will be improved.
- ✓ If applying a glaze to a difficult surface add a recommended adhesion promoter or seek further advice. Allow enough time for adequate testing.

## To avoid lap marks and brush marks

- ✗ Avoid glazing in direct sunshine, or a drying wind. Lap marks and brush marks are normally caused by too rapid drying. For top quality work it is essential to maintain a "wet edge". If you can't avoid working in conditions liable to cause rapid drying then choose a Tropical Scumble glaze [page 57] or add a conditioner/retarder such as Floetrol [page 23] for water-based glazes, Bona Retarder for Mega etc., or Owatrol for oil-based varnishes [page 59]. The addition of retarders can make dramatic improvements.
- ✓ Work fast with adequately loaded good quality brushes or rollers. Plan ahead so that you don't have to stop to move ladders etc. When working on large areas try to stop on a natural line to disguise the inevitable lap mark when you restart.
- ✓ Arrange good lighting preferably at a low angle so any discrepancies can be seen as you are working.

## To avoid white patches

- ✗ Don't leave glazes to dry overnight on flame retarded boards. The flame retarding chemicals are hygroscopic and will absorb moisture. These chemicals, given time, will migrate to the surface of the board and show as a white powdery patch which is very hard to get rid of.

## To avoid wrinkles and fish eyes

- ✗ Fish eyes are caused when applying a glaze to a surface contaminated with wax, silicones or grease. Stop and clean the surface with an appropriate cleaner or degreaser.
- ✗ Wrinkles are caused by puddling of the glaze normally on a flat surface. Avoid applying too heavily especially on floors.



This fun veg patch floor was painted by the scenic team of Splinter Scenery headed up by Toni Bysouth, for Rapunzel at the Everyman Theatre, Liverpool. The Veg Patch floor was a key element of the design by Dinah England, and needed to be bright and colourful, but also able to withstand all the typical capering about and high-jinx you can expect to see in a pantomime! Toni and her team chose to paint this with Rosco SuperSaturated paints [page 12] and then glazed it with Bona Mega for durability. Looks a treat!

# FLOOR GLAZES

# Bona®

Bona produce some of the finest water-based lacquers available. The manufacturing facilities in Sweden and Germany are certified under the ISO 14001 environmental management system. The company's R & D programme concentrates on the development of waterborne finishes which are safer to use and produce minimal impact on the environment. Flints sells over 15,000 litres of these glazes every year. Bona glazes are widely used in demanding applications such as West End musicals, art galleries and museums. You'll be in good company choosing Bona.

## BONA TRAFFIC



**Bona Traffic HD** Designed for commercial premises and public areas of very high traffic intensity, Bona Traffic HD provides a surface of virtually invisible protection. It meets EN 14904: 2006 [Indoor Sports Surfaces] for slip resistance. It is an exceptionally scratch resistant, non-yellowing, waterborne polyurethane, very quick drying, with low odour. Bona Traffic HD must be mixed with the hardener by shaking vigorously for 30 seconds.

**SPECIFICATION:** Resistance to wear: 1 - 2 mg/100 rev. Drying times: recoat 2 - 3 hours, full use 24 hrs. Coverage: 8 - 10m<sup>2</sup>/L per coat. Classified EC1R for very low emissions. Sheen Levels: see top of this page. Drying time can be retarded by adding up to 4% Bona Retarder [page 54].

Bona Traffic HD	hardener	code	list	price	Tradeline 3+
<b>NEW TYPE</b> RAW	4.55 L + 0.40 L	PAT3300	£193.45	£149.95	
Extra Matt	4.55 L + 0.40 L	PAT3096HD	£169.06	£126.15	£119.75
Silk Matt	4.55 L + 0.40 L	PAT30961HD	£169.06	£126.15	£119.75
Spare HD hardener	0.40 L	PAT3096HARD		£28.59	



**Bona Traffic HD Anti-slip** Bona Traffic HD Anti-slip is a 100% polyurethane two-component waterborne finish offering exceptional durability and protection for wooden floors. It has all the features of Bona Traffic HD but with the additional benefit of being formulated to meet the highest standards for slip resistance in workplaces and other situations with an increased risk of wet spills. Classified DIN

51-130 R10 [Very Low Risk of Slipping]. With its higher friction, Bona Traffic HD Anti-slip is an ideal choice for raked stages, treads, or areas that may get wet during performance. Bona Traffic HD Anti-slip must be mixed with the hardener by shaking it vigorously for 30 seconds. **NB:** This new formulation is not compatible with the old type, please do not mix them, and now uses the same hardener as the standard Bona Traffic HD. Covers 8 - 10 m<sup>2</sup> per litre.

**SPECIFICATION:** Resistance to wear: 2.5 mg/100 rev. Drying times: recoat 3 - 4 hours, light use 24 hours, full cure 7 days. Coverage: 8 - 10 m<sup>2</sup>/L per coat. Classified EC1R for very low emissions. Sheen Levels: see top of this page.

Bona Traffic HD Anti-slip	hardener	code	list	price	Tradeline 3+
Matt	4.54 L + 0.40 L	PAT3096NSN	£187.75	£148.62	£140.15
Spare HD hardener	0.40 L	PAT3096HARD		£28.59	

## Sheen Levels of Bona Lacquers

Bona Product	Reflective Value at 60°
Traffic HD RAW	2%
Traffic HD Extra Matt	11%
Traffic HD Silk Matt	40%
Traffic HD Anti-slip Matt	15%
Mega & Mega ONE Extra Matt	9%
Mega One Silk Matt	40%
Mega Silk Matt	50%
Mega Mega Gloss	90%

## BONA MEGA



**Bona Mega** A new generation water-based polyurethane, modified with natural vegetable oils using self-crosslinking technology to provide you with a one-component system. In a test 400,000 people walked over a panel finished with Bona Mega. Out of ten panels tested, Mega proved best in terms of wear-through, scuff, scratch, chemical resistance and visual appearance. On very pale floors Bona Mega will draw out the colours in the same way as a solvent-based varnish. Our tests showed

Our biggest selling floor glaze!

only very slight discolouration on white or pastel painted floors but users should carry out their own tests before working on very pale floors. "Sensational!" says Gordon Aldred, Scenic Artist and Designer.

**SPECIFICATION:** Resistance to wear: 5 mg/100 rev. Drying times: recoat 2.5 - 3 hours, light use 24 hours, full cure 7 days. Coverage: 8 - 10 m<sup>2</sup>/L per coat. Classified EC1 for very low emissions. Meets DIN 18032:2 for slip resistance [gloss, silk matt & matt]. For Sheen Levels see below. Drying time can be retarded by adding up to 4% Bona Retarder [see below].

Bona Mega	size	code	list	price	Tradeline 3+
Mega Gloss	5 L	PAT3092	£121.24	£89.95	£86.33
Mega Silk Matt	1 L	PAT30931	-	£25.62	-
Mega Silk Matt	5 L	PAT3093	£121.24	£89.95	£86.33
Mega Extra Matt	5 L	PAT3095	£121.24	£89.95	£86.33



**Bona Mega ONE** Bona Mega has been the go to 1-component heavy-duty floor glaze for years now, durable, with a reliable finish it has ONE drawback, it's slightly yellow (generally being only an issue over white or light colours.) New Bona Mega ONE however is crystal clear, but otherwise has the same excellent features listed above. Also, handily available in a 1 litre in both the extra matt and silk matt finishes - handy for props!

**SPECIFICATION:** 1 Component, Water based, Gloss Level for Extra Matt: 9% Low Odour, Drying Time: 1 - 2 Hours between coats. Full Cure in 5 Days

Bona Mega ONE	size	code	list	price
Extra Matt	1 L	PAT3101	-	£26.99
Extra Matt	5 L	PAT3105	£123.92	£96.79
Silk Matt	1 L	PAT3201	-	£26.99
Silk Matt	5 L	PAT3205	£123.92	£96.79

**BONA POLISH**



**Bona Gloss Polish** This is a water-based slip resistant floor dressing for use on a wide variety of floors including vinyl, rubber, marble as well as wooden floors treated with Bona products [not suitable on Melamine]. Conforms to DIN 18032:2 for slip resistance. Also available in matt to order. Covers 50 m<sup>2</sup> per litre.

Bona Gloss Polish	code	1 L	code	list	5 L
	PAT3041	£13.34	PAT3045	£54.74	£51.38

**BONA PRIMER**



**Bona Classic Primer** Using a small fraction of the solvents used in conventional primers and with hardly any smell this colour-enhancing primer is one of the most environmentally sound sealers available. Bona Prime acts as a bondbreaker which prevents timber boards being bonded together by the Bona Mega or any Bona topcoat. It allows the individual boards to move and should help avoid timbers splitting along the grain. Covers 8 - 10 m<sup>2</sup> per litre.

Bona Classic Primer	code	list	5 L
	PAT3094	£76.28	£66.25

**BONA ACCESSORIES**



**Bona Retarder** An additive to prolong the open time of Bona lacquers and Bona Prime. Useful to stop roller marks in high temperatures with low humidity. Add 4%. [Whole pot to treat 5 L].

**Kills brush and roller marks!**

Bona Retarder	code	200 ml
	PAT309R	£12.09

**OTHER FLOOR GLAZES**



**Aqualac Acrylic Floor Lacquer** A very economical non-toxic water-based lacquer that is durable, scuff resistant and causes no discolouration. Covers 18 - 20 m<sup>2</sup> per litre. Not to be confused with Bristol Aqualak [spelt with a K] [page 56].  
 ✓ Well-proven economical floor glaze

Aqualac Acrylic Lacquer	code	5 L
Matt	AQU1035	£42.29
Semi Matt	AQU1015	£42.29
Gloss	AQU1025	£42.29



**Polyvine Floor Heavy Duty Varnish** A completely clear varnish with a highly durable satin finish that gives full use of your floor in hours and is the hardest of the 'one pack' varnishes. Faster drying and curing than alternative coatings with a unique ability to resist marking from foot traffic. For a dead flat finish, where extra strength for heavy duty applications is required use the Satin as a basecoat.. Covers

**Dead Flat for floors!**

10 - 20 m<sup>2</sup> per litre.  
 ✓ Introduced just a few years ago and already a best-seller.

NB: The matting agents in this product can on rare occasions cause problems with white patches. We would strongly recommend that a test sample is undertaken in the same working conditions [including drying time of the base coat] before tackling a main floor.

HD Floor Varnish	code	1 L	code	4 L
Dead Flat	POL2041	£28.74	POL2044	£95.20
Satin	POL2051	£28.74	POL2054	£95.20



**Rosco Premiere Clear** An advanced waterborne polyurethane coating suitable for sealing and protecting painted finishes, scenery and floors even in high traffic areas. When cured, this clear finish provides

long-lasting durability, hardness and abrasion resistance with an environmentally-safe product. Rosco Premiere Clear is virtually odourless and may be tinted with water-based products. In addition to acting as a protective topcoat, Rosco Premiere Clear is excellent in faux finishes and tinted glaze applications. Perfect for almost any project in stage, film, and commercial areas such as arenas and museums. Covers approximately 11 m<sup>2</sup> per litre.

- ✓ Crystal clear finish
- ✓ The matt [called Flat] is very flat
- ✓ Durable enough for use on heavy traffic floors
- ✓ Good adherence - even to dance floor
- ✓ Brush marks fall out leaving an excellent finish

Rosco Premiere Clear	code	946 ml	code	3.79 L
Gloss	ROSPCG1	£25.25	ROSPCG2	£84.00
Flat	ROSPCF1	£25.25	ROSPCF2	£84.00
Satin	ROSPCS1	£25.25	ROSPCS2	£84.00

**Making Paint with Flints Glaze**

When Flints Emulsion Glaze is used with powder pigments to make up a paint, the result will be a very tough coating difficult to scratch with a coin. Some powders are harder to mix than others. Fluorescent powders seem to be the hardest. The best way to make the paint is to use a little water to make up a thick smooth paste. Use as little water as possible or it will affect the viscosity of the paint and its ability to hold the pigment in suspension. Never try mixing powders directly with the glaze. If you are finding the powders hard to mix with the water then use our new Flints Dispersant [see below] which should solve the problem. If you don't have any Flints Dispersant to hand, you could try adding a drop of meths or washing-up liquid to break the surface tension. Scenic Powder Colours are listed on pages 24 and 27.

# WATER-BASED GLAZES

## SPECIALIST ECO GLAZES

NEW



**Earthborn Wall Glaze** For a long time the world of glazes has been devoid of a sustainable, ecologically friendly option and this glaze from Earthborn ticks many of those boxes. It's a Water based, Acrylic Free, Matt Glaze that is Ultra low VOC at 0.5g/l. Made

from Water, Cellulose, Vinegar Ester, Clay & just 0.1% Preservative. Can be diluted with water up to 1 part glaze to 3 parts water for most uses demonstrating good value. This Glaze can also be used as a binder for pigment, why not try using with our Haussmann Dry Scenic Pigments to create a sustainable paint? (Top Tip: Always mix dry pigments into a fine paste and leave preferably over night before adding to binder)

Specification: Drying Time: 1-2 Hours depending on temperature Coverage: Diluted 1:2 glaze to water 25 m<sup>2</sup>

Wall Glaze	size	code	price
	750 ml	PATEBWG0750	£31.25
	2.5 L	PATEBWG2500	£91.67

## STANDARD WATER-BASED GLAZES



### Flints Emulsion Glaze

Flints Emulsion Glaze is different to most PVA emulsion glazes. You will find it has greater strength and durability and more water resistance.

- ✓ Reliably clear even on black
- ✓ Good gloss level from Gloss Glaze
- ✓ Low reflectance from Matt Glaze
- ✓ Apply over artwork to protect from marking
- ✓ Can be wiped down with a damp cloth
- ✓ Amazingly tough scratch resistant finish
- ✓ Excellent water resistance
- ✓ Mix with scenic paints for extra strength or eggshell effects
- ✓ Good flowing characteristics make these glazes easy to brush
- ✓ May be sprayed
- ✓ Fantastic value. Covers 15-20 m<sup>2</sup> per litre.

Flints Emulsion Glaze	code	1 L	code	5 L
Gloss	PAT120	£15.25	PAT130	£45.00
Matt	PAT121	£15.25	PAT131	£45.00



### Mylands Emulsion Glazes

Very popular glazes, excellent value. Available in matt or gloss. Always do a test area before using. Try to ensure good drying conditions to avoid any blooming. Flints sells the larger size well below the list price of £64.87 per 5 L

Mylands FR Glaze	finish	code	list	price	Tradeline 5+
1 L	Gloss	MYL120		£19.98	-
5 L	Gloss	MYL130	£64.87	£46.28	£43.97
1 L	Matt	MYL121		£19.98	-
5 L	Matt	MYL131	£64.87	£46.28	£43.97



Superb dead flat finish!

**Polyvine Decorators Varnish** A best-selling water-based varnish of exceptional clarity which will protect scenic artists' work both indoors and out\*. The varnish has UV filters to help prevent work from fading and will bond to emulsion, wood, latex, plaster, wallpaper, glass and non ferrous metals. It is not recommended on oil-based paints or on exterior horizontal surfaces. The dead flat finish is exceptionally flat and has minimal effect on the colour

of the base coat. All the varnishes can be tinted with Polyvine Colourisers [page 58]. Non-toxic. Covers 15 - 20 m<sup>2</sup> per litre \*Must not be used where water will collect such as sills etc. Not suitable for very exposed areas or long-term exterior use.

Polyvine Decorators Varnish - Dead Flat	code	price
500 ml	POL2032	£12.60
1 L	POL2033	£20.88
2 L	POL2034	£37.77
4 L	POL2035	£70.45

Polyvine Decorators Varnish - Satin	code	price
500 ml	POL2012	£12.60
1 L	POL2013	£20.88
2 L	POL2014	£37.77
4 L	POL2015	£70.45

Polyvine Decorators Varnish - Gloss	code	price
500 ml	POL2022	£12.60
1 L	POL2023	£20.88
4 L	POL2025	£70.45



### Rosco Clear Acrylic Glazes

Designed to be diluted 1:1 with water and applied as a surface coat but it can also be mixed into Rosco paints to increase the binder

strength and give a silk sheen. These glazes have proved themselves to be reliably clear with no tendency to bloom [when used according to instructions – see tips and advice on page 52]. For Rosco Scenic Paints see our Scenic Paints section pages 12-19. See also Rosco Crystalgel [page 47].

Rosco Clear Acrylic Glazes	code	3.79 L	Tradeline 5+
Gloss	ROS55801	£52.25	£44.49
Flat	ROS55811	£52.25	£44.49



**Rosco Colorcoat** is a durable waterborne acrylic enamel modified to provide superior adhesion and abrasion resistance. It can be used on most interior and exterior surfaces where maximum durability is required. Not suitable on soft or flexible substrates. It is water-based, so brush cleaning is easy. Rosco recommend

Colorcoat for use on floors and scenery which endure heavy handling. Clear Colorcoat can also be used as a heavy-duty sealer over all Rosco paints. Covers 7 - 8.5 m<sup>2</sup> per litre.

Colorcoat	code	3.79L
Clear Gloss	ROS35620	£79.50
Clear Satin	ROS35621	£79.50



### Bristol AquaLak

Superb water-based lacquer which can either overcoat Bristol Primary Palette [pages 18-19] or can be mixed with them. When mixed with the paint it increases the durability, flexibility and the bonding power making it suitable for painting furniture and difficult surfaces such as plastics. Many vinyl dance floors can be successfully painted with a 1:1 mix of AquaLak and paint [always try a test sample first] but it is important to remember that dancers require specific slip characteristics on their floors and painting them with any paint could affect this. For this reason we recommend it for painting dance floors used in theatre rather than dance environments. Cure time is 72 hours. For faster cure time see AquaFast below.

As AquaLak but a faster cure time of just 16 hours.

Bristol AquaLak	code	1 L	code	2.5 L
Matt	BRIAQ002	£33.64	BRIAQ001	£79.70
Silk	BRIAQ004	£33.64	BRIAQ003	£75.96
Gloss	BRIAQ006	£33.64	BRIAQ005	£75.96

### Bristol AquaFast

Bristol AquaFast	code	1 L	code	2.5 L
Silk	BRIAF1	£35.09	BRIAF3	£79.70

### Bristol 780 Coating

**Gloss version** A clear high-gloss protective coating which offers excellent protection against the effects of weather and frequent handling. The gloss level can be reduced by diluting with water.

**Matt version** Slightly less durable than the original gloss and is not recommended for outdoor use.

Bristol 780 Coating	Gloss	Matt	price
1 L	BRI1780	BRI1780M	£24.86
2.5 L	BRI3780	BRI3780M	£56.27
5 L	BRI6780	BRI6780M	£99.19
10 L	BRI2780	BRI2780M	£191.48



### Polyvine Exterior Wood Varnish

A water-based exterior grade varnish with powerful UV filters to protect your timber. We were very impressed with the quick-drying clear durable coating. Available in satin and matt [labelled dead flat]. For a matt finish, Polyvine state that 3 coats of the satin should be applied first, and sealed with a final coat of matt. However, we think that for block colours where loss of definition is not a problem, 4 coats of the matt will achieve a flatter finish, and should be OK for short-term use externally (less than 1 week). As always we recommend testing first. Contains UV filters. Covers 15 - 20 m<sup>2</sup> per litre.

Exterior Wood Varnish	code	1 L	code	4 L
Satin	POL2101	£24.52	POL2124	£83.60
Matt	POL2201	£24.52	POL2224	£83.60

## PROP-WORTHY VARNISHES



### Polyvine Heavy Duty Extreme Varnish

The Ultimate in water-based varnishes. For interior & exterior use on Brick, Stone, tile, wood, flooring, worktops, and concrete. Also provides full UV protection after 3 coats of satin finish (for dead flat follow this with extra coat of the dead flat). For porous substrates, dilute first coat 10% with water. Ask us for full Technical Data Sheet for more information!

Specification: Coverage: 10-20 m<sup>2</sup> per litre, Drying Time: 30 - 60min, recoat after 1-2 hours, Cures in 16 hours but allow 48 hours before heavy use.

HD Extreme Varnish	size	code	price
Dead Flat	100 ml	POL2401	£6.94
Dead Flat	1 L	POL2410	£28.48
Dead Flat	4 L	POL2404	£96.46
Satin	100 ml	POL2501	£6.94
Satin	1 L	POL2510	£28.48
Satin	4 L	POL2504	£96.46



### Liquitex High Gloss Varnish

The superhigh gloss finish is certainly impressive, but we think it's probably more suited to propmakers than scenic artists, or for areas where durability is key. Suitable for application over acrylic paints both interior and exterior, the coating will also protect against UV damage. Dries to a transparent, colourless and flexible finish that should not yellow. Apply in thin layers with a good quality varnishing brush, allowing a minimum of 3 hours drying time between coats.

Liquitex High Gloss Varnish	code	price
946 ml [32 oz]	PATLHG946	£21.55



### Polyvine Crystal Clear Lacquer

A water-based lacquer for most surfaces, it also works well for gilded surfaces providing extra protection. It dries crystal clear with a satin or gloss finish, and is non-yellowing. Can be used inside or outside, and is food safe to boot! See also Rylard's Brass Lacquer.

Crystal Clear Lacquer	Satin	price	Gloss	price
100 ml	POLGL0100S	£3.76	POLGL0100G	£3.76
1 L	POLGL1000S	£19.56	POLGL1000G	£19.56
4 L	POLGL4000S	£67.30	POLGL4000G	£67.30

## METAL LACQUERS



### Rylard's Brass Lacquer (Incralac)

This brass lacquer is used in many demanding situations for protecting such metals as brass and copper, and is intended for interior or exterior use. With an excellent balance of hardness, adhesion and film toughness, it has superb resistance to UV light and resists yellowing and loss of gloss and clarity as it ages. The applied film also provides excellent flexibility and resistance to cracking and flaking. Brushes can be cleaned with Cellulose Thinners [page 61]. See also Polyvine Crystal Clear Lacquer [page 38].

Rylard's Brass Lacquer	size	code	price
Can	500 ml	PATBL500	£17.85
Aerosol	400 ml	PATBL400	£23.29

**SPECIALIST SCENIC GLAZES**



**Polyvine Craquelure** A two-part water-based acrylic system which faithfully reproduces the regular crazed pattern of old porcelain glaze. The cracks can be accentuated by using the highlighter. Covers 15 m<sup>2</sup> per litre.

Polyvine Craquelure	code	500 ml	code	1 L
Basecoat	POL3041	£13.32	POL3043	£25.85
Topcoat	POL3051	£13.32	POL3053	£25.85
Craquelure highlighters	size	code	price	
Dark Highlighter	50 g	POL3060D	£4.75	
Light Highlighter	50 g	POL3060W	£4.75	



**Polyvine Crackle Glaze** A non-yellowing acrylic medium which produces consistent cracking of emulsion paint to create two-colour ageing and dramatic effects. Apply a basecoat of emulsion paint [the colour of the cracks] and allow to dry. Then apply a smooth coat of Crackle Glaze brushing in one direction only. Allow to dry. Then apply

the topcoat of emulsion paint [thinned 10% with water] brushing at right angles to the glaze using a loaded brush in one pass only. Cracks will appear in the topcoat revealing the base colour, the thicker the topcoat, the larger the cracks. Covers 15 m<sup>2</sup> per litre.

Polyvine Crackle Glaze	size	code	price
	500 ml	POL3022	£13.07
	1 L	POL3023	£25.38



**Mylands Crackle Glaze** This glaze is used for the effective reproduction of old cracked layers of paint. Apply a basecoat of emulsion paint and allow to dry. Then apply the Crackle Glaze. When the glaze is tacky but **NOT** dry apply, in one stroke, the top colour. The cracks will appear as the

glaze dries. Covers 8 - 10 m<sup>2</sup> per litre. See also Polyvine Crackle Glaze and Haussmann's Crackle Glaze the next page.

Craquelure highlighters	size	code	list	price
	1 L	MYL3021		£31.12
	5 L	MYL3025	£121.23	£104.15

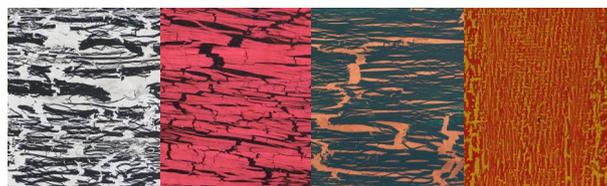
**NEW**



**Earthborn Crackle Glaze** Biodegradable Crackle Glaze that's Water Based, Oil Free & Acrylic Free. Apply the glaze between contrasting colours for dramatic crackle effect. Used in a slightly different way to acrylic crackle glazes, for this one you apply on to the

basecoat of your choice and let it dry completely before applying the top coat which will split across the surface leaving a dramatic crackle effect. You can still control the drama of the crackle by laying the glaze on thick for a wide split or thinly for a finer, craquelure effect. You could also use a heat gun to speed up the process. 9 m<sup>2</sup> per litre. These are tiny pots as it's aimed at the home furniture market, let us know if you want bigger.

Crackle Glaze	code	price
400 ml	PATEBCG400	£10.83



**Haussmann Crackle Glaze** This Crackle Glaze from Haussmann is worth trying; we've found that it produces a larger, more exaggerated "crack" than the Polyvine version see. The solution can be diluted by water, and in doing so will produce a finer crackle effect, the more diluted, and thinner the application, the finer the cracks. Ensure the base layer is completely dry before applying, wait for it to dry, but still be tacky, apply the top layer of paint [ensuring all brush strokes are in the same direction] which will crack immediately to reveal the base colour. We had success in testing this with HATO® Silk [page 28] as well as typical paints found in the paintshop [from page 12], so it can be used on fabrics as well as solid surfaces. SPECIFICATION: Coverage 12 m<sup>2</sup>/L.

Haussmann Crackle Glaze	size	code	price
	1 L	PAT2334921	£12.58
	5 L	PAT2334925	£52.00

**SCUMBLES FOR GLAZING AND WOODGRAINING**



**Polyvine Scumbles** A clear water-based, non-yellowing, transparent glaze which produces a translucent, waxy finish. It can be applied over acrylic eggshell paints and vinyl silk emulsion. Acrylic Scumble can be tinted using the colourisers below. Covers 15 m<sup>2</sup> per litre. If you are working

in high temperatures with low humidity, or if an extended open time is needed in order to maintain a 'wet edge' to scumble large walls, then choose Tropical Scumble which will allow for increased working time. See also Spalter Varnish Brushes [page 73].

✓ Use Tropical Scumble for increased working time with wood graining techniques or on any large areas

Polyvine Scumbles	code	500 ml	code	1 L	code	4 L
Acrylic	POL1012	£12.30	POL1013	£20.49	POL1015	£72.52
Tropical	POL101T2	£12.30	POL101T3	£20.49	POL101T5	£72.52

**GLASS FROSTING VARNISH**



**Polyvine Glass Frosting Varnish** An acrylic medium developed to reproduce the unique visual effect of etched glass. Stencils and masking tape can be used to transform plain glass panels into classic designs. This product adheres fantastically to difficult surfaces such as projection screens, Perspex etc. and can also be used as a primer either neat or tinted with colour. Covers 15 m<sup>2</sup> per litre. .

Glass Frosting Varnish	code	500 ml	10+
	POL3360	£11.47	£10.33

WAX FINISH VARNISH



**Polyvine Wax Finish Varnish** A unique brushable coating which offers a new concept in decorative finishing, combining the silky feel and appearance of traditional beeswax with the heat- and water-resistance of a varnish. Covers 15 – 20 m<sup>2</sup> per litre.



Polyvine Wax Finish Varnish

	code	500 ml	code	1 L	code	4 L
Clear Satin	POL3380	£12.97	POL3381	£20.90	POL3382	£71.43
Golden Pine	POL3400	£11.34	POL3401	£18.27	-	-
White	POL3410	£12.79	POL3411	£20.90	-	-



**Renaissance Wax** Specified by museums, art galleries, and restorers throughout the world. Also now widely used by interior designers as a wax wall finish. It will gently lift the grime of antiquity and old murky polishes leaving a translucent finish without obscuring surface detail and so allowing the wood or substrate to catch the light and glow. It will protect furniture from spillages including wine and will even enhance the weather resistance of metal, marble and wood used outside. Will also preserve the lustre on gilding and protect coin collections, photographs, armour, weapons and sculptures both inside and outside. Highly recommended. UN 3175

Renaissance Wax	size	code	Tradeline
	200 ml	PAT244	£12.95
	3 L	PAT246	£75.00

FIRE-RATED VARNISHES



**Bolloom Intulac Ultra** Apply two coats of the clear basecoat then overcoat after 8 hours, and before 18 hours, with the hardwearing protective coating which is available in matt or satin. SPECIFICATION: Coverage: Basecoat - a 5 L can will treat 12.5 m<sup>2</sup> to Class 0. Topcoat - a 1 L can will cover 12.5 m<sup>2</sup>. Basecoat clean up with water. Topcoat clean up with White Spirit. Go to [flints.co.uk/downloads](http://flints.co.uk/downloads) for data sheets.

Bolloom Intulac Ultra	code	500 ml	5 L
Clear base coat	FLABM675B	-	£208.98
Protective coat [matt]	FLABM675M	£44.60	-
Protective coat [satin]	FLABM675S	£44.60	-

OIL-BASED VARNISHES



**Polyvine Extra Pale Dead Flat Varnish** This oil-based varnish provides a very matt finish. A unique product made with selected resins and oils to achieve an extremely pale colour. Thin with White Spirit [page 61]. Covers approx 15 m<sup>2</sup> per litre.

- ✓ Non-reflective
- ✓ Easy to apply
- ✓ Highly heat and water resistant

Extra Pale Dead Flat Varnish	code	price
1 L	POLV0EPF1000	£22.14



Coo-Var Polyurethane Varnish

A single-pack product of exceptional durability. Based on urethane alkyd. Ideal for doors, worktops etc. Apply by brush or spray. Surface dry in 2 hours. Through dry in 12 hours. Covers approx 14 m<sup>2</sup> per litre. Thin with White Spirit [page 61].

Coo-Var Varnish	code	1 L	5 L
Gloss	PATCVG1	£13.68	PATCVG5 £58.62
Eggshell	PATCVE1	£18.58	PATCVE5 £73.91
Matt	PATCVM1	£18.41	PATCVM5 £73.91

COLOURISERS



**Polyvine Colouriser** Concentrated colourfast, non-toxic pigments for colouring or tinting scumbles, varnishes, lacquer, textures, paints etc. The concentrated wood colours are perfect for realistic graining effects when mixed with scumble or glazes.

Polyvine Colouriser	50 g
	£2.67

			Yellow POL1120
			Crimson POL1300
Lemon POL1310	Yellow Oxide POL1230		
			Magenta POL1340
Red POL1100	Red Oxide POL1220		
			Ultramarine POL1160
Violet POL1320	Blue POL1110		
			Green POL1130
Prussian Blue POL1170	Emerald POL1330		
			Raw Sienna POL1190
Burnt Umber POL1200	Burnt Sienna POL1180		
			White POL1140
Raw Umber POL1210	Black POL1150		
			Mahogany POL1400
Antique Pine POL1440	Dark Oak POL1430		
			Walnut POL1450
Medium Oak POL1420	Teak POL1410		

# YACHT VARNISHES

## The Perfect Classic Yacht Finish

Obtaining a mirror finish requires some practice but the following notes may be of help. Sand the timber finishing along the grain with a 120 grit. Remove the dust with a vacuum cleaner. If an air blow gun is available, [ideally with a water separator] use it to blow the final dust from the grain and then clean the surface using Isopropyl Alcohol [page 61], not white spirit. On oily timbers [teak, iroko etc.] it may be necessary to remove the oils by wiping the timber with acetone frequently changing the rags. Just before applying the varnish always wipe the surface with a tack rag [page 85] to remove final traces of dust. Allow the alcohol to dry out completely before applying the first coat of varnish which should be diluted 50% with the recommended thinner or Owatrol [see below]. Avoid putting brushes directly into the varnish can, always decant into a varnish kettle to avoid contamination. Allow 24 hours to dry. Sand back gently by hand with 180 grit, clean with Isopropyl Alcohol and tack rags. Apply the second coat thinned 25%. As you apply more coats thin the varnish less and sand between with finer-grade paper. The number of coats required depends on the application. Three or four coats would be enough for indoors work and 15 - 20 coats would be needed to survive tropical sun. Generally 6 coats is considered the minimum to survive a full year in the UK. Prior to the last coat you should sand by hand using 360 - 400 grit, used wet or dry, until the varnish is completely matt and smooth to touch. Clean thoroughly before using the tack rag immediately prior to applying the varnish. Choose a warm still morning. If you have found that you are getting brush marks add 10% Owatrol to the varnish to increase the wet edge time and stir well but slowly so there are no air bubbles. Ensure you can gain access to the entire area to be varnished and that there is good light but avoid direct sunlight and wind. Apply the varnish quickly without stopping, finishing with the brush held at 45° to the stroke. Keep the wet edge flowing until the entire area is finished. If you are having difficulty maintaining a wet edge add more Owatrol. Use as big a brush as you feel you can handle.

A 3" Pro-Extra Monarch is perfect for large areas [page 73], the 30 mm Lily Varnish Brush [page 73] is good for the fiddly bits. Good quality brushes will last many years if they are thoroughly cleaned. Many people prefer to apply the varnish with a Jenny Roller while a second person lays off with a wide Jenny Foam Brush [page 74]. The Jenny Brush method is widely used by the most prestigious boatyards. A perfect finish is impossible but follow these tips and you should get pretty close. Have a look at our little video to see the results.



## Epifanes Clear Gloss Varnish

The highest quality marine varnish. This varnish is made with a long-base of 100% tung oil, combined with non-yellowing urethane and alkyd resins, blended with a perfected blend of UV filters. World famous for its high gloss retention, long-lasting properties, unique flowing characteristics and high-build capacity. Regarded by many

as the finest of all yacht varnishes. Try not to buy too big a can as the air gap will thicken the varnish. It is better to buy two small cans. Covers approximately 14 m<sup>2</sup> per litre. See also Owatrol ➔, and Liquitex High Gloss Varnish [page 56].

Epifanes Clear Gloss Varnish	code	price
250 ml	PAT390	£11.77
500 ml	PAT391	£18.97
1 L	PAT392	£33.69
5 L	PAT393	£155.81



**Epifanes Rapidclear** Superior-quality clear semi-gloss wood finish based on modified alkyd/urethane resins and UV filters. Bonds well to teak and other oily woods. Unlike conventional varnish, Rapidclear can be applied every 5 - 6 hours. Three to four coats are sufficient under most conditions. Sanding is not required between coats but if finishing with a high-gloss conventional varnish then sand with 220 grit. 750 ml will cover 10 m<sup>2</sup>.

Epifanes Rapidclear	code	750 ml
	PATRCG	£22.57



**Epifanes Woodfinish** Formulated for teak and oily timbers to give excellent adhesion even in tropical climates. There is no need to sand between coats yet the result is a clear hard high-gloss finish. For a matt finish, first build up with Woodfinish gloss, then apply Woodfinish Matt. Covers approximately 12 m<sup>2</sup> per litre.

Epifanes Woodfinish	size	code	price
Gloss	500 ml	PAT397546654	£25.22
Gloss	1 L	PAT397456	£40.31
Matt	500 ml	PAT397MATT	£47.52

## Epifanes Thinner

Thinners for Epifanes varnishes.

Epifanes Thinner	size	code	price
Brush thinner	500 ml	PATE24	£11.24
Brush thinner	1 L	PATE14	£13.57
Spray thinner	1 L	PATE15	£15.47



**Deks Olje [D1 and D2]** A Norwegian saturation oil for treating wood inside or out. Pronounced 'Decks Olya'. The finish is applied wet-on-wet until the timber is saturated. It goes into the timber rather than sitting on the surface. Leaves a silken oiled look. Can be overcoated with D2 to provide a gloss finish. Coverage for D1 is approximately 1 to 1.5 m<sup>2</sup> per litres. Coverage for D2 [onto D1] is approximately 15 m<sup>2</sup> per litre.

Deks Olje	code	1 L
Deks Olje D1	PAT078	£29.28
Deks Olje D2 [Gloss top coat]	PAT079	£34.47

## OWATROL



**Owatrol** A versatile paint conditioner and rust inhibitor. When mixed with oil paint or varnish it adds extra penetration and wetting action and, usefully, it extends the wet edge time to eliminate brush marks and laps. For perfect enamel work add 5% to 10% to the paint. Once you have used Owatrol you will never want to paint without it again! Very highly recommended. It is also used widely in shipyards to effectively protect steel against corrosion. See also Terebine driers [next page].

Owatrol	code	500 ml	code	1 L
	PAT071	£16.73	PAT072	£28.20

See also Floetrol paint conditioner on page 23

# SHELLAC & POLISHES

## Shellac

Shellac is made from stick-lac which is deposited on branches of trees in India by sap-feeding insects. It makes a good isolating sealer because it forms a very thin highly effective moisture barrier [two coats of shellac will reduce moisture absorption by 31%] without filling any grain, thus allowing subsequent paint or adhesive coats to grip the original substrate. Most widely used to isolate hygroscopic fire retarding chemicals before applying glue or paint. It can also be used as a floor polish and a fabric stiffener. Shellac dries in minutes.

## SHELLACS



**Button & White Polish** Our best-selling polishes by far! The button polish is handmade from the villages around Calcutta and is less refined than machine-made products. However, this gives added strength. Its golden colour will help the appearance of certain woods such as walnut. It is often used to seal stains and prevent migration of fireproofing chemicals. The White polish is a new addition that has a lighter tone for lighter woods, and acts as a more neutral base for over painting. Dilute and clean up with meths. UN 1263

Polish	size	code	price	Tradeline
Button	1 L	PAT2251	£15.96	5+
Button	5 L	PAT225	£57.45	£54.58
White	1 L	PAT2201	£16.20	-
White	5 L	PAT220	£63.55	£62.10



**Sanding Sealer** A shellac-based sealer especially formulated to seal boards prior to waxing, painting or glazing. Dilute and clean up with meths. UN 1263

Sanding Sealer	code	price	Tradeline
5 L	PAT227SS	£60.95	5+ £57.90



**Transparent Polish** A popular clear shellac polish often used as a sealer. Add Bronze Powders [page 35] to form an economical metallic paint. Dilute and clean up with meths. UN 1263

Transparent Polish	code	price	Tradeline
1 L	PAT2271	£20.65	5+
5 L	PAT227	£65.45	£62.18



**Special Pale Polish** This quality shellac polish is made from the finest dewaxed bleached shellac and is most suitable for finishing fine work such as inlay and marquetry. Slightly thicker than transparent polish it is also popular as a sealer and as a medium for bronze powders. Dilute and clean up with meths. UN 1263

Special Pale Polish	code	price	Tradeline
5 L	PAT221	£67.25	5+ £63.89



**White Knotting** Often used to seal fireproofing on plywood prior to glueing or painting. The white is caused by the natural shellac wax giving its traditional creamy colour. Not suitable on dark-coloured woods. A popular economical sealer. Dilute and clean up with meths. UN 1263

White Knotting	code	price	Tradeline
5 L	PAT223	£62.95	5+ £59.80



**Black Polish** A shellac-based polish which can be used to stain and glaze timber in one process whilst still allowing the texture of the grain to show through. Can also be used over black emulsion paint to produce a deep-black gloss finish without any danger of the milkiness that can occur when using water-based glazes. Rapid drying. Dilute and clean up with meths. UN 1263

Black Polish	code	price
5 L	PAT226	£71.79

## WAX POLISHES



**Renaissance Wax** Specified by museums, art galleries, and restorers throughout the world. Also now widely used by interior designers as a wax wall finish. It will gently lift the grime of antiquity and old murky polishes leaving a translucent finish without obscuring surface detail and so allowing the wood or substrate to catch the light and glow. It will protect furniture from spillages including wine and will even enhance the weather resistance of metal, marble and wood used outside. Will also preserve the lustre on gilding and protect coin collections, photographs, armour, weapons and sculptures both inside and outside. Highly recommended. UN 3175

Renaissance Wax	size	code	Tradeline
	200 ml	PAT244	£12.95
	3 L	PAT246	£75.00



**Briwax Original Wax Polish** For all wood craftsmen. The natural wood-finishing treatment for all types of wood, in the home and in the workshop. Cleans and maintains the natural colour of the wood. Clear. UN 1263

Briwax Original Wax Polish	code	price
400 g	BOLBW06	£15.00

## LINSEED OILS



**Boiled Linseed Oil** Made from pressed ripe flax seeds. Boiled linseed is generally superior to raw linseed for most uses and it dries much more quickly.

**Raw Linseed Oil** Slow-drying but slightly more durable under extreme conditions when used in industrial paints.

Linseed Oil	size	code	price
Boiled	5 L	PAT229	£53.37
Raw	5 L	PAT232	£56.03

See previous page for wood oils.

## TEREBINE DRIERS



**Terebine Driers** A special blend of chemicals to speed the drying of oil- and alkyd-based paints and varnishes. Particularly recommended for adding to old paint and varnish that has been kept for a long time and has become slow-drying or when working in sub-optimal conditions. Add a small capful to 0.5 L of paint. Over very long periods Terebine Driers can make the paint go slightly brittle so use sparingly. To retard drying times see Owatrol [page 59]. UN 1263

Terebine Driers	size	code	price
	300 ml	PATPAID300	£6.40

# THINNERS & STRIPPERS

Many of these products contain high levels of VOCs which are known to be hazardous to health and the environment. Flint's has included some more environmentally friendly products listed at the end of this section.



**White Spirit** Used to clean brushes and rollers and to thin conventional oil-based paints. See also Genuine Turpentine . UN 1300

White Spirit	code	price	Tradeline 10+
2 L	PAT501	£5.53	£5.25



**Methylated Spirit** Used to dilute shellac-based products and clean up brushes. Also widely used to remove grease from steel prior to painting. See also Home Strip Cleaner and Degreaser [page 364]. UN 1170

Meths	code	2.5 L	code	5 L
	PAT500	£10.46	PAT502	£14.95



**Isopropyl Alcohol [IPA]** Ideal for wiping down prior to painting or varnishing. White spirit is slow to evaporate whereas Isopropyl evaporates quickly reducing the chances of solvent entrapment. Isopropyl is a useful azeotrope forcing moisture out of substrates. UN 1219 Aerosol: UN 1950

Isopropyl Alcohol [IPA]	code	price
5 L	PAT536	£30.56
400 ml aerosol	PAT538	£10.75



**Cellulose Thinners** For use with cellulose-based paint systems. UN 1263

Cellulose Thinners	code	price
5 L	PAT503	£21.50



**Acetone** A volatile thinner often used for aggressive cleaning. Useful to remove oily residues from teak etc. prior to varnishing. Highly inflammable. UN 1090.

Acetone	code	price
1 L	PAT5101	£9.00
5 L	PAT510	£28.51



**Etch Primer Thinners** A highly inflammable thinner for etch primer. No 115. UN 1263

Etch Primer Thinners	code	price
5 L	PAT504	£47.11



**Spray Gun Cleaner** A highly inflammable cleaner for spray guns using cellulose paints. UN 1263

Spray Gun Cleaner	code	price
5 L	BOLE30	£29.59



**Xylene** Sometimes used to draw blooming patches from glazed floors. Before embarking on this method try a gentle fan heater blowing warmed air over the patch. Highly inflammable. UN 1263

Xylene	code	price
5 L	PAT505	£26.62



**Genuine Turpentine** Made from the distillation of sap from pine trees. The volatile distillate is known as "spirits of turpentine" and the resin is known as "Rosin" [page 63]. Its rate of evaporation is ideal for most oil-based paints and varnishes. UN 1263

Genuine Turpentine	size	code	price
	1 L	PAT231	£13.50

## STRIPPER AND BRUSH RESTORER



**Blackfriar Paint and Varnish Remover** The unique and useful feature of this stripper is that no washing down is required [unless recoating with water-based paints]. We have heard that the new Nitromors formulation is not very effective so we no longer stock it. UN 2810

- ✓ Easily removes layers of paint
- ✓ No discoloration of the surface
- ✓ Softens and renews brushes
- ✓ No washing down required!

Paint and Varnish Remover	code	1 L	code	5 L
	PATBF068	£23.81	PATBF0685	£80.13



**Everbuild Brush Restorer** Oh dear, they've gone hard! Not to worry, soak the brush overnight in Everbuild Brush Restorer and any paint will soften so it can be washed off with water. UN 1263

Everbuild Brush Restorer	code	price
500 ml	PATEVBRUSHRE	£7.55

## ENVIRONMENTALLY FRIENDLY



**Zest It** A safer and environmentally friendlier alternative to white spirit and turpentine. Has a mild citrus smell. It can be used to thin oil paint or it can be mixed with linseed oil to make an ideal paint medium. Zest It can also be used as a high performance brush cleaner without the leaching problems of white spirit.

Zest It	code	500 ml
	PAT4045	£14.36



**Home Strip** A revolutionary paint stripper which can strip up to 5 layers of paint in one application without risking exposure to DCM or any other solvents. Home Strip is solvent-free, does not give off harmful fumes and will not cause burns on contact with skin.

Home Strip	code	1 L	code	5 L
	PAT5451	£12.61	PAT5455	£46.66



**Graffiti Go** Removes all types of graffiti using Home Strip's water-based technology. Available in 500 ml trigger spray and a 5 litre refill.

Graffiti Go	code	price
500 ml trigger spray	PATGG	£12.61
5 L refill	PATGGR	£72.53

For more Home Strip see page 364.

# NON SLIP PAINTS & PRODUCTS

## NON-SLIP GLAZES



**Bona Traffic HD Anti-slip** Bona Traffic HD Anti-slip is a 100% polyurethane two-component waterborne finish offering exceptional durability and protection for wooden floors. It has all the features of Bona Traffic HD [see page 53] but with the additional benefit of being formulated to meet the highest standards for slip resistance in workplaces and other situations with an increased risk of wet spills. Classified DIN 51-130 R10 [Very Low Risk of Slipping]. With its higher friction, Bona Traffic HD Anti-slip is an ideal choice for raked stages, treads, or areas that may get wet during performance. Bona Traffic HD Anti-slip must be mixed with the hardener by shaking it vigorously for 30 seconds. NB: This new formulation is not compatible with the old type, please do not mix them, and now uses the same hardener as the standard Bona Traffic HD. Covers 8 - 10 m<sup>2</sup> per litre. SPECIFICATION: Resistance to wear: 2.5 mg/100 rev. Drying times: recoat 3 - 4 hours, light use 24 hours, full cure 7 days. Coverage: 8 - 10 m<sup>2</sup>/L per coat. Classified EC1R for very low emissions. Sheen Levels: see page 53.

Bona Traffic HD Anti-slip	hardener	code	list	price	Tradeline
Matt	4.54 L + 0.40 L	PAT3096NSN	£187.75	£148.62	3+ £140.15
Spare HD hardener	0.40 L	PAT3096HARD		£28.59	

For a large range of Bona Floor Glazes see pages 53 - 54.

## NON-SLIP ADDITIVES



**Griptex** Griptex particles are specially manufactured to provide non-slip surfaces. They can be mixed into, or broadcast onto wet paint. If used with varnish it will obscure the substrate. 960 ml is enough for 17 L of paint. This product is designed to be used with oil-based products but will also work with a strong water-based glaze.

Griptex	size	code	price
Coarse	946 ml	PAT401	£60.08
Fine	946 ml	PAT402	£60.08



**Non-Skid Beads** A 20 g container with enough beads to treat 750 ml paint or varnish. Very similar to Fine Griptex.

Non Skid Beads	code	price
20 g	PAT403	£8.37

## FLOOR DRESSINGS



### Slip Nomor 2000 "Liquid rosin"

A non-slip solution that adds a slip resistant surface to all floor surfaces, including wood, vinyl, tile and linoleum. Widely used by theatre, opera and dance companies. The perfect substitute for rosin [which is not recommended on vinyl floors]. It will not damage any surface. You can control the degree of non-slip simply by adding water. Dilute ten times for the usual mix. One pot will cover approximately 900 m<sup>2</sup> once diluted. The treatment will normally last up to a week, after which it should be cleaned off with warm water [or ProClean, not ProClean NS] and a new application made.

Slip Nomor 2000	size	code	price
	3.79 L	SLIPNOMOR	£59.90



**Proclean NS** Just add Proclean NS once a week to your cleaning water and it is guaranteed to make any surface more slip resistant. Apply with a cotton mop using one bucket with the solution and the other to wring out the dirty water. Do not rinse. Allow the floor to dry thoroughly before use.

- Light soil: One part Slip Nomor Cleaner to 8 parts water
- Medium soil: One part Slip Nomor Cleaner to 6 parts water
- Heavy soil: One part Slip Nomor Cleaner to 4 parts water

Proclean NS	size	code	price
	3.93 L	SLIPPROCLEAN	£57.75



**Bona Polish** This is a water-based slip resistant floor dressing for use on a wide variety of floors including vinyl, rubber, marble as well as wooden floors treated with Bona products [not suitable on Melamine]. Conforms to DIN 18032 for slip resistance. Covers 80 m<sup>2</sup> per litre. This polish used to be called Parkett Polish.

Bona Polish	size	code	list	price
Gloss	1 L	PAT3041		£13.34
Gloss	5 L	PAT3045	£54.74	£51.38

**ROSIN**



**Rosin** This is the resinous by-product when turpentine is distilled from resin from trees. Used by printers in the aqua-tinting process, occasionally by painters during the mixing of oil paints and, in solid form, by violin players. Dancers apply rosin, from rosin trays, to their shoes to improve grip.

Rosin	code	1 kg	code	25 kg
	PAT860	£6.20	PAT860B	£129.95

**NON-SLIP FABRIC TREATMENTS**



**Weave Filler 916, & 916 SE [Flame Retardant]**

These weave fillers are highly elastic materials which are primarily designed to fill open weave textiles such as scenic gauzes and strawberry netting. They are also widely used to provide a reliable non-slip surface to the underside of rugs, druggets, carpets, stage cloths etc. They enable scenes to be quickly set because cloths will flop down and grip the stage floor without needing tacking out or taping. Also useful to prevent fraying to cloths. The flame retarding

chemical used in the 916 SE flame retardant version may discolour some dark coloured materials so please undertake a test before using. Also, the 916 SE flame retardant version is only available in 10 kg size and has a 6 month shelf life, so please buy as required.



Watch the video!

Weave Filler 916	size	code	price
	1 kg	PROWF9161	£21.32
	5 kg	PROWF9165	£73.25
Weave Filler 916 SE	size	code	price
Flame Retardant	10 kg	PROWF91612	£199.98

**NON-SLIP TAPES**



**Non-Slip Tapes** Perfect for using along the edges of get off treads. Available in matt black and luminous versions. See also plain Luminous Tape [page 278].

Non-Slip Tape	width	roll length	code	price
Black	50 mm	18 m	TAP076	£21.06
Luminous	25 mm	18.5 m	TAP7700	£28.07
Luminous	50 mm	18.5 m	TAP7701	£49.68

**NON-SLIP FABRICS**



**Black Non-Slip Fabric** Made from an eco-friendly patented material [ECO PER® Polymer Environmental Resin] which offers a flexible, non-toxic matting which is free of rubber and latex, odourless

and does not emit any toxic chemicals or gases. Ideal for preventing props from slipping during scene changes, preventing floor cloths from skidding and even for integration to costumes or shoes for special stunt purposes. Thickness: 1.4 mm.

- ✓ Non-slip – simply, it helps prevent items from moving or sliding. The open weave structure is free-draining so the fabric is an effective non-slip surface even when wet
- ✓ Non-stick – grips without sticking
- ✓ Flame Retardant and UV stable – making it safer when used in confined places and retaining its original colour even with outside use
- ✓ Toxin-free and non-allergenic – certified to Oeko-Tex Standard 100, Class 1 [baby articles]; USA FDA tested by SGS [CY/2007/10529A]
- ✓ Biodegradable – the fabric will decompose within the natural environment
- ✓ Odourless – this matting does not have the strong solvent odour generally associated with PVC-based products
- ✓ Secure and safe on all surfaces – no adverse effects on polyurethane and lacquered surfaces
- ✓ Hygienic and easy to clean – it can even be machine washed
- ✓ Cushioned and soft – nice to handle, as well as protecting surfaces and items from chipping and scratching
- ✓ Can be sewn – ideal for applications where the fabric is to be integrated with other materials, i.e. druggets, floor cloths, costumes etc.
- ✓ Open weave structure – allows for air circulation and free draining
- ✓ Mould and mildew resistant – hard wearing and long-lasting

Black Non-Slip Fabric	length	width	code	Tradeline
	30 m roll	910 mm	TAP91300D	£309.56
	per m	910 mm	TAP91300	£12.15

**Got a slippery problem?**

Over the years Flints has carried out many experiments on various non-slip products. We know what is available, what works and what doesn't work. We know of products that will adhere to dance floors and products that can be used in wet conditions. So if you have a particular problem just give us a ring.

# MISCELLANEOUS PAINT PRODUCTS

## HAUSSMANN'S MAGNETIC PAINT



**Hausmann's Magnetic Paint [Blue]** Highly flexible, this magnetic paint can be used on wallpaper and textiles, as well as plaster, masonry, concrete, gypsum board, and ceiling tiles, turning them into a magnetic surface. Water-based, with no smell and easy clean-up, it out-performs similar oil-based products. Highly effective after only two coats. Apply with a brush, roller or spray. Recoat after a minimum of 4 hours. After 24 hours apply your choice of top coat with no loss of the magnetic effect. Covers 8 - 12 m<sup>2</sup> per litre.



Magnetic Paint [Blue]  
PAT23140

Magnetic Paint Blue	weight	size	code	price
Blue	1 kg	500 ml	PAT23140	£21.95



**Magnetic strips** 300 x 50 x 0.6 mm per magnet. Each pack contains four coloured magnets in red, yellow, green and blue. They can be easily cut to size.

Magnetic strips	code	price
Pack of 4	PATMRC304	£4.95

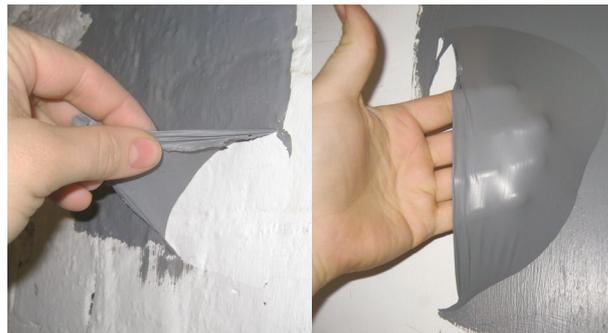
## BLACKBOARD PAINTS



**Rustin's Blackboard Black** A quick drying water-based non-reflective acrylic paint for blackboards and photographic work. Conforms to Toy Safety regulations. Suitable for interior and exterior use. I have used this paint onto a gloss painted exterior notice board and every day it gets written on with liquid chalk marker pen and then cleaned with a hard scrub at the end of the day. I thought it would last a couple of weeks but 6 months later it looks as good as new! Brilliant tough paint. Covers 12 m<sup>2</sup> per litre.

Blackboard Paint	code	price
500 ml	PAT119	£7.86
1 L	PAT1191	£13.93
2.5 L	PAT1192	£30.13

## PEELABLE MASKING PAINT



**Peelable Masking Paint** A unique system that will temporarily decorate or cover large structures and blank out signs internally and externally for up to 12 months. When it's time to uncover again, just peel away. A great masking tool. Use it to change the colour of vehicles, helicopters, road signs, shop fronts etc. on your film shoot. Paint over virtually any surface with this grey peelable paint, then paint it with Rosco or any scenic paint, or even apply texture such as Flints Mud. Once the shoot is over just peel the paint off and throw it away! No messy scrubbing machines or solvents. Works on most non-porous surfaces but not on coarse fabrics like serge etc. Works best on pre-painted surfaces but is also fine on bare timber. Always do a test area first. Dries in 140 mins. The 5 kg of paint covers up to 20 m<sup>2</sup>.

- ✓ Camouflage that helicopter
- ✓ Eradicate incorrect road sign destinations
- ✓ Change shop fronts to match your film requirements
- ✓ Use it to mask tricky items prior to complex spray jobs
- ✓ Use it to protect bright-work from winter frosts – just peel it off in the spring!



Peelable Paint	colour	size	code	Tradeline
	Grey	5 kg	PATSMG5	£71.65

## SYNTHETIC RUBBER COATING



**Plastidip** Dip your ropes in Plastidip and there is no need to whip the ends. It leaves them rigid with a comfortable feel. Made from synthetic rubber it can also be used on metal, wood, glass, rubber, and fibre glass. Prevents corrosion, slip-proofs treads, seals clay pots, adds grip to tools. The clear Plastidip can be used to weatherproof paper maps. Can be peeled off non-porous surfaces. Air dries. Allow 30 minutes between coats, 4 hours minimum dry time before use. Clean brushes in Xylene or thinners [page 61]. Always wear a mask, even in the open air, and one that is suitable for organic vapours like our reusable respirator 3M 4251 on page 342. UN 1139. Now available in a new smaller size!

Plastidip	colour	250 ml	price	750 ml	Tradeline
Red		PATPDL2RD	£9.95	PATPDL7RD	£19.95
Yellow		PATPDL2YW	£9.95		
Blue		PATPDL2BE	£9.95		
Clear		PATPDL2CR	£9.95	PATPDL7CR	£19.95
Black		PATPDL2BK	£9.95	PATPDL7BK	£19.95

Plastidip Thinners	size	code	price
Thinners	500 ml	PATPDLT5	£12.15

**Spray-able Plastidip** Now available in an aerosol for a more even distribution. Can be used as a masking paint on non-porous surfaces, or to easily create a grip-y coating on a tool. The clear is great on maps!

Spray-able Plastidip	size	code	price
Clear (colourless)	400 ml	PATPDL4CR	£9.85
Black	400 ml	PATPDL4BK	£9.85

# ENAMEL PAINTS

## YACHT ENAMELS



KEY: \* Only the colours with this symbol are available in 2 L



### Epifanes Bootlak Yacht Enamel

Colour brilliance, superior covering and flowing properties are the hallmarks of these high-gloss enamels. The finest components possible give a hard protective finish. The preferred paint for many of the world's finest yachts, giving long-lasting protection in any climate. Suitable for wood, steel, glass fibre and steel yachts. Apply

primer, then apply three coats of enamel. Available in the colours below. Covers 15 m<sup>2</sup> per litre.

Thinners: Epifanes Brush Thinner [page 59] or spray thinner.

Epifanes Bootlak Enamel	size	code	price
White	750 ml	PAT9927WIT	£21.00
Colour	750 ml	PAT9927XXX	£21.00
Colour*	2 L	PAT9922XXX	£40.25

XXX Substitute for colour reference in chart



Throughout the catalogue you will see the marine symbol which denotes which products will withstand the harsh marine environment. The enamels on this page would, of course, be equally suitable for the highest finish on architectural woodwork or furniture.

## ACRYLIC ENAMELS



**Rosco Colorcoat** is a durable waterborne acrylic enamel modified to provide superior adhesion and abrasion resistance. It can be used on most interior and exterior surfaces where maximum durability is required. Not suitable on soft or flexible substrates. Flat Black Colorcoat is widely used by theatre engineering shops as a safer alternative to priming steel with

etch primer. During Flints sampling we were highly impressed with Colorcoat's adhesion to aluminium. We would recommend this product as a substitute to two-component primers for painting aluminium truss and lighting bars especially for painters keen to avoid solvent-laden paints. It is water-based, so brush cleaning is easy. Rosco recommend Colorcoat for use on floors and scenery which endure heavy handling. Clear Colorcoat can also be used as a heavy-duty sealer over all Rosco paints. Covers 7 - 8.5 m<sup>2</sup> per litre. See page 9 for Metal Primers.

Colorcoat	size	code	price
Clear Gloss	3.79 L	ROS35620	£79.50
Clear Satin	3.79 L	ROS35621	£79.50
Black Gloss	3.79 L	ROS35634	£79.50
Black Flat	3.79 L	ROS35635	£79.50



**Unfortunately we are unable to supply Breakthrough any more, but we are on the hunt to find another supplier. Please call us to see if we can offer an alternative, or keep an eye on the website!**

# SPRAY PAINTS - AEROSOLS

## BLACKS & WHITES



**Plasti-Kote Matt Black** When Humbrol stopped making Ultra Matt Black we decided to stock this Plasti-Kote version which is a very close substitute. Features twist lock / spray top.

**Plasti-Kote Barbecue Black** A durable aerosol paint finish typically used for lantern maintenance where heat resistance is essential. Allow to dry for 5 minutes between coats. Touch dry in 20 - 30 minutes. Thoroughly dry in 2 - 3 hours. Heat resistance: 425° C. Also OK for the BBQ! This product is the same as before but in a new can with improved twist lock / spray function.

**Plasti-Kote Gloss Black** A durable spray paint for interior or exterior use. Excellent water resistance. Fast drying. Features twist lock / spray top.

Plasti-Kote Black Spray	code	list	400 ml	6+
Matt Black	PAT23101	£8.22	£7.19	£6.47
BBQ Black	PAT26020	£9.53	£7.98	£4.58
Gloss Black	PAT21100	£8.22	£7.19	£6.47



**Plasti-Kote Matt Super White** A durable spray paint for interior or exterior use. Fast drying. Features twist lock / spray top.

**Plasti-Kote Gloss Super White** A durable spray paint for interior or exterior use. Excellent water resistance. Fast drying. Features twist lock / spray top.

Plasti-Kote White Spray	code	list	400 ml	6+
Matt Super White	PAT23100	£8.22	£7.33	£6.47
Gloss Super White	PAT21102	£8.22	£7.33	£6.47

## PRIMERS



**Fast Drying Matt Primer** Quick drying, hard-wearing spray paints for safe use on metal, wood, glass and ceramic surfaces. Ideal for radiators. This product is the same as before but in a can with improved twist lock / spray function.

See also Cold Galvanising Spray [Galvafruid] & Galva Colour Spray on pages 9 and 235; Hammerite Smooth and Hammered Sprays on page 10 and Flints Lantern Black Spray Paint on page 67.

Fast Drying Matt Primer	code	400 ml	6+
Matt Black	PAT25001	£7.57	£6.82
Matt White	PAT25000	£7.57	£6.82
Matt Grey	PAT25003	£7.57	£6.82
Red Oxide	PAT25002	£7.57	£6.82

**For Metallic Aerosols go to page 68.**

## MATT DECORATION SPRAYS

**Matt Decoration Spray** Matt finish range of 47 aerosol spray colours. Suitable for use on silk flowers, cardboard, paper, plastics, Styrofoam, polystyrene, wood, metal, stone, pottery, glass, etc. Dries in 10 minutes. A large range of natural colours. For interior and exterior use. Covers 2 m<sup>2</sup>/can.



Decoration Spray	code	400 ml	Tradeline 12+
	BOL90XX	£8.45	£7.05

See below for full codes.

True Pink BOL9010	Soft Pink BOL9012	Rose BOL9019	Azalea Pink BOL9029
Pale Orchid BOL9008	Sunrise Red BOL9049	Holiday Red BOL9036	Burgundy Red BOL9051
Spring Green BOL9046	Aqua BOL9014	Nile Green BOL9025	Lemon Lime BOL9018
Signal Green BOL9028	Green Olive BOL9011	Moss Green BOL9030	Holiday Green BOL9042
Tangerine BOL9024	Floral Orange BOL9034	Orange Peel BOL9007	Melon BOL9053
Pumpkin BOL9017	Light Rose BOL9016	Light Yellow BOL9082	Chrome Yellow BOL9080
Rust Brown BOL9054	Mahogany BOL9048	Medium Brown BOL9081	Dark Brown BOL9037
Soft Blue BOL9006	Cerulean Blue BOL9013	Larkspur Blue BOL9005	Peacock Blue BOL9043
Navy Blue BOL9050	Royal Blue BOL9045	Regal Purple BOL9026	Deep Purple BOL9038
Better Times BOL9033	Erica BOL9035	Lavender BOL9015	Champagne BOL9058
Gardenia White BOL9083	Soft White BOL9020	Platinum Grey BOL9084	Mercury Grey BOL9022
Charcoal Grey BOL9023	Soft Black BOL9021	Pearl Glo BOL9090	

## KOBRA SPRAY PAINTS



**Kobra Spray Paint** has a high "solid" content to ensure great rapid coverage on any surface. It is perfect for painting on canvas, wood, metal, glass, paper, card, plastic, concrete, brick and more. Flints stocks a selection of vibrant colours, fluorescents and metallics. We are particularly impressed by the gold, which is the best we've tried. 400 ml can. For Metallics see next page.



Kobra Spray Paint	code	400 ml	Tradeline 12+
	PATKOBXXX	£5.35	£4.80



**Kobra Spray Nozzles** Flints stocks a variety of cap sizes to enable you to get different effects: the "fat" nozzle quickly covers a large area with intense colour, the "skinny" nozzle is for writing.

Caps (sold each)	code	price
Nozzle 01 Skinny	PATKOBNOZ01	£0.32
Nozzle 02 Skinny/Med	PATKOBNOZ02	£0.32
Nozzle 03 Medium	PATKOBNOZ03	£0.32
Nozzle 04 Medium/Fat	PATKOBNOZ04	£0.32
Nozzle 05 Fat	PATKOBNOZ05	£0.32
20 x Mixed Nozzles	PATKOBNOZ20	£5.95

## FLINTS LANTERN BLACK SPRAY PAINT

NEW  
F



### Flints Lantern Black Heat Resistant Spray Paint

Great for touching up black aluminium scaffold tube that is notorious for scuff marks, and maintaining deep matt black finish on stage weights. We've tested this on a traditional theatrical lantern that gets very hot and the paint performed well with no adverse effect. Suitable for interior and exterior use.

Usage Guide: Clean and prep surface, shake can well before applying. Spray at a distance of approximately 25 cm. Invert can and depress nozzle to clean once finished. Touch dry in 1 – 2 hours, fully dry after 48 hours. DO NOT expose to high temperatures until fully dry. Fully cured after high temperature exposure: 160°C – 180°C [but please don't set your set/lamps/self on fire trying to cure it!]. Coverage: One 400 ml can will cover approximately 1.5 – 2 m<sup>2</sup>

- Suitable for use on:
- ✓ Wood ✓ Masonry ✓ Plastic ✓ Metal
  - ✓ Cardboard ✓ Glass ✓ Ceramics
  - X Not suitable for use on Polystyrene

Flints Lantern Black	code	400 ml	6+
	FHSMBS	£8.00	£7.20

## GLOSS SPRAY PAINTS



**Rust-oleum Painter's Touch** An acetone-based gloss spray paint with a tough finish. Multi-purpose. Our swatches were sprayed on vinyl and the paint remained scratch resistant. It also worked well on metal. Clean up with White Spirit [page 61]. Touch dry in 20 minutes, cures in 24 hours. Recoat within one hour or after 24 hours. Each 400 ml can will cover approximately 2 m<sup>2</sup>.

Rust-oleum Painter's Touch	code	400 ml	Tradeline 6+
	PATXXE8	£7.26	£6.54

## MATT FLUORESCENT SPRAY PAINTS



**Plasti-Kote Fluorescent Spray** We have tried various makes and have found these Plasti-Kote fluorescent sprays do give the brightest results and the most even coverage. They make some other fluorescents seem chalky in comparison. The range is rather limited but fluorescent blues never seem to fluoresce very much. Don't forget that all fluorescent paints require a white basecoat such as the Matt White Primer listed [page 66].

- ✓ Super bright with an even spray



Plasti-Kote Fluorescent Spray	code	400 ml	6+
	PATPKT19XX	£11.33	£10.20

**GLOW IN THE DARK SPRAY**



**Rust-oleum Glow In The Dark** This paint can be sprayed onto walls, ceilings and other objects to make them glow bright green in the dark after exposure to light. [Colour appears off-white in normal light].

- ✓ Apply to wood, metal, plastic and more
- ✓ Washes with soap and water
- ✓ Fast drying - touch dry in 15 minutes
- ✓ Suitable for indoor and outdoor use

TIP: Apply over a white or light-covered surface

Rust-oleum Glow in the Dark	code	400 ml	Tradeline
	PAT10006ES	£8.83	6+ £7.95

See also Luminous Tapes [page 278], HatoTex Phosphorescent Paint [page 33] and The HatoTex Invisible UV Paint [page 27]

**SPRAY CHALKS**



**Rainbow Liquid Chalk** A wide range of very powerful spray chalks perfectly suited to temporary large scale graffiti on film locations or for bold marking out of outdoor events. The marks can be removed with a power washer or with a stiff brush and soapy water.

Rainbow Chalk	code	400 ml	Tradeline
Red	PAT81900	£19.50	12+ £17.55
Blue	PAT81901	£19.50	£17.55
Yellow	PAT81902	£19.50	£17.55
Green	PAT81903	£19.50	£17.55
Orange	PAT81904	£19.50	£17.55
Pink	PAT81905	£19.50	£17.55
Violet	PAT81906	£19.50	£17.55
Black	PAT81907	£19.50	£17.55
White	PAT81908	£19.50	£17.55
Brown	PAT81910	£19.50	£17.55
Light Grey	PAT81911	£19.50	£17.55
Dark Grey	PAT81912	£19.50	£17.55



**Chalk Spray Temporary Marker** These economical inverted tip chalk sprays are used for temporary graffiti on film location work and for marking out large outdoor events. The marks can be removed with a power washer or with a stiff brush and some soapy water.



Chalk Spray	code	454 g	Tradeline
Blue	PATMSP630B	£12.65	6+ £11.40
White	PATMSP633W	£12.65	£11.40
Red	PATMSP635R	£12.65	£11.40
Yellow	PATMSP636Y	£12.65	£11.40

**PISTOL GRIP**



**Aerosol Pistol Grip** Transforms a spray can into a spray gun. Fits virtually all spray cans except the twist lock / spray top Plastikote cans. Easy to attach, gives steady control, eliminates finger fatigue.

Pistol Grip	code	price
	PAT6506N	£4.37

**METALLIC SPRAY**

Flints stocks several makes of metallic spray paint all chosen for their brilliance and evenness of finish. The range covers most metals. Coverage will depend on the surface being sprayed but as a rough guide a 400 ml can will normally cover about 2 m<sup>2</sup>. See also Rosco Off Broadway Metallic Paint [page 34].



Gold PATKOB045      Copper PATKOB046      Silver PATKOB047



**Kobra Metallic Spray** With a high "solid" content to ensure great rapid coverage on any surface. It is perfect for painting on canvas, wood, metal, glass, paper, card, plastic, concrete, brick and more. We are particularly impressed by the gold, which is the best we've tried. 400 ml can. Flints stocks a selection of vibrant colours and fluorescents, see previous page.

Kobra Metallic	code	400 ml	Tradeline
Gold	PATKOB045	£5.35	12+ £4.80
Copper	PATKOB046	£5.35	£4.80
Silver	PATKOB047	£5.35	£4.80

**Kobra Spray Nozzles** Flints stocks a variety of cap sizes see previous page



The swatches and below are photos taken by Flints of the actual products sprayed onto vinyl pipe.

**Air Craft Metallic Spray** Extra quality including an excellent silver chrome. Reduced in price as we are now importing these products directly. Many of our clients consider the Air Craft Silver Chrome to be the most realistic chrome aerosol.

Air Craft Metallic	code	400 ml	6+
Silver Chrome	BOL950010	£6.67	£6.03
Gold	BOL950002	£6.67	£6.03



**Plasti-Kote Brilliant Metallic Spray** By popular demand!

Plasti-Kote Metallic	code	400 ml	6+
Gold	PAT160	£9.32	£7.95
Silver	PAT161	£9.79	£8.35
Copper	PAT162	£9.79	£8.35



**Decoration Metallic Spray** An extensive range of metallics.

Decoration Metallic	code	400 ml	Tradeline
Brite Gold	BOL9002	£8.45	12+ £7.05
Brite Silver	BOL9003	£8.45	£7.05
Coppertone	BOL9004	£8.45	£7.05
Brass	BOL9032	£8.45	£5.85
Antique Gold	BOL9085	£8.45	£7.05

## WATERBASED SPRAY PAINTS & LACQUERS

NEW



**Maston Zero Water Based Spray Paint & Lacquers** This is an all new water-based polyurethane spray paint that has done away with solvents. The lack of solvents means it's safer to use, can even be used indoors, and can hold up to 3 times more in a can! For a smooth finish spray in long continuous cross patterns, wiping the nozzle after each spray to avoid a gunky build up. Fully recyclable can, nozzle, and cap. N.B. All colours [other than Black] are a Semi Gloss finish.

Recoat when wet or dry. Touch dry in 30 minutes, Fully dry in 24 hours, Full cure in 8 days  
Coverage: 3 m<sup>2</sup> per can

- ✓ Solvent-free ✓ Not smelly ✓ Semi Gloss Finish ✓ One coat coverage ✓ Non Flammable ✓ Range of colours and Lacquers
- Suitable for use on: ✓ Wood, ✓ Metal, ✓ Stone, ✓ Plastic, ✓ Glass, ✓ Ceramics, ✓ Dried Plants ✓ Polystyrene

Maston Zero	code	400 ml	6+	colour	code	400 ml	6+
Green	PATZ6005G	£7.95	£7.50	Red	PATZ3002R	£7.95	£7.50
Yellow	PATZ1018Y	£7.95	£7.50	Blue	PATZ5009B	£7.95	£7.50
Orange	PATZ2011R	£7.95	£7.50	White	PATZ9010W	£7.95	£7.50
Matt Black					PATZ9005G	£7.95	£7.50
Gloss Lacquer					PATZ332GL	£7.95	£7.50
Matt Lacquer					PATZ331ML	£7.95	£7.50

## GLASS FROSTING SPRAY



### Plasti-Kote Glass Frosting Spray

For internal decorative use on windows, doors, mirrors and glassware. Provides an instant frosted effect. Ideal for use with stencils or for obscuring the view through stage windows. Touch dry in 45 - 60 minutes, cures in 3 hours. Covers 1.2 m<sup>2</sup>. See also Frost Film [page 135] and Polyvine Glass Frosting Varnish [page 57]. Features twist lock / spray top.

Plasti-Kote Glass Frosting Spray	code	400 ml	Tradeline 6+
	PAT27183	£10.31	£8.55

## SPRAY VARNISH



**Plasti-Kote Clear Sealer** Our favourite replacement for Krystal Clear – and it's better value. Has the Plasti-Kote improved twist lock / spray top. Can be used on wood, metal, plastic, stone, wicker and paper. The Matt really is colourless and remains undetectable. The Satin has a natural finish and gives wood grain a bit of a sheen. The Gloss is... glossy, but still quite subtle. They touch dry in 20 minutes, cure in 1 hour. Can be recoated anytime. Covers approx. 2.6 m<sup>2</sup>.

Plasti-Kote Clear Sealer	code	400 ml	6+
Gloss	PAT240004	£7.57	£6.82
Satin	PAT240014	£7.57	£6.82
Matt	PAT240024	£7.57	£6.82

## DULLING SPRAY

**Dulling Spray** Removes glaring highlights from polished objects to be photographed. The 4x Neutral Grey gives a four times overall neutral cut and can be sprayed onto windows and transparent screens. Dulling spray can be removed with a little Methylated Spirit [page 61].

Dulling Spray	code	400 ml	Tradeline 12+
Matt	PAT955	£9.38	£8.45
Semi-Matt	PAT956	£9.97	£9.01
Black	PAT957	£9.97	£9.01
White	PAT958	£9.97	£9.01
4x Neutral Grey	PAT959	£10.62	£9.58
Dulling Spray	code	400 ml	12+
Dirty Down Dulling Spray	PAT9700	£8.80	£7.95

## DIRTY DOWN SPRAYS



**Dirty Down Spray** A range of aerosol sprays for ageing, toning and colouring furniture, fabric, paper, theatrical wigs, leather and metals. The colours are translucent so when used over print [newspapers, books, phone dials, keyboards etc.] the typeface will show through. Available in seven colours plus three special effects [listed below]. See also Fuller's Earth and Walnut Dust [page 25].

	<b>Mid Brown</b> PAT9591L		<b>Dark Brown</b> PAT9592L
	<b>Black</b> PAT9593L		<b>Smoke Grey</b> PAT9594L
	<b>Ash Blonde</b> PAT9596L		<b>Khaki</b> PAT9597L
			<b>Soot Black</b> PAT9602L

Dirty Down Spray	code	400 ml	Tradeline 12+
Mid Brown	PAT9591L	£8.80	£7.95
Dark Brown	PAT9592L	£8.80	£7.95
Black	PAT9593L	£8.80	£7.95
Smoke Grey	PAT9594L	£8.80	£7.95
Ash Blonde	PAT9596L	£8.80	£7.95
Khaki	PAT9597L	£8.80	£7.95
Nicotine Yellow	PAT9601L	£8.80	£7.95
Soot Black	PAT9602L	£8.80	£7.95

## DIRTY DOWN SPECIALS



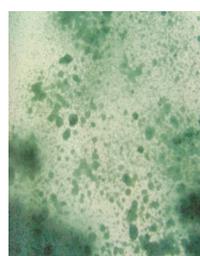
**Dirty Down Frost/Snow** A light spray from the Frost/Snow will give a gentle frost effect but a harder longer spray creates thick frost or snow.

Dirty Down	code	400 ml	Tradeline 12+
Frost/Snow	PAT9598	£8.80	£7.95



**Dirty Down Rust** This effect works best on metals but it can also be sprayed onto paper or virtually any substrate just like the ageing sprays. See also Dirty Down Paint-On Rust on [page 32] and Iron Powder [page 32 and 36].

Dirty Down	code	400 ml	Tradeline 12+
Rust	PAT9599	£8.80	£7.95



**Dirty Down Mould** Like bread mould but with some thickness as if it is growing out of the wall etc. that it is sprayed on. Use it to reduce the exorbitant rent your landlord charges you on your flat.

Dirty Down	code	400 ml	Tradeline 12+
Mould	PAT9600	£8.80	£7.95

**For Dirty Down Paint-On Moss and Rust go to page 32.**

# FLAME RETARDANTS

## FLINTS BLAZEBLOCKA®



**F** **Flints BlazeBlocka®** our new easy-to-apply flame retardant. It will prevent the spread of flame on a wide variety of materials by forming a heat shield which deflects the heat away from the material. BlazeBlocka® can be used on pretty much any absorbent material - it's colourless, odourless and non-toxic. Use it to treat carpet, hessian, foam rubber, dried flowers, curtains, cotton, canvas, polycotton, polyester and more.

Coverage: approx. 10.5 m<sup>2</sup>/L. Always pre-test a sample before application. Spray the material to be treated on both sides ensuring all the edges are treated, or dip to saturate. Allow to dry. Re-apply if wetted. Tests have shown that on cotton canvas, polyester, and a poly/cotton mix it Successfully achieved BS5867: Part 2: 2008 (2015): Type B Curtains, Drapes and Blinds on cotton canvas, polyester and poly/cotton, and BS476: Part 7: Class 2 on Plywood. Certs available on our website. The 1 litre bottle is provided with a trigger spray for easy application.

Flints BlazeBlocka®	size	code	price
	1 L	FHSBB01	£14.00
	5 L	FHSBB05	£49.00
	25 L	FHSBB25	£198.00

## FLAMEBAR FLAME RETARDING SOLUTIONS



**Flamebar** Flamebar Solutions are water-based, and have negligible colour. Flamebar is a semi-durable flame retardant treatment for interior use. Flamebar's system is designed with different solutions for different materials, rather than a one-

solution-fits-all. The solution can be applied by dipping, spraying, padding or brushing, but as a general rule the application should result in a 6-12% increase in dry weight to give adequate flame resistance. Testing should always be carried out. For professional use only.

### Flamebar Solution Type and Coverage Chart

Solution	Use/ coverage
<b>PE6</b>	<b>Natural fabrics &amp; materials:</b> cotton, linen, muslin, wool, silk, feathers, leather. <b>Synthetic fabrics:</b> polyester, nylon, acrylics, Dralon, polycotton, silk and artificial silk [rayon] flowers, carpets, floor coverings, wall coverings, curtains, seating, stage curtains, drapes, scenery. <b>Approximate coverage:</b> Heavy or Medium weight fabric: 4 - 6 m <sup>2</sup> /L Light weight fabric: 7 - 9 m <sup>2</sup> /L
<b>N5</b>	<b>Wood and wood products:</b> softwood, hardwood, plywood, chipboard, hardboard, cork, heavyweight cardboard, stage wood props, sawdust, shavings, wood nuggets, peat, bark, straw. <b>Approximate Coverage:</b> Wood: 4 - 6 m <sup>2</sup> /L

Flamebar	code	1 L	code	5 L	code	25 L
N5	-	-	FLA012	£63.60	FLA052	£255.20
PE6	FLA035	£19.55*	FLA015	£65.35	FLA055	£262.81

\*One litre sizes come in spray applicator bottles.

## FLORIMP K VERDE



**Florimp K Verde** Highly effective, concentrate non-halogen flame retarding solution for cellulose and polyester fibres. Recommended to us by the ROH production department, we have been thoroughly impressed. When testing on cheap artificial flowers from a Walworth Road pound shop [wow, do those things go up in flames or what!?!] this impressive solution completely prevented fire from taking hold. Certified in accordance to DIN 4102 / B1 [Data sheets and test certs available in the 'downloads' section of our website]. We did find that the flowers went a bit stiff after they'd been dipped in the solution. If stiffness isn't an issue and you're working with artificial materials like Polyester, we can highly recommend this.

Florimp K Verde	size	code	price
	1 L	FLAFV01	£38.70
	5 L	FLAFV05	£139.00

### Need some advice?

Some materials are easy to flame retard and some are notoriously difficult. Generally, the easy materials are the ones that will absorb the flame retarding solution. Materials such as cotton, cardboard and paper are generally easy to treat whereas non-absorbent materials such as shiny PVC and glossy plastics are very tricky and should really be treated during manufacture. It is not possible for us to supply certification to cover material that you have treated as it will depend on the substrate and method of treatment. The flame retarding solutions we sell are designed to make the materials more difficult to ignite, to slow the spread of flame and prevent smouldering. Any standards given are purely indicative of results achieved by specific tests in the past.

## MSL FIRECHECK®



**MSL Firecheck®** A simple and effective treatment to combat fire. MSL Firecheck® is colourless and odourless and when dry is practically unnoticeable. It can be used to effectively treat any water absorbent item. MSL Firecheck® is tested to BS 5852 Part 2 [crib 5] when treating natural fibres, mixed

fibres [cotton/polyester] and synthetic fabrics such as nylon and polyester. MSL Firecheck® can also be used to treat hessian, foam rubber, untreated wood and other items that can absorb the chemical. Covers approximately 10 - 12 m<sup>2</sup> per litre. Available in 750 ml trigger spray bottles or in 5 litre and 25 litre containers.

MSL Firecheck®	code	750 ml	code	5 L	code	25 L
	FLAFC75	£12.50	FLAFC05	£60.00	FLAFC25	£280.00

## ENVIROGRAF 3-2-1 SPECIAL



**Envirograf 3-2-1 Special** A clear odourless flame retarding solution for use on plastic artificial flowers and foliage. Will work on most absorbent plastics, nylon and other synthetics.

Envirograf 3-2-1	size	code	price
	1 L	FLA3211	£23.63
	5 L	FLA3215	£109.65

## FLAMECHECK PLUS



**Flamecheck PLUS** This upgrade from Flamecheck has now been certified to BS5867-2 Type B: 2008 when tested on cotton, polyester, and polycotton [please download certificated from our website "downloads" page]. A colourless, odourless, non-toxic, non-corrosive liquid that can be sprayed onto any type of material which will absorb

the chemicals including both natural and mixed fibres. Always pre-test a sample before treatment. Application lasts for the useful life of material treated, though we recommend reapplication if the material get wet or is washed. 1 litre covers 320 - 376 square feet [30 - 35 m<sup>2</sup> per litre].

Flamecheck Plus	code	1 L	code	5 L	code	25 L
	FLA075	£15.00	FLA076	£62.50	FLA077	£295.00

## ROSCOFLEX

**Rosco Flame Retarding Solutions**

Rosco flame retarding products are designed to be used on scenery rather than costumes or clothing. Do not use with metallic paints. Rosco suggest you allow the first coat to sink in and apply the second coat before the first coat dries. See also Roscoflamex PA in the paint additives section below.

**Rosco Solution Type and Coverage Chart**

Solution	Use	Dilution
<b>NF</b>	<b>Natural fabrics:</b> eg. cotton	<b>1:2 with water</b>
<b>SF</b>	<b>Synthetic fabrics:</b> eg. polyester, nylon, rayon, blends	<b>ready to use</b>
<b>WD</b>	<b>Wood Products</b>	<b>ready to use</b>
<b>DF</b>	<b>Delicate fabrics:</b> natural or synthetic, maintains soft hand	<b>ready to use</b>
<b>PC</b>	<b>Paper and Cardboard:</b> uncoated only	<b>ready to use</b>

Roscoflamex	size	code	price
Roscoflamex NF	3.97 L	ROSNF0128	£48.25
Roscoflamex SF	3.97 L	ROSSF0128	£77.50
Roscoflamex WD	3.97 L	ROSWD0128	£77.50
Roscoflamex DF	3.97 L	ROSDF0128	£77.50
Roscoflamex PC	3.97 L	ROSPC0128	£77.50

## FLAME RETARDING ADDITIVES FOR PAINT



**RoscoFlamex PA** Clear liquid additive that can be added to acrylic paints and glazes to make them flame retardant. One 8 oz jar treats 3.79 litres. Do not use with metallic paints.

RoscoFlamex PA	size	code	price	12+
	8 oz	ROSPA0128	£17.75	£16.59

## NON COMBUSTIBLE COATINGS



**HATO@Safe** This simple non-combustible [EN13501] coating system from Haussmann is great for propmakers on the go who need to reinforce small props. Easy to use, simply add water to the powdery base [37:100], mix thoroughly and apply to

the surface - see full listing on page 45 for full details. Normal colour: Off-White, other colours achievable by adding water-based paint. See also Jesmonite [page 115] SPECIFICATION: Ratio Water: HATO@Safe Powder - 37:100. Open time of 60 minutes, Full cure in 24 hours. Apply by brush, or palette knife.

HATO@Safe	code	price
1 kg	PAT1090001	£16.55
5 kg	PAT1090005	£59.00

## FIRE PROTECTION PAINTS AND VARNISHES



**HATO@Protect** Water-based fire prevention coating primer for timber structures. Certified to Euroclass C, DIN EN 13501-1. Designed [and certified] for use on timber alone, we tested on a clock of Polystyrene with impressive results [see the full listing on page 7 for product details]. Light grey colour that's easy to overcoat. Has maintained certification once overcoated with HATO@Design Paint [see page 17], but we suggest that any standard theatre paint would suffice. As always, certification is only valid on the actual sample tested and is otherwise a guideline. SPECIFICATION: Apply by brush, roller or spray gun. Recommend 2 coats. Thin with water: max 3% dilution. Coverage: 225 g/m<sup>2</sup> per coat.

HATO@Protect	size	code	price
Light Grey	5 kg	PAT1530005	£94.00
Light Grey	12.5 kg	PAT1530125	£198.00



As used on British Airways' Boeing 747s

**Broflame Ultra Intumescent Emulsion Paint**

A water-based non-toxic intumescent emulsion paint which in a fire softens and expands to a thickness of 30 mm. This will insulate the structure from intense heat and control the spread of flame. Needs to be applied according to the application guide but typically apply at least two

coats to achieve a final coverage of between 2 and 2.5 m<sup>2</sup> per litre.

SPECIFICATION: Achieves BS 476 Part 6 Class 0 [Fire Propagation] and BS 476 Part 7 Class 1 [Spread of Flame] on plywood, softwood and MDF etc. Broflame can be overcoated with flame retardant paints to achieve the desired colour [page 15].

Broflame	size	code	price
Slightly off-white	5 L	FLA061	£99.98

**Bollom Intulac Ultra Intumescent Varnish For Wood**

Apply two coats of the clear base coat then overcoat after 8 hours, and before 18 hours, with the hard wearing protective coating which is available in matt or satin.

SPECIFICATION: Coverage: basecoat - a 5 L can will treat 12.5 m<sup>2</sup> to Class 0, topcoat - a 500 ml can will cover 12.5 m<sup>2</sup>. Basecoat clean up with water. Topcoat clean up with white spirit. Go to flints.co.uk/downloads for copies of the fire certification and data sheets.

Intumescent Varnish for Wood	code	500 ml	5 L
Clear Basecoat	FLABM675B	-	£208.98
Protective Topcoat [matt]	FLABM675M	£44.60	-
Protective Topcoat [satin]	FLABM675S	£44.60	-

## FIRE PILLOWS



**Fire and Smoke Stop Pillows** These soft pillows are used to fill voids to prevent the spread of flame. They can be useful when touring to block voids in difficult areas by the iron curtain.

Fire Pillows	Dimensions [LWD]	code	price
Sausage	300 x 50 x 40 mm	FLAFPSAS	£4.05
Fire pillow small	300 x 100 x 40 mm	FLAFPS	£4.68
Fire pillow medium	300 x 150 x 40 mm	FLAFPM	£5.85
Fire pillow large	300 x 200 x 40 mm	FLAFPL	£6.62

## AND IF THAT LOT DOESN'T WORK...



...see Fire Buckets and Extinguishers on page 362. For storage of Flammable products, see our COSHH / flammable Storage Cabinets on page 365.



# PAINT BRUSHES

Flints sells a huge variety of specialist paint brushes. We would be happy to provide special quotes for educational departments and large scene shops. It is a false economy to use a poor quality brush for any painting work. Don't miss the Eco Union brushes on

## DECORATOR'S BRUSHES

A good brush will hold the correct quantity of paint allowing you to work quickly with less chance of brush or lap marks. Artificial bristles tend to wash out water-based paints more easily. Natural bristle brushes tend to be a little stiffer for manipulating heavy-bodied paints. Use the widest brush you can comfortably handle, it will help maintain the crucial "wet edge". Choose our budget brushes for working with materials that require special thinners such as resins or Hammerite.

## ECO BRUSHES

The question is "Does ECO stand for economic, or eco-friendly?" and the answer is yes.

NEW



**Spirit Renaissance Eco Brush** Soft well-formed artificial "Orel" bristles. They are suitable for all paint types but particularly suited to water-based paints. The fact that they will not leave brush marks make them a perfect varnish brush too. Lacquered wooden handle drilled for storage. Excellent value.

Spirit Renaissance Eco	width	code	price
	25 mm	PBRDEB1	£2.05
	38 mm	PBRDEB15	£2.85
	50 mm	PBRDEB2	£3.70
	75 mm	PBRDEB3	£5.35

NEW



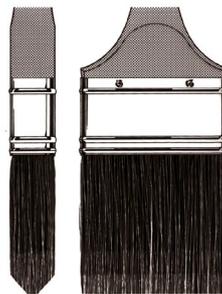
**Lick Brush** Lick Paint Brushes are made with 100% bamboo handles from a sustainably managed forest and the recycled natural bristles are held together with a stainless steel ferrule made up of 60% recycled steel. Lick are also certified climate neutral.

It's also a really good paint brush.

Picks up lots of paint, has smooth brush strokes and no bristle loss.

Lick Flat Brush	width	code	price
	25 mm	PBR115426	£6.04
	38 mm	PBR115427	£6.90
	50 mm	PBR111999	£8.64
	75 mm	PBR112000	£10.36

## ARTIFICIAL BRISTLE BRUSHES



**Omega Orel Acrylic Brush** Soft well-formed artificial "Orel" bristles. They are suitable for all paint types but particularly suited to water-based paints. The fact that they will not leave brush marks make them a perfect varnish brush too. Lacquered wooden handle drilled for storage. Excellent value.

Omega Orel Acrylic	width	thickness	code	list	price
	1"	14 mm	PBR250	£9.33	£7.98
	1 1/2"	14 mm	PBR251	£11.58	£9.89
	2"	15 mm	PBR252	£13.92	£11.80
	2 1/2"	15 mm	PBR2525	£16.67	£14.57
	3"	15 mm	PBR253	£20.83	£17.70

## CUTTING IN BRUSHES

NEW



**Lick Brush** Lick Paint Brushes are made with 100% bamboo handles from a sustainably managed forest and the recycled natural bristles are held together with a stainless steel ferrule made up of 60% recycled steel. Lick are also certified climate neutral.

It's also a really good paint brush.

Picks up lots of paint, has smooth brush strokes and no bristle loss.

Lick Cutting-in Brush	width	code	price
	38 mm	PBR111998	£6.90
	63 mm	PBR115428	£9.48



**Hamilton Pure Synthetic Angled Brush** This is a perfect cutting-in brush for water-based paints. Well-balanced long varnished handle and a thin angled head for exceptional control. Lovely.

Hamilton Pure Synthetic Angled Brush	code	price
1 1/2"	PBR13133035	£6.49



1" is a best-seller



**Purdy Dale Elite** The Dale Elite has an extra long natural redwood rattail handle and the head is less thick than the Sprig to give excellent control for detailed cutting-in and lining. Nylon SRT and polyester bristle mix with stainless steel ferrule. Angle cut. Consider also the Hamilton Angled Brush see and the Eco Angle Sash on page 72.

Purdy Dale Elite	code	list	price
width / thickness / bristle length			
1"	7.9 mm 49 mm PBRDE1	£11.54	£9.81
1 1/2"	9.5 mm 55 mm PBRDE15	£13.20	£11.22

**BRUSH SETS**

**NEW**



**Lick Brush Sets** Lick Paint Brushes are made with 100% bamboo handles from a sustainably managed forest and the recycled natural bristles are held together with a stainless steel ferrule made up of 60% recycled steel. Lick are also certified climate neutral.

They're also just really good paint brushes; Picks up lots of paint, has smooth brush strokes and no bristle loss. What more could you ask for?

The 3 piece brush set includes:

- 1 x 1" [25 mm] Flat Brush
- 1 x 2"[50 mm] Flat Brushes
- 1 x 1.5" [38 mm] Cutting In Brush

The 5 piece brush set includes:

- 1 x 1" [25 mm] Flat Brush
- 2 x 1.5"[38 mm] Flat Brushes
- 1 x 2"[50 mm] Flat Brush
- 1 x 1.5" [38 mm] Cutting In Brush

Lick Brush Set	code	price
3 piece set	PBR112001	£19.98
5 piece set	PBR115430	£24.12

**NEW**



**Spirit Renaissance Eco Brush Pyramid Box Set**  
3 Piece [25, 38, 50mm] Flat Brush Set

This new range of Brushes from Pioneer are made with sustainable materials at an affordable price.

The handles are made from a bamboo composite, made up of waste bamboo fibre and recycled plastic.

All components for the brushes down to the recycled paper packaging are sourced local to the factory.

Spirit Renaissance Eco Brush Pyramid Box Set	code	price
3 piece set	PBRDEB3BP	£7.75



**Purdy Monarch Elite Box Set** A great value set with a 1 1/2", 2" and 3" Monarch Elite brushes. Flints price £47.75 if bought separately.

Monarch Elite Box Set	code	list	Tradeline
1 1/2", 2" and 3"	PBRMONSPEC3	£56.16	£36.00

**£**



**Purdy Pro Extra Box Set** Sets are a great way to own fantastic brushes at value prices. Flints price £42.13 if bought separately

Pro Extra Box Set	code	list	Tradeline
1", 1 1/2", and 2"	PBRPEX1	£49.55	£26.00

**£**



**Hamilton Perfection Box Set**

Always a great way to buy brushes at the best possible price. Contains a 1", 1 1/2" and two 2" Perfection brushes. Worth £41.32 if bought separately. Fantastic value.

Hamilton Perfection Box Set	code	list	Tradeline
4 brush set	PBR12120004	£47.75	£39.22

**VARNISH BRUSHES**

**£**

**£**

**£**



**Lily Varnish Brush**

A very popular range of brushes with flat green enamelled handles and chromed ferrules. The soft pure bristles form a flat lightweight brush ideal for scenic work. These brushes are also very useful for varnishing or enamelling complex areas being both wide enough to lay in the varnish on the flat areas, and also thin enough to gain access to tricky corners. The handle is drilled for storage.

Lily Varnish	width	code	list	price
	20 mm	PBR311	£5.58	£4.70
	30 mm	PBR312	£6.00	£5.08
	40 mm	PBR313	£7.58	£6.46
	50 mm	PBR314	£8.75	£7.50
	70 mm	PBR315	£12.00	£9.98
	80 mm	PBR316	£16.67	£13.85
	100 mm	PBR317	£20.42	£17.17



**Spalter Varnish**

These useful very wide brushes are ideal for dragging, figuring and glazing walls and large surfaces. When used with Tropical Scumble [page 57] the longer open time plus the extra width of the brush can be helpful in preventing lapping of coloured glazes or maintaining a wet edge on large wood-graining projects. Lily bristles and a plain unpainted handle.

Spalter Varnish	width	thickness	code	list	price
	150 mm	10 mm	PBR342	£25.75	£22.03
	180 mm	10 mm	PBR343	£34.00	£29.10

**£**

**£**



**Polyvine Varnish Brushes**

The new kid on the block - and they're great! We were so impressed with the quality of these brushes we squeezed them in last minute into this catalogue. Alasdair kindly tested them out for us, and they are his new favourite varnishing brush! Excellent value too. They are lightweight and easy to handle, but probably won't hold as much product as the Purdy Pro-Extra Monarch above, so these are a better choice for applying a thin film. Ultrafine soft synthetic bristles.

Handmade in the UK too!

Polyvine Varnish	width	code	list	price
	1"	PBRBV1	£6.79	£5.85
	2"	PBRBV2	£8.72	£7.50
	3"	PBRBV3	£11.81	£10.18

# JENNY FOAM



As used by NASA

No brush marks – just a mirror finish!



**Jenny Foam Brushes and Rollers** Don't be deceived by imitations – Jenny Brushes are the original foam brush using a patented foam supported with a polyethylene stiffener. Flints are the UK dealers for these renowned brushes which are ideal for applying and laying-off high gloss finishes such as enamel or varnish. The Jenny Rollers are designed for rapid application of paint and varnish which can then be laid-off vertically by a second person with a wide Jenny Brush. By working rapidly lap marks will not occur. The brushes are easy to clean but also cheap enough to throw away making them ideal for touching up work. The finish achieved with these brushes is first class and they are the preferred choice of many of Britain's classic-yacht yards seeking the perfect finish. They are also used by NASA for the application of primers, topcoats, grease, release agents and adhesives. Not suitable for use with shellac.

- ✓ Made from a special foam so they leave no fibres like many ordinary rollers
- ✓ Use them for oil based varnishes and enamels for a perfect mirror finish
- ✓ No brushmarks, no contamination
- ✓ Ideal for touch up kits

Jenny Brushes	width	code	price	48+
	1" [25 mm]	PBRJB1	£0.62	£0.56
	2" [50 mm]	PBRJB2	£0.71	£0.65
			price	36+
	3" [75 mm]	PBRJB3	£0.92	£0.87
			price	24+
	4" [100 mm]	PBRJB4	£1.18	£1.06

**Jenny Foam Rollers** These rollers have a 1 1/2" diameter core. Most UK rollers have a 1 3/4" diameter core so you may need to buy a roller frame listed below.

Jenny Roller Sleeves	code	price	10+
4" [100 mm]	PBRJR4	£1.14	£1.03
7" [175 mm]	PBRJR7	£1.42	£1.28
9" [225 mm]	PBRJR9	£1.60	£1.43

Jenny Roller Frames 1 1/2"	code	price
4" [100 mm]	PBR42402	£3.47
7" [175 mm]	PBRJF7	£3.62
9" [225 mm]	PBRJF9	£3.61

Please note the 4" version is an "Easy Coater" Frame. See page 83 for full details.

**Jenny Brush and Roller Set** Why not give them a try with this combined set containing a 1", 2", 3", and 4" brush plus a 7" roller and frame.

Jenny Brush Set	code	price
Brush and Roller Set	PBRJBSETK	£6.69

# FLATTING IN



**Wall Brushes** A very popular wide brush with copper ferrule. NB the 4" has grey bristles. Comfortable flat wooden handle.

Wall Brushes	code	price
4"	PBR1128	£20.48
6"	PBR1132	£29.08
7"	PBR1134	£39.89



**Budget Wall Brush** A reasonable wall brush at a throw-away price for one-off jobs.

Budget Wall Brush	code	price
6"	PBR1127	£6.72



**Doberman Woodmaster Stain Brush** Chunky brush great for applying stain or painting large areas

Specification: Size: 14 cm x 4 cm

Doberman Woodmaster Stain Brush	code	price
	PBR10324	£6.72

# BUDGET BRUSHES



**Budget Brushes** We bring in these brushes directly from what we believe is the best quality manufacturer in China. The quality knocks the socks off some of the dross they sell in the big sheds. In fact our unpainted wooden-handled brushes are really pretty

damn good! Still cheap enough to throw away when you are working with difficult to clean products such as resins, glues and paints like Hammerite which require special solvents. Choose these unpainted wooden handled brushes for working with powerful solvent-laden resins as the handles will not dissolve.

Budget Brushes	width	code	price	12+
	1/2"	PBR159W	£0.54	£0.49
	1"	PBR160W	£0.63	£0.57
	1 1/2"	PBR161W	£0.82	£0.73
	2"	PBR162W	£0.89	£0.80
	3"	PBR163W	£1.33	£1.19
	4"	PBR164W	£1.62	£1.46
	6"	PBR165W	£2.75	£2.48



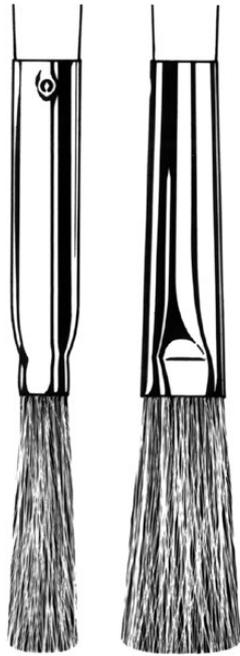
**Budget Brush Set** We now make up our budget brush sets from the wooden-handled brushes above. Each set of five is supplied in a separate recyclable and biodegradable bio bag so they can be divvied up easily amongst staff or students,

without causing damage to the environment.

Budget Brush Set	code	price	12+
1/2", 1", 2", 3" and 4"	PBRBBWSETK	£4.50	£4.00

# SCENIC FITCHES

## FITCHES & LINERS



**Flints Scenic Fitches** A popular range of good value fitches with pure white bristles secured with an aluminium ferrule. Clear varnished wooden handles. Available in two types; round and flat.

Round Fitches	code	price
No 2 2 mm	PBR030	£2.95
No 4 4.5 mm	PBR031	£2.34
No 6 6 mm	PBR032	£3.10
No 8 8.5 mm	PBR033	£3.20
No 10 11.5 mm	PBR034	£4.18
No 12 15 mm	PBR035	£5.52
No 14 18 mm	PBR036	£7.25
No 16 23 mm	PBR037	£11.17

Flat Fitches	code	price
No 2 3 mm	PBR040	£2.95
No 4 6 mm	PBR041	£2.34
No 6 7 mm	PBR042	£2.66
No 8 11 mm	PBR043	£3.20
No 10 15 mm	PBR044	£4.18
No 12 18 mm	PBR045	£5.52
No 14 22 mm	PBR046	£7.25
No 16 29 mm	PBR047	£11.17



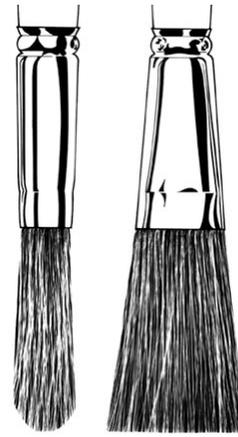
**Complete Set of Flints Scenic Fitches** Why not take advantage of this great deal and buy all 16 fitches above at a saving of 20%?

Set of Fitches	code	list	Tradeline
16 fitches	PBR030SETK	£74.38	£63.25



**Omega AI Fresco S79** String-bound liners with a light balanced handle for accurate picking out.

AI Fresco S79	code	list	price
No 2	PATM9002	£13.25	£11.08
No 4	PATM9004	£15.17	£12.90
No 8	PATM9008	£18.67	£16.90



**Rosco Fitches** A top quality range of fitches with natural bristles, seamless stainless steel ferrules and long lacquered wooden handles.

Rosco Fitches	code	price
1/4"	PBR010	£5.25
1/2"	PBR011	£7.75
3/4"	PBR012	£12.50
1"	PBR013	£20.25
1 1/4"	PBR014	£24.00
1 1/2"	PBR015	£29.25
2"	PBR016	£34.75
3" Foliage	PBR018	£54.25

**Rosco Fitches Box Set** The set of eight fitches includes the rather lovely 3" foliage brush shown below.



Rosco Fitches Set	code	price
7 fitches	PBR017	£114.25
7 fitches + foliage	PBR019	£165.50

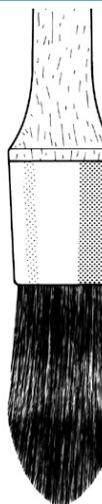


**Economical Angled Fitches**

These hugely popular brushes are very serviceable despite the price. They provide excellent access to awkward to get at corners whilst decorating.

AAngled Fitches	code	price
1/2"	PBR048	£0.90
1"	PBR049	£1.10

## SASHES



**Omega Pointed Sashes S203** Round wooden handle with coppered ferrule. The soft pure blonde bristles form a rounded point. The handle is drilled for storage.

Pointed Sash S203	list	price
size 000 18 mm	PBR300	£10.08 £8.58
0 20 mm	PBR302	£10.67 £9.21
2 24 mm	PBR304	£11.83 £10.08
3 26 mm	PBR305	£12.83 £11.00
4 28 mm	PBR306	£14.00 £11.97
5 30 mm	PBR307	£16.33 £13.40
6 32 mm	PBR308	£18.58 £15.05
8 36 mm	PBR310	£25.42 £20.80

**Omega Pointed Sash Complete Set** Makes a wonderful present for any scenic artist. 8 brushes with an impressive 20% discount.



Pointed Sash Set	code	list	price
8 sashes	PBR30SETK	£107.01	£75.98

# OTHER BRUSHES & TOOLS

## STENCIL TOOLS



**Stencil Brushes** Stiff hog bristle for achieving a crisp edge. Unvarnished wooden handles. The long-handled brushes are white bristle.

Stencil Brushes	Ø	code	price
Long-handled	1/2"	PBR483	£1.67
Long-handled	3/4"	PBR484	£2.98
Short-handled	1"	PBR485	£3.75
Short handled	1 1/4"	PBR486	£5.20
Short handled	1 1/2"	PBR487	£7.17

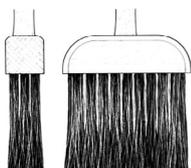


**Pounce Wheels** This pounce wheel set contains No.9, No.10 and No.12 wheels. We also stock Powder for use with Pounces that comes in 125 g jar.

Pounce Wheels	size	code	price
Set of 3 wheels		PBR380	£25.72
Pounce powder	125 g	PBR381	£5.25

For Stencils, Stencil Paper and Hot Pens see pages 113.

## DUSTING & PAPERHANGING



**Dusting Brush** A professional dusting brush in pure lily china bristle set in resin. Matt finish wooden handle.

Dusting Brush	code	price
4" [100 mm]	PBR1194	£9.85



**Paper Hanger's Brush 1148** Pure lily bristles set in resin. Designed for paper hanging but also useful for dragging effects. Plain wooden handle.

Paper Hanger's Brush	code	price
9" [230 mm]	PBR1148	£20.94

For Seam Rollers see page 83. For Wallpaper Paste see page 87.

## GLUE & TAR



**Bridled Brushes** Plain wooden handle bridled glue brushes.

Bridled Brushes	diameter	code	price
No.10	3/4"	PBR910	£3.21
No.14	1"	PBR908	£4.16
No.20	1 1/2"	PBR909	£6.15



**Tar Brushes** A tough brush with a strong 8 1/2" [215 mm] handle suitable for thick glue and tar.

Tar Brushes	diameter	code	price
	13/4"	PBR182	£2.73

# ARTIST'S BRUSHES



**Dalon D77** Artist's brushes using man-made imitation sable. The Dalon bristle has excellent shape retention and long life. They perform well with oils, acrylics and watercolours. The larger sizes were discontinued a few years ago.

Dalon D77	size	code	price
	00000	PBR050	£3.83
	000	PBR051	£3.83
	00	PBR052	£4.17
	0	PBR053	£4.17
	1	PBR054	£4.67
	2	PBR055	£4.83
	3	PBR056	£5.54
	4	PBR057	£5.75
	5	PBR058	£6.96
	6	PBR059	£7.96
	7	PBR060	£9.04
	8	PBR061	£12.08
	9	PBR062	£12.58
	10	PBR063	£15.08
	12	PBR065	£16.04



**Dalon Wash/One Stroke D88** These square-edged brushes are ideal for laying in areas of flat colour. Excellent shape retention using the remarkable Dalon imitation sable. Suitable for oils, acrylics and watercolours.

Dalon D88	width	code	price
	1/2" [12 mm]	PBR070	£11.42
	3/4" [19 mm]	PBR071	£16.38
	1" [25 mm]	PBR072	£25.25

# GRAINING & EFFECTS

## DRAGGERS



**Draggers 379** Used dry to break up tinted glaze when woodgraining. Also available in other widths.

Draggers 379	width	code	price
	2"	PBR3792	£13.45
	4"	PBR3794	£21.47



**Pencil Dragers** Rows of pure bristles with a coppered ferrule and wooden handle. Used to break up oil glaze when woodgraining.

Pencil Dragers	width	code	price
	100 mm	PBR472	£22.42
	150 mm	PBR474	£23.34

Spalter Brushes can also do this job as well [page 73].

# GRAINING & EFFECTS

## SOFTENERS



**Badger Hair Softeners 610** Invaluable tool for wood graining. Its soft delicate tips create fine blended lines especially useful for burr walnut, rosewood and mottled mahogany. Ideal for watercolours. Varnished wooden handle.

Badger Hair 610	width	code	price
	2"	PBR6102	£29.14
	3"	PBR6103	£33.24
	4"	PBR6104	£43.92



**Hog Hair Softeners 611** These softeners have pure white hog bristles, they are suitable for use with oil-based paints and glazes. Give the badgers a rest.



Let's get out of here!

Hog Hair 611	width	code	price
	3"	PBR6113	£9.81
	4"	PBR6114	£15.30

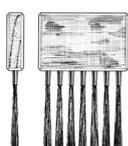
## FLOGGERS



**Floggers 375** Long bristles and a varnished wooden handle. Indispensable to the woodgrainer to provide the background grain for mahogany, walnut, rosewood, cedar and cypress. The 6" version is no longer made.

Floggers 375	width	code	price
	3"	PBR3753	£19.58
	4"	PBR3754	£11.05

## OVERGRAINERS



**Hog Hair Pencil Overgrainers 370** Used to create the widely spaced lines similar to those in American Walnut.

Hog Overgrainer 370	width	code	price
	1"	PBR3701	£6.48
	2"	PBR3702	£10.78
	3"	PBR3703	£13.06



**Sable Pencil Overgrainers 124** Made with pure kolinsky sable pencils to give a more responsive touch and finer line.

Sable Overgrainer 124	width	code	price
7 pencils	2"	PBR1242	£37.80
11 pencils	3"	PBR1243	£38.72

## GRAINERS



**Two Row Grainer 377** The row of nylon behind the natural bristle gives a slightly coarser texture. Dragged through glaze this brush will give the impression of a basic grain.

Two Row Grainer 377	width	code	price
	4"	PBR3774	£10.92



**Fan Overgrainer 373** A fan-shaped brush that is particularly useful for the replication of some grain patterns. The thinness of the brush means that the bristles separate into individual pencils.

Fan Overgrainer 373	code	price
	PBR373	£8.11

## STIPLERS



**Lily Bristle Stiplers** Used to soften colour by evenly distributing the wet paint. They can produce effects from fine freckles to a soft mottling.

Lily Bristle Stiplers	dimensions	code	price
No handle	6" x 1"	PBR411	£15.11
No handle	4" x 2"	PBR412	£16.61
No handle	4" x 3"	PBR40143	£17.58
Complete handle	6" x 4"	PBR413	£32.70

## MOTTLERS



**Standard Mottlers 363** Wooden handle with 39 mm ferrule and 45 mm long bristles. Used to add the highlights and shades which feature in natural wood.

Standard Mottlers 363	width	code	price
	2"	PBR3632	£7.47
	3"	PBR3633	£8.00

# SPECIALIST PAINTER'S TOOLS

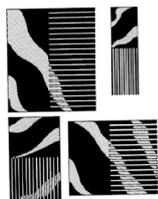
## GRAINING TOOLS



**Rubber Combs - Duplex and Triangular** These combs are used for pine and oak graining. Duplex has graduated teeth that are 3" along one edge and 4 1/2" along the other. The Triangular's sides are 3" with wide pointed, medium and fine pointed teeth.



Rubber Comb	code	price
Duplex Comb	PBR390	£4.85
Triangular Comb	PBR391N	£5.18



**Graining Comb Set** A set of 12 steel combs with wide, medium and fine teeth. Supplied in 100, 75, 50 and 25 mm widths complete with vinyl carrying wallet.

Graining Comb Set	code	price
	PBR392	£39.90



**Heart Grainers** Used for graining pine and oak. Also useful for creating a painted moire effect. Now available 3" wide with a plastic frame or 5" wide with a wooden frame. Handles are reversible.



Heart Grainers	code	price
3"	PBR393	£4.62
5"	PBRSPB5	£3.50



**Check Graining Roller** Designed to make small indentations in the paint surface to pick up a deeper colour whilst wood graining.

Check Graining Roller	code	price
2"	PBR394	£13.25



**Rubber Rocker Heart Grainer** The fine grainer has a 3" and 4" rocker. the medium 4" and 5" ones have a rocker on one side and a useful toothed comb on the other.

Fine Grainer



Medium Grainer

Heart Grainers	width	code	price
Fine Grainer	3" & 4"	PBR396	£9.80
Medium Grainer	4"	PBRBWD4	£3.95
Medium Grainer	5"	PBRBWD6	£3.95



**Großmann Extra Large Rubber Rocker 672** This rubber rocker/comb is fitted with a detachable M8 thread. Buy the comfortable ali handle if you need to woodgrain larger areas.

Extra Large Rubber Rocker	dimensions	code	price
Rocker	200 x 50 mm	PBR67210	£52.95
Handle		PBR41400	£18.58

For larger areas consider adapting a Squeegee page 141.



**Swan Feathers** Used for creating marbling effects.

Swan Feathers	code	price
	PAT640	£2.38

## GRAINING SPONGES



**Natural Sponges** Robust sponges for a host of effects. Size stated is an approximation.

Natural Sponges	approximate size	code	price
Medium	4 1/2 - 5"	PBRBW5W	£8.05
Large	5 1/2 - 6"	PBRBW6W	£14.25
Extra Large	6 1/2 - 7"	PBRBW7W	£18.10

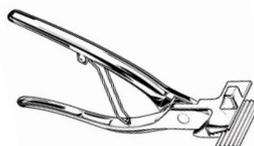
## MAHL STICK



**Mahl Stick** Used to rest the hand to prevent smudging whilst paint is wet. The end is cork which is covered in soft leather. The stick unscrews for storage.

Mahl Stick	dimensions	code	price
	840 mm	PBR750	£19.95

## CANVAS STRETCHING PLIERS



**Canvas Stretching Pliers** Alloy pliers suitable for stretching artist's canvases.

Stretching Pliers	code	price
	PBR751	£29.88

## BRUSH COMB



**Wooden Handle Brush Comb** A comfortable wooden handled brush comb to get ingrained paint and varnish out of your treasured brushes. Great value.

Brush Comb	code	price
Hamilton Brush Comb	PBR2905028	£2.79

For brush cleaners and restorers see page 61. For hand cleaners, barrier cream and wipes see the housekeeping section, page 364.

### Brush Cleaning

Allow enough time to thoroughly clean your brushes. Artificial bristle brushes generally clean more easily than real bristle especially with water based paint. If using oil based paints pour the correct thinner into a paint kettle and use a brush comb to remove most of the paint, then repeat with clean thinner and finally work in some washing up liquid then clean with water. Dry off most of the water with paper towel or cloth then lay the brush on a sheet of clean paper and neatly fold the paper over the bristles to hold their shape. Secure the paper with a piece of masking tape. The brush will be dust free and correctly shaped ready for your next job.

## FLICKATEX



**Flickatex** The Flickatex is a hand operated machine used for the application of texture coatings. The crank can be fixed on the left or right side of the tank and there is a large comfortable handle on the back. Great fun!

Flickatex Machine	code	price
Machine	PATMISFLIC	£46.14
Replacement comb roller	PATFLICROLL	£18.76

# THEATRE BRUSHES

## Long-handled Theatre Brushes by Sybille Großmann

This brush system by Sybille Großmann is designed especially for the scenic artist. They are beautifully hand-made brushes with matching handles. The long lightweight but strong aluminium handle is ideal for artists working on a paint floor. The shorter handles can be quickly interchanged for the job in hand. All the products are of the very highest German quality and you could expect the system to last a lifetime.



- ✓ Lightweight for less tiring work
- ✓ Strong for a long life
- ✓ Purpose-designed for your scenic work
- ✓ Wide variety of accessories available
- ✓ Massive priming heads for preparing large backcloths
- ✓ Super lightweight charcoal holder for effortless sketching
- ✓ Use your own favourite fitch by using the clamp accessory
- ✓ Squares and straight edges available [next page] for drawing out without bending down

## LONG HANDLES



**Großmann Long Handles** All the following theatre brushes [except where noted] are fitted with an M8 threaded stud. You can simply swap the heads and handles to suit the job in hand. For drawing out on floors, you can add the Charcoal Holder [next page] or use the Clamp to work with your favourite fitch. The beautiful and essential aluminium brush handle is 880 mm long. It has a wooden grip and will not "whip". The two wooden handles are 280 mm and 140 mm. The 140 mm handle is ideal for the Speckle Brush.

Long Handles	length	code	price
Aluminium	880 mm	PBR41000	£31.10
Wooden	280 mm	PBR41325	£14.10
Wooden*	140 mm	PBR41814	£14.33

\* For Speckle Brush

## THEATRE PAINT BRUSH HEADS



**Großmann Landscape Painters - Slanted 213** Made with best quality strong black Chungking Bristles, stainless steel ferrule and M8 thread. 2" [50 mm] wide.

Slanted 213	code	price
width 50 mm	PBR21320	£17.17



**Großmann Landscape Painters - Chisel, Extra Stiff 216** Made with best quality long brown Chungking Bristles, stainless steel ferrule and M8 thread. 2 1/2" [62 mm] wide.

Chisel 216	code	price
width 62 mm	PBR21625	£32.36



**Großmann Landscape Painters - Cat's Tongue, Extra Long 218** Made with best quality long brown Chungking Bristles, stainless steel ferrule and M8 thread. 2" [50 mm] wide.

Cat's Tongue 218	code	price
width 50 mm	PBR21820	£24.75



**Großmann Ink Brush - Extra Thin 220** Made with best quality long brown Chungking Bristles, stainless steel ferrule and M8 thread. 1 1/2" [38 mm] wide.

Ink Brush 220	code	price
width 38 mm	PBR22015	£16.21



**Großmann French Brush - Extra Long and Light 305** Made with best quality very long brown Chungking Bristles set into a water- and chemical-resistant ply base to make a very light and versatile brush. M8 thread. 65 x 45 mm wide.

French Brush 305	code	price
width 65 x 45 mm	PBR30501	£44.36



Handle sold separately

**Großmann Speckle Brush 308** Made with best quality long brown Chungking Bristles set into a water- and chemical-resistant ply base to make a very light brush. M8 thread. Normally used with the short 140 mm handle available below. Diameter: 110 mm.

Speckle Brush 308	code	price
Ø 110 mm	PBR30801	£67.18
Handle	code	price
length 140 mm	PBR41814	£14.33



Showing the bracket screwed in place and green plastic cone attached.

**Großmann Primer and Skycloth Brushes 300**

Made with best quality brown Chungking Bristle which is strong and elastic set into a water- and chemical-resistant ply base to make a light brush that holds a very large quantity of paint. These brushes are not fitted with an M8 threaded stud but a suitable bracket can be purchased and screwed in place.

[Fixing needs 4 off 3.5 x 16 mm Spax screws or similar]

The green plastic cone has an M8 threaded insert to attach to the bracket and will allow an ordinary 23 mm Ø broomstick to be inserted into its hollow end. The cone only has a 22 mm Ø hole so the broomstick will need a little bit of whittling! The broomstick can then also be used with hollow-handled roller frames [page 81].

[Includes bolt and nut for permanent attachment.]

Skycloth Brushes 300	dimensions	code	price
300 series	100 x 50 mm	PBR30001	£37.49
300 series	180 x 80 mm	PBR30004	£83.13
300 series	260 x 100 mm	PBR30006	£163.77
Bracket		PBR96020	£14.86
Green Plastic End Cone		PBR96000	£6.62



**Großmann Primer and Skycloth Brush 302**

This extra-large head can be used with a standard 23 Ø mm broomstick. The brush has a 22 mm Ø hole so the broomstick will need a little bit of whittling! The long bristles hold

copious quantities of paint enabling the painter to cover large areas quickly with less reloading making this the ideal brush for priming large scenic backcloths.

Skycloth Brush 302	dimensions	code	price
	260 x 100 mm	PBR30206	£208.50



**Großmann Clamp with M8 Thread** Screws onto any of the handles to hold chalk, charcoal, pencils or small brushes.

**Großmann Charcoal Holder** This is a very lightweight unit made from plastic and designed to hold 10 mm thick scenic charcoal [page 111]. Screws onto any of the handles.

Head	opening	code	price
Clamp	15 mm	PBR90002	£12.59
Charcoal Holder	10 mm	PBR90400	£21.75



**Großmann Aluminium Straight Edge**

A very special tool for the professional scenic artist. The 1 m x 100 x 14 mm lightweight aluminium straight edge has a 880 mm long handle for comfortable marking out of floor cloths. The aluminium handle can also be used on any of the Großmann brushes. Beautifully made.

Aluminium 1 m Straight Edge	LxDxTK	code	Tradeline
	1 m x 100 x 14 mm	PBR91010	£115.45



**Großmann Aluminium Square**

Made from lightweight aluminium this square is a piece of equipment to treasure. Each side is 500 x 100 x 14 mm thick. Supplied with a 880 mm long handle for comfortable marking out of floor cloths. The aluminium handle can also be used on any of the Großmann brushes.

Other sizes available to order up to 2 m.

Aluminium Square	LxDxTK	code	price
	500 x 100 x 14 mm	PBR92005	£164.01

# ROLLERS

We stock a large range of rollers for every purpose. For painting very large areas we stock sleeves up to 18" wide. For texturing, foam rollers can be cut away to add depth and interest to your work. To paint rough or textured surfaces choose a long-pile roller such as the Purdy Pro-Extra Colossus with a massive 1" nap! For gloss and varnish work you need to choose a short-pile roller with minimum fibre loss such as the Hamilton Perfection 1/4" or the Purdy White Dove, or why not try the Jenny Foam Roller System [page 74] used by professional yacht painters.

## FOR THE LARGE STAGE OR STUDIO



### Purdy Adjustable Frame 12-18"

This handsome-looking lightweight frame uses the yellow cam latches to fix the arm at the desired extension. It feels very secure but you will

probably have to tighten the adjustment screws over time. There are measurements marked inside the frame for convenience. It is angled to get really close to corners and skirting. Universally threaded for any pole but why not use with the Purdy extension poles on page 84?

Purdy Adjustable Frame	code	list	price
305 - 457 mm [12" -18"]	PBR140753018	£19.20	£17.28



### Double Arm Roller Frame

These roller frames need an extension pole as they have no handle. They are ideal for photographic covers and painting very

large floor areas. The adjustable frame will take 12", 15" and [our largest] 18" sleeves.

Internal handle diameter of all the broomstick handles is 24 mm.

Double Arm Frame	fits	code	price
roller width	handle type	fitting method	
12"	15/16" broomstick	via split pin	PBR510 £9.22
12"	screw type	screw in spigot	PBR1364 £11.48
15"	15/16" broomstick	via split pin	PBR580 £12.24
15"	screw type	screw in spigot	PBRDFL15 £14.20
12"- 18"	15/16" broomstick	by closing frame	PBRVARFR £16.34
Broomstick	4 ft x 15/16" [1.2 m x 23 mm]	SAFW611	£2.40



### Sleeves for Double Arm Frames

These roller sleeves are designed to be used with Double Arm Roller Frames [listed

above ]. The 15" medium-pile sleeve is one of our biggest sellers and is perfect for rolling over most stage floors.

Roller sleeves	material	nap pile	code	price	5+
12"	polyester	medium [1/2"]	PBR3515	£5.85	£5.28
15"	polyester	medium [1/2"]	PBR3521	£6.84	£5.87
18"	nylon	medium [1/2"]	PBRNYBS18	£8.47	
12"	polyester	long [3/4"]	PBR3516	£5.63	£5.08
15"	polyester	long [3/4"]	PBR3522	£6.84	£5.87

## ECONOMY FRAMES & SLEEVES FOR GENERAL USE



### 9" Roller and Tray Set plus extra sleeve

This is a really good quality roller and tray set which is hugely popular. The comfortable wooden handle has a standard screw thread to take extension poles for rolling floors. Consists of a 9 x 13/4" birdcage roller, two tiger medium-pile rollers and a deep-capacity strong tray. Great quality and value.

9 x 13/4" Professional Roller Kit	code	price
	PBRPT001	£8.95



### 9" Spirit Renaissance Eco frame with non slip handle.

Made from bamboo/recycled plastic composite & chrome. Hollow type handle for cone spigot or 15/16" [23 mm] Ø broom handle [page 361]. Great value and sustainably made! For screw-type handles see next page.

9" Eco Frame	code	price
9" x 13/4"	PBRDEFR9175	£3.95



### 7" Economy Birdcage Frames

A very serviceable birdcage roller frame with a hollow plastic handle to take an extension pole with a cone spigot, or a 15/16" [23 mm] Ø broom handle [page 361]. Tough 8 mm Ø bar frame. Excellent value.

7" Economy Frame	code	price
7" x 13/4"	PBR4018	£3.09



**Eco Roller Sleeve** 30% bamboo 70% recycled microfibre 9 x 1.75". Corn starch packaging too. It's the ultimate eco choice! Say we don't spoil you.

9 x 13/4" Spirit Renaissance Eco Roller Sleeve	code	price
	PBRDER9175	£3.95



### Economy Roller Sleeves

Economically-priced roller sleeves so you don't have to go completely berserk when your staff leave them to go rock hard. Suitable for all water-based paints. Fits 13/4" diameter birdcage frames.

Sleeve	width	nap pile	type	code	price	5+
	9"	1/4"	smooth	PBR54026	£3.61	£2.88
	7"	1/2"	medium	PBR54021	£3.25	£2.61
	9"	1/2"	medium	PBR54027	£3.89	£3.11
	7"	3/4"	long	PBR54014	£3.77	£2.79
	9"	3/4"	long	PBR54015	£4.04	£3.25
	9"	3/4"	sheepskin	PBR53513	£11.71	£10.53

**PREMIUM ROLLERS**

All of the equipment listed previously is perfectly suited to the majority of tasks encountered on stage. However, if you are working with high-gloss finishes such as enamels or varnish you will need a very well-made roller sleeve which will minimise fibre loss. Our Premium Roller range has been chosen to reduce fibre loss to a minimum and to provide a product that will last whilst performing arduous and frequent tasks. Roller sleeves should be cleaned prior to use. For zero fibre loss have a look at the Jenny Foam Roller System [page 74]

**9" x 13/4" PREMIUM FRAME**



**Hamilton Perfection Cage Frame** A strong 5-wire cage frame with a coated wooden handle for extra durability and comfort. For use with screw-fit extension poles for secure locking. This is an excellent quality roller frame at a good price. For hollow handle frames which use broomsticks see above .

9" Hamilton Cage Frame	code	price
9" x 13/4"	PBR12341009	£9.85

**9" x 13/4" PREMIUM SLEEVES**



**Hamilton Perfection Short Pile** High density microfibre fabric for excellent paint pick-up, coverage and flat finish. Suitable for water- and oil-based paints on smooth surfaces. See also the Jenny Foam Roller

System [page 74].

Hamilton Perfection Sleeve	code	price	6+
Equivalent 1/4" nap			
	PBR14214009	£4.13	
		£3.72	



**Purdy White Dove 3/8"** Deluxe Dralon 3/8" pile fabric bonded to a polypropylene core. Ideal for smooth or medium textured surfaces. All paint types.

Purdy White Dove Sleeve	code	price	6+
3/8" nap			
	PBR140671092	£5.45	£4.35



**Purdy White Dove 1/2"** Deluxe Dralon 1/2" pile fabric bonded to a polypropylene core. Ideal for water-based paints on medium textured surfaces.

Purdy White Dove Sleeve	code	price	6+
1/2" nap			
	PBR140671093	£5.82	
		£4.67	



**Purdy Pro-Extra Colossus 1"** Professional grade sleeves with a remarkably long 1" nylon nap for heavily textured surfaces and high paint-holding. Water-based paints.

Purdy Pro-Extra Colossus Sleeve	code	price	per 6+
1" nap			
	PBR665095A	£7.19	£5.76

**PREMIUM 9" ECO ROLLER FRAME + KIT**



**Lick 9" Roller Tray Set** THE sustainable Roller Tray Set.  
 □ Set contains: 1 x 9" Sugarcane pulp tray, 1 x 9" Roller Frame made of sustainably sourced bamboo and recycled metal, 3 x 9" Medium Pile Roller Sleeves with a recycled plastic core and recycled nylon pile

Lick 9" Roller Tray Set	code	price
	PBR112011	£15.84



**Lick 9" Bamboo Roller Frame** 9" Bamboo Roller Frame made of sustainably sourced bamboo and recycled metal. Screw type handle for screwing directly to extension pole

Lick 9" Bamboo roller frame	code	price
	PBR112003	£10.00

**7" BUDGET FOAM ROLLERS**



**Budget Foam Roller** These rollers are cheap enough to throw away after each job [not so great for the environment!]. They can also be cut into and torn away to add texture and depth to flat painted areas.

Budget Foam Roller	code	price
7" roller with handle	PBR531	£2.92
7" foam roller and tray	PBR529	£3.69

**ROLLER ACCESSORIES**



**Provinci Paint Roller Keeper System** It's the end of a long busy day, can you really be bothered to clean your roller sleeve? You might be using the same paint in the morning anyway. Yes, you could wrap it in plastic which you would put it in the bin when you're through with it but why do that when you could get your hands on a reusable roller keeper?

- ✓ Durable
- ✓ Easy to clean
- ✓ Lightweight - take it with you on every job
- ✓ Notch in lid means you can keep the sleeve on the roller
- ✓ Flexible sides for easy clean up
- ✓ Store a saturated roller for up to 2 months without it drying out!

Why not keep a few so you can swap between colours easily on a job?

Paint Roller Keeper System	code	price
	PBRVROLLER	£7.50

**For zero fibre loss why not try the Jenny Foam Roller System [page 74].**

## SPECIALITY ROLLERS AND FRAMES



**Easy Coater Headlock Roller Frames** This clever system allows the user to lock the roller sleeve onto the frame. Comfortable ergonomic handle, but only in a 1½" Ø core (UK standard is 1¾" Ø core), so currently only suitable for use with the Jenny Rollers.

Easy Coater Frame	code	price
4"	PBR42402	£3.47
9"	PBR42403	£4.75

NEW



**20cm Carrara Roller** Texture roller for creating thin veins when painting marble effects. This roller is known in Italy, where it's made, as a Carrara Roller as it's particularly good at recreating the Carrara Marble, a white marble that has many thin, faint veins.

Carrara Roller	code	price
	PBR71690320	£2.85



**Corner Roller** A foam roller that gets at the bits that other rollers normally miss. Also useful for scenic effects.

Corner Roller	code	price
	PBR591N	£2.98



**Seam Roller** 35 mm diameter x 38 mm wide wooden roller with a soft grip handle for rolling down seams and applying pressure to bonding tapes etc.

Seam Roller	code	price
	PBR810	£4.96



**Radiator Roller 4" Frame** The long arm and the possibility of using narrow diameter sleeves allows the radiator roller to access awkward spaces. They are very popular for painting steel tube fabrications. Scenic artists cut away the foam to create special effects.

Radiator Roller Frame	code	price
4" Long arm frame	PBR524	£2.61

## 2" ROLLERS

**2" Roller Frames** A tough little roller frame.



NEW

**2" Foam Sleeves** The foam sleeve can easily be carved into and used for stripy effects. They can be used for line marking or rolling small areas or boards.

**Super Edge 2" Foam Roller Sleeves** These incredible little rollers give the cleanest edge imaginable. The concave roller edge reduces the pressure on the roller resulting in virtually no tramlines. Well worth it when a high-end finish is required.

2" Roller Frame and Sleeve	code	price
Frame each	PBR2320	£1.37
Foam sleeve pack of 20	PBR2321	£14.20
Super Edge Roller set of 2	PBR00351	£3.75

## 4" ROLLERS

NEW



**Short Arm 4" Frame** Choice of three short arm roller frames in 4". One has a rubber grip frame with a screw fit attachment, Next has a high quality solid bamboo handle (also screw fitting) and then we have an economy, eco option, a hollow type handle made from recycled plastic and bamboo waste. We're spoiling you.

Short arm frame	code	price
Rubber Grip Screw Type 4" Frame	PBR24312004	£2.42
Solid Bamboo Screw Type 4" Frame	PBR112002	£5.00
Bamboo Composite Hollow type 4" Frame	PBRDEMFR4	£3.25

## 4" SLEEVES



**Superfine Foam** For use with lacquers, primers, gloss paints and acrylic paints. Foam rollers have zero fibre loss. The foam can be cut away for scenic effects.



**Wool Velour** For primers, oil paints and all varnishes on smooth surfaces.



**Medium Pile** ½" nylon nap ideal for use with water-based paints [also suitable for oil-based paints] on slightly textured surfaces.



**Long Pile** Hard-wearing nylon fabric for excellent paint pick-up, coverage and even finish. Bearing system prevents skidding. Ideal for use on rougher surfaces.



**Stipple Texture** Coarse grained polyester foam for applying texture.

NEW



**Eco Foam** Superfine foam roller with recycled plastic core.

NEW



**Eco Medium Pile** Made from Bamboo/recycled plastic fibres

NEW



**Super Edge Concave Roller**

See 2" listing for details.

4" Roller Sleeves	pack size	code	per pack
Superfine Foam	10	PBR525F	£8.13
Wool Velour	10	PBR526	£11.07
Medium Pile [nylon]	10	PBR525	£9.43
Long Pile [nylon]	5	PBR14218301	£16.90
Stipple Texture	10	PBR2690	£8.95
Eco Medium Pile	10	PBRDEMFR4	£6.00
Eco Foam Roller	10	PBRDEMRF4	£6.00
Super Edge Rollers	10	PBR16152050	£9.50

## 4" TRAY SETS



**4" Roller and Tray Set**

A choice of either a set with five medium density foam sleeves, ideal for texture effects; or a set with 2 microfibre sleeves. Both sets come complete with a short frame and tray.

NEW



**4" Eco Roller & Tray Set**

THE sustainable Roller Tray Set  
 Set Contains: 1 x 4" Sugarcane pulp tray, 1 x 4" Roller Frame, 3 x 4" Medium Pile Roller Sleeves

4" Roller and Tray Set	code	price
5 x 4" foam sleeves, frame and tray	PBRRKIT5	£4.36
2 x 4" microfibre sleeves, frame and tray	PBRMKIT2	£5.19
3 x 4" eco sleeves, frame and tray	PBR112010	£9.95

# ROLLER TRAYS



**Roller Trays** Comprehensive selection of Roller Trays for every task. The 17" plastic roller tray is ideal for larger 15" rollers.

Roller Trays	code	price
4" Economy Plastic Tray	PBR1383	£1.47
9" Economy Plastic Tray	PBR1386	£3.60
12" Plastic Tray	PBR73702	£9.50
13" Metal Tray	PBR515	£7.90
17" Plastic Tray	PBR2066	£10.66



**NEW Lick Biodegradable Pulp Trays** Reusable, Biodegradable, Compostable 4" Paint Tray. No need to wash, wipe, let it dry and you can reuse it again. Made with sugarcane pulp

Biodegradable Pulp Tray	code	price
Lick 4"	PBR112006	£2.50
Lick 9"	PBR112007	£5.18

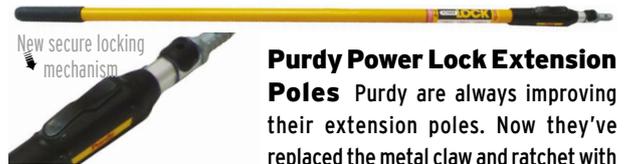
# SCUTTLES & ROLL OFF TRAYS



**Scuttles & Roll Off Trays** For those bigger jobs using an extra wide roller, great when painting large areas. The Purdy Dual Roll Off Bucket now has an optional lid and liners (not shown).

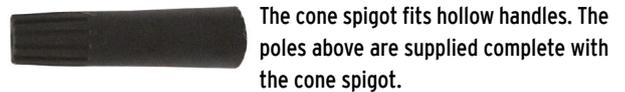
Scuttles & Roll Off Trays	code	price
18" Purdy Dual Roll Off Bucket	PBR796018	£29.13
Purdy Dual Roll Off Bucket Lid	PBR146018	£6.20
Purdy Dual Roll Off Bucket Liners	PBR140700	£16.20
18" Purdy Dual Roll Off Paint Tray	PBR14T903000	£12.85
25 L Plastic scuttle for 15" Rollers	PBR2060	£11.48

# EXTENSION POLES



**Purdy Power Lock Extension Poles** Purdy are always improving their extension poles. Now they've replaced the metal claw and ratchet with a simple and secure locking mechanism that gives you a custom length adjustment. They still have the spigot thread but have added a quick connect spring lock which means they work with any frame. A lighter more balanced design for less arm fatigue. The same strong fibreglass pole reduces "whip" but the aluminium extension is now faceted. They've improved the grip and made the handle longer and grooved for a non-slip effect. I hope you're not in the habit of bashing into walls but if you are the poles have a new shock absorbing base. We supply a cone spigot for hollow roller handles.

Purdy Power Lock Extension Pole	weight	code	price
0.6 - 1.2 m approx 2 - 4 ft	700 g	PBR5624K	£23.00
1.2 - 2.4 m approx 4 - 8 ft	1.1 kg	PBR5648K	£31.05
1.8 - 3.6 m approx 6 - 12 ft	1.5 kg	PBR5661K	£38.99



Spare Cone Spigot	code	price
	PBRP003	£1.82



**Purdy Poles as Clearing Sticks** Purdy poles can act as useful clearing sticks by ordering this special threaded hook. Flints bolt these hooks to the poles. Always secure a lanyard to the extension when working at height. Choose your pole from the section above and add the code below to your order.

Purdy Power Lock Poles	code	price
Fitting of a threaded hook to any of poles above	PBRCSP	£15.00



**Economical Telescopic Extension Pole** PVC-coated red poles suitable for smaller jobs rather than full-time professional applications. Fits "push in" and "screw-in" roller frames.

Economical Telescopic Extension Pole	code	price
4 ft extended	PBR521	£4.77
6 ft extended	PBR522	£5.85
10 ft extended	PBR523	£9.82

**Plain Wooden Pole** This 1.2 m long pole measures 15/16" [23 mm] in diameter and fits snugly into the roller frames that we list.

Plain Wooden Pole	code	price
	SAFW611	£2.40



Coral Brush & Tool Extender	code	price
	PBR50300	£5.98

# DECORATOR'S SUNDRIES

## BUCKETS



**Traditional Galvanised Bucket** Ideal for traditionally galvanised painters who want to warm their traditionally smelly paint. Also popular as a very loud musical instrument as featured in the London Olympics Opening Ceremony.

Galvanised Metal Bucket	code	price
	PBR619	£19.95



**Black Builder's Bucket** We also stock this ever-popular builder's bucket for ever-popular builders.

Builder's Bucket	size	code	price
Black with lip	13.5 L	PBR614L	£3.50

## KETTLES



### Sugar Cane Pulp 2.5L Paint kettle

2.5L Paint Kettle made from biodegradable wood pulp. Made in the UK from recycled wood fibres this kettle is both reusable and recyclable. Can be used as a bucket liner or a paint kettle in it's own right.

To re use, wipe out excess paint, let it dry and you're good to go!

Sugar Cane Pulp 2.5L Paint kettle	code	price
	PBREPK25L	£3.04



### Traditional Galvanised Paint Kettle

Preferred by many, and essential for any hot paints or lubricants.

Galvanised Paint Kettle	code	price
6"	PBR602	£8.09



**Plastic Paint Kettle with lid** Useful for both mixing and storing mixed paints.

Plastic Paint Kettle with lid	code	price
1 L	PBR643K	£2.30
2.5 L	PBR644K	£2.50
5 L	PBR645K	£3.40



**Empty Paint Can 500 ml** A tough steel paint can ideal for decanting and storing excess paint. Leaving paint in half-full cans will normally result in them going hard over time. Decanting into these small cans with no air gap will preserve expensive paints and varnishes.

Empty Paint Can	code	price
500 ml	PATTPP500	£3.31

## PAINTERS TOOL



### 4-in-1 Multifunctional Painters Tool

4-in-1 is a bit of a stretch as it has 3 different sizes of roller sleeve scrapers and a brush comb, but as you can use the end to open a tin of paint we would argue it's a 3-in-1. Tri-functional at best. Made with stainless steel, this is a corrosion resistant tool that will last.

4 in 1 Multifunctional Painters Tool	code	price
	PBR50219	£4.25



### Folding Painter's Tool

It's a Putty Knife, Flat Scraper, Nail Puller, Paint Tin Opener, Roller Scraper, Screwdriver, Sharp Hook Scraper and a Bottle Opener.

Hammer able end, made from stainless steel with beech wood handle.

Folding Painter's Tool	code	price
	PBR50217	£6.50

## STRAINERS



Metal Strainer with Mesh Filters



Ena Sharples [nylon bag strainer]



Paper Cone Nylon Mesh Filter

**Metal Strainer with Three Mesh Filters** 300 mm diameter metal cone with three different steel mesh filters.

**Ena Sharples** A nylon bag strainer which holds one gallon.

**Paper Cone Paint Filters** 190 micron nylon mesh. Sold each, but a box contains 100!

Paint Filter	code	Tradeline	100+
Metal Strainer with three filters	PBR759K	£66.39	-
Set of three spare filters for above	PBR759SF	£31.82	-
Ena Sharples [nylon bag strainer]	PBR758	£1.08	-
Paper Cone Nylon Mesh Filter	PATSPFF	£0.20	£0.18

## SPONGES, RAGS, BLUE ROLL & DUST SHEETS



Jumbo Sponge



Decorator's Sponge



Chamois



Blue Roll



White Rags



Cotton Dust Sheet



Biodegradable Dust Sheet



Stockinette Roll



Hippo Multi Purpose Bamboo Cloths

All those essential items to make the job go smoothly. Tack rags are my personal favourite for a perfect dust-free finish. For real sponges see page 78. For Biodegradable Tough Wipes see page 364.

Sundries	size	code	price
Jumbo Sponge		PBR620	£2.36
Decorator's Sponge		PBR616	£3.66
Chamois	2.2 sq ft	PBRUCRCL225	£7.98
Blue Roll	[500 tough paper wipes 240 x 340 mm]	SAF6140	£29.95
Stockinette Roll	250 g	PBR615	£3.39
White Rags	1 kg	PBR631	£9.95
White Rags	5 kg	PBR633	£17.22
Cotton Twill Dust Sheet	9 x 12 ft	PBR3050	£11.31
Biodegradable Dust Sheet	9 x 12 ft	PBRDEDUST54	£5.35
Tack Rag	each	PAT340	£1.65
Hippo Multi Purpose Bamboo Cloths pack of 80		SAFBBW100	£8.65



## MIXING AND STIRRING

### Stirring things up

Stirring paint really is important, a quick shake of the can simply won't do! As much as the manufacturers try, the different chemicals in the paint will tend to settle out. All the matting or bonding agents may be at the bottom of the can giving you a patchy or translucent finish with poor adhesion. Please give your paint a chance.



**Vitrex Power Mixer** Ideal for mixing cement, plaster, grout, adhesives, fillers, paint plus other mortars for construction. The mixer is lightweight for comfortable handling and carrying, and has 2 gears for high performance. The speed is electronically controlled and is lockable for continuous operation.

SPECIFICATION: No load speed: 300 - 700 rpm. Input power: 1,400 Watts. 230 V, 50 Hz, Max paddle size: 140 mm. Connecting thread: M14. Weight: 5.3 kg.

☐ Supplied in storage case.

Vitrex Power Mixer	code	list	Tradeline
	PATMIX1400	£134.09	£106.39



**Faithfull Stirrers** The 80 mm and 100 mm Ø stirrers are suitable for mixing liquids.

SPECIFICATION: Can be used in any power drill. Drill, capacity > 600 W, requires 13 mm chuck.

The larger 115 mm Ø stirrer is for use with Artex, plaster, adhesive etc.

SPECIFICATION: To be used with a purpose-designed mixing machines capacity > 1,000 W and with a M14 thread connection.

Faithfull Stirrers	mix quantity	code	list	price
Ø: 80 mm	5 - 10 kg	FAIMP80	£8.77	£7.52
100 mm	10 - 20 kg	FAIMP100	£13.79	£11.88
115 mm	15 - 25 kg	FAIMP115M14	£35.93	£30.78

For hand paint stirrers and tongue depressors see

## MIXING ACCESSORIES



**90 L Mortar Tub** A large plastic tub for mixing textures etc.

Mortar Tub	code	price
size Ø		
90 L 610 mm	SAFWT9001	£22.10



35 L Shallow

**Gorilla Tub** These multi-purpose highly flexible tubs are ideal for mixing large batches of texture. Available in a 35 litre shallow but wide version or the 42 L or 75 L deep versions.



42 L & 75 L Deep

Gorilla Tub	code	price
size Ø x height [mm]		
35 L 570 x 160	GORTUB35	£18.09
42 L 440 x 330	GORTUB42	£12.90
75 L 580 x 370	GORTUB75	£27.39



PATFMB735

PATFPMSB

both bowls are highly flexible

**Flexible Mixing Bowls** These useful re-useable mixing bowls are ideal for mixing fillers and small quantities of textures. Hardened fillers can be cracked out. Available in two sizes.

Splash Bowls	code	price
Ø: 240 mm	PATFPMSB	£1.60
Ø: 120 mm	PATFMB735	£1.99

## HAND STIRRERS & TONGUE DEPRESSORS



**Paint Stirrer** Use the hand paint stirrer for mixing paint and the wooden tongue depressors [150 x 18 mm] for mixing for small quantities of pastes and two-component fillers etc.

Stirrer	code	price
3 Hand Paint Stirrers	PBR5340N	£2.33
100 x Tongue Depressors	PBR608	£3.40

## TROWELS



**24 x 10cm Trowel** Squared off trowel for applying textures/paints with centralised handle. Made in Italy.

24 x 10cm Trowel	code	price
	PAT53540024	£24.85



**18cm Square Tip Trowel** Trowel with squared tip for applying textures/paint. Made in Italy

18cm Square Tip Trowel	code	price
	PBR53340018	£11.10



**14cm Small Trowel Round Tip** Trowel with rounded tip for applying textures/paint. Made in Italy

14cm Small Trowel Round Tip	code	price
	PBR53330014	£8.10

## FILLING KNIVES AND SCRAPERS



**Olfa X Design Extra-Heavy-Duty Scraper 300mm** The ultimate scraper. Metal body with fibreglass and rubber handle this scraper is durable enough that you can

strike it with a hammer as if it were a chisel for the toughest jobs. No tool blade change, large screw tightens by hand but can be tightened further with a coin/flat screwdriver. Comes with safety clip to cover blade when not in use. Hole for lanyard on metal body

Specification: Scraper Blade Width: 100mm. Overall Length: 300mm

Olfa X Design Extra-Heavy-Duty Scraper	code	list	price
	TOLXSR300	£33.60	£29.95

NEW



**Olfa Extra-Heavy-Duty Blade For Xsr Scrapers**

Pack of 6 100mm Wide Extra Heavy Duty Blades for the Extra Heavy Duty Scraper these blade are really heavy duty.

Specification: Blade Thickness: 0.8mm. Pack Size: 6

Olfa Extra-Heavy-Duty Blade For Xsr Scrapers	code	list	price
	TOLBS086B	£7.65	£5.80

NEW



**Olfa Multi-Grip Wide Glass Scraper**

120mm Wide Glass Scraper with hole for lanyard. Wide blade for scraping large areas without scratching glass. We've found it's great at removing adhesive left over by tape. \*Very sharp blade only to be used on glass\*

Olfa Multi-Grip Wide Glass Scraper	code	price
	TOLGSR13B	£15.85

NEW



**Olfa Stainless Steel Scraper Blade For Gsr-1**

Pack of 30 x 120mm Blades for Glass Scraper

Olfa Stainless Steel Scraper Blade For Gsr-1	code	list	price
	TOLSGB1S	£25.00	£18.20



One of our personal favourites. Sad but true!



**Bahco Wolfram Carbide Scraper**

They leave all other scrapers in their wake. Ergonomically designed for comfort, control and power, they will cut through layers of paint even without the need for heat or strippers. The special double-sided carbide blades retain their super hard edges and the slightly convex shape avoids corner damage. The smaller pocket scraper is supplied with a triangular blade [▲] for getting into tight corners. The blade can be turned to show a fresh edge. You can also purchase a handy pear-shaped blade which can be reversed for either a sharp point or a round profile making it ideal for mouldings or cove lines, likewise a drop-shaped blade or round one.

✓ These scrapers are highly effective and worth every penny!

Bahco Wolfram Carbide Scraper	code	list	price
Large with 65 mm blade	BAH665	£44.05	£37.45
Spare 65 mm blade	BAH451	£16.04	£13.58
Spare 50 mm blade	BAH442	£14.61	£12.34
Pocket scraper with holster and s blade ▲ blade	BAH625	£31.14	£26.47
	BAH449	£13.77	£11.65
Pear-shaped blade for pocket scraper	BAH625PEAR	£13.77	£11.54
Drop-shaped blade for pocket scraper	BAH625DROP	£13.77	£11.54
Round-shaped blade for pocket scraper	BAH625ROUND	£13.77	£11.54

Useful for scraping paint from complex mouldings.

NEW



**Bent Pole Scraper** Rigid Bent Scraper with threaded hole for extension pole

Specification: Stainless Steel Blade Width: 75mm (3")

	code	price
	PBR50448	£4.95

NEW



**Doberman 4pc Putty Knife Set**

Set of 4 flexible stainless steel scrapers with wooden handles. Set includes 1 x 1" (25mm), 1 x 2" (50mm), 1 x 3" (75mm), 1 x 4" (100mm)

Doberman 4pc Putty Knife Set	code	price
	PBR50361	£16.80



**Stainless Steel Filling Knives** Stainless steel blades with comfort soft grip handles. Available in two sizes.

Stainless Filling Knife	code	price
25 mm Stainless Filling Knife	PBRSGF1	£3.72
75 mm Stainless Filling Knife	PBRSGF3	£5.60



**Continental Filling Set** This handy pack of economically priced continental filling blades is made up of 4 different width blades. Blade widths: 50, 80, 100 and 120 mm.

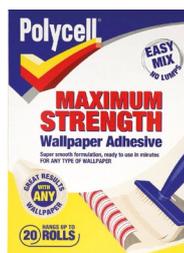
Continental Filling Set	code	price
Set of four	PBR5014	£4.06

**LINING PAPER & WALLPAPER ADHESIVES**



**Lining Paper** Good quality lining paper for covering fine cracks prior to laying wallpaper or painting. The F1000 is slightly thicker than the F800. Roll length x width: 10.05 m x 560 mm.

Lining Paper	box qty	code	price	20+
F800	20 rolls	PBR6F800	£2.89	£2.50
F1000	20 rolls	PBR6F1000	£4.75	£2.54



**Polycell Maximum Strength Wallpaper Adhesive** Each box will hang up to 20 rolls. My goodness what a long code!

Polycell	code	price
	ADHPLCMSWPA20R	£8.63



**Peel** Sizing walls or flats with Peel before decoration provides an ideal glueing surface yet this unique coating allows the wallcovering to be peeled off without the need for soaking, scraping or steaming.

✓ An average room can be stripped in just 8 mins!

Peel	code	5 L
	ADH112	£69.98

See also Mask It [page 275].

# COMPRESSORS

## Compressors

The compressors that Flints stocks are mainly used by scenic artists to power their spray guns or by technicians requiring air for nailers and staple guns. Most of the ones we list are easily portable so that they can be lifted into the boot of a car for work in a variety of locations. Consideration should be given to the air output from the compressor. Almost any compressor will achieve the pressure needed but it is the volume of air which is important. The popular SATAJet 1000 B RP spray gun will use around 7.1 cfm at full tilt whereas the SATAmijet 3000 B HVLP uses around 4 cfm. As scenic work normally involves stop/start spraying they will operate satisfactorily from small portable compressors giving upwards of 7 cfm. Be careful though, because some HVLP guns use large quantities of air [the SATAjet 4000 HVLP uses 15.2 cfm] and really require large fixed-installation compressors [please phone for details of larger units]. Flints has spent a lot of time looking at the compressor market and has not found it possible to source a truly rugged unit that can still be easily transported in the boot of a car. The compressors we list will not withstand continuous use at full pelt. They should, however, provide reasonable service for the freelance painter for two or three years so long as they are treated with a little care and given some oil from time to time. Choose a unit with some spare capacity to ensure a good service life and please spare a moment to read the instructions!

## PIONEER RANGE



**Fini Pioneer 265M** This Fini compressor with a 2 hp motor delivers 7.6 cfm [15 m<sup>3</sup>/h] making it ideal for the freelance scenic artist needing a compressor which is easy to transport in the boot of a car. It takes a 9 mm SATA-type hose which will push-fit direct to the compressor's connector. If you need to use 8 mm bore hoses see the Pioneer converter on the next page.

SPECIFICATION: Air receiver: 9.5 L. Max working pressure: 10 Bar [145 psi]. 230 V, 8 A. Dims [LxDxH]: 395 x 320 x 630 mm. dB[A] 76. Wt: 22 kg.

☐ Supplied with: panel that protects pressure switch and pressure regulator, pressure gauge and universal quick coupler for 9 mm hoses.

Fini Pioneer Compressor 265M	code	list	Tradeline
	FIN265M	£679.00	£450.50
9 mm bore hose [10 m]	SATAMIM1030		£118.00



**Fini Big Pioneer** Fitted with a powerful 3 hp motor delivering 10 cfm [17 m<sup>3</sup>/h]. The large 20 L receiving tank is suited for small workshops or for paint frame use. This compressor is still very compact and portable although it is a bit of a heavy lift to get into a car. A 9 mm SATA-type hose will push fit directly to the compressor's connector. If you need to use 8 mm bore hoses see the Pioneer converter [see →].

SPECIFICATION: Air receiver: 20 L. Max working pressure: 10 Bar [145 psi], controlled by a fully automatic pressure switch. 230/240 V, 9.5 A. Dims [LxDxH]: 470 x 490 x 720 mm. dB [A] 80. Wt: 33.5 kg.

☐ Supplied with: pressure switch, safety valve, drain valve, pressure regulator, pressure gauge and universal quick-coupler for 9 mm hoses.

Big Pioneer Compressor 312M	code	list	Tradeline
	FIN312MB	£676.00	£479.95
9 mm bore hose [10 m]	SATAMIM1030		£118.00

## OTHER COMPRESSORS



## Clarke Raider 15/550

A powerful British-made portable V-twin compressor delivering 14.5 cfm with a 50 L tank. That's enough cfm to work the texture guns on page 93. Ideal for use with air tools and most spray equipment. With an automatic stop/start the engine only runs when it needs to. For oil see ↓

SPECIFICATION: Air receiver: 50 L. Max working pressure: 8 bar [116 psi]. 230 V, 13 A\*. Dims [LxDxH]: 725 x 410 x 715 mm. dB [A] 93. Wt: 45.1 kg.

☐ Supplied with: air filters, safety valve, pressure regulator, gauge for controlled air pressure, moulded 13 A\* 3-pin plug to BS 1363/A.

\*3 hp motors can run on a 13 A plug so long as they are not run on an extension lead.

Clarke Raider 15/550	code	list	Tradeline
15/550	TOL15550	£299.00	£209.98



## Clarke Shhh...Air 50/9

An ultra quiet compressor emitting just 40 db. With an air displacement of 1.77 cfm from a 0.5 hp motor, this compressor it is suitable for powering the SATAjet 20 B [page 91] and the SATAgaph airbrushes [page 91-92]. The air receiver is CE certified. There is a 50% duty cycle [15 minutes ON, 15 mins OFF]. At 470 mm height, it's suitable for a studio or a model shop but not heavy-duty use. Don't forget to give it some oil. It

takes 500 ml of Synthetic Air Compressor Oil available below ↓

SPECIFICATION: Air receiver: 9 L. Max working pressure: 8 bar [115 psi]. 230 V, 13 A. Dims [LxDxH]: 330 x 330 x 470 mm. dB [A] 40. Wt: 21 kg.

☐ Supplied with: filter regulator with gauge, receiver pressure gauge, safety valve and handle.

Clarke Shhh...Air 50/9	code	list	Tradeline
50/9	TOL2320870	£790.15	£499.00

## COMPRESSOR OIL



## Compressor Oil

Treat them to some TLC. They do need oil! You'd be surprised how many compressors we find with empty

sumps. We recommend oil "A" for the Fini Pioneer compressors and oil "B" for the Clarke Raider and Pioneer compressors. The Clarke Shhh...Air uses Synthetic Air Compressor Oil "C".

Compressor Oil	code	1 L	code	5 L
<b>A</b> For Pioneer 265/Big Pioneer	FIN6102250000	£13.32	-	-
<b>B</b> For Raider & Pioneer 220	CLA3050810	£8.98	CLA3050802	£35.98
<b>C</b> Synthetic Air Compressor Oil	CLA3050795	£16.20	-	-

# AIR HOSES & FITTINGS

The wide bore and special design of the quick release fittings will allow a far greater air flow to the gun. In a simple experiment using a conventional 8 mm hose and one of these 9 mm hoses connected to a "Y" fitting it was found that the 9 mm hose delivered almost twice the volume of air. Using these lightweight and very flexible hoses may help to solve the struggle to find a small portable compressor that delivers enough air volume to your spray gun. By the way, if you are using 9 mm bore hoses on Clarke compressors, don't tighten them up too hard but use some P.T.F.E. tape to make the threads seal. If you tighten them, the air will not flow!

## 9 mm BORE HOSES [FOR SATA] 1/4" BSP THREADS



**9 mm Bore Air Hose** A good quality very flexible and lightweight 10 m hose with quick release couplings on each end. Plugs straight into the Fini Pioneer 265M Compressor [page 88].

9 mm Bore Air Hose	code	Tradeline
10 m	SATAMIM1030	£118.00



**9 mm Quick Fitting Female** Female quick release to suit most compressors. [1/4" BSP].

Female Compressor End	code	price
	SATAI3599	£18.60



**9 mm Quick Fitting Male** Male quick release to suit most hoses. [1/4" BSP].

Male Compressor End	code	price
	SATAI3623	£19.20



**Gun End Quick Fitting** Quick release to suit most guns. [1/4" BSP thread].

See also the SATA Turbo Nozzle on page 93

Gun End Fitting	code	price
Female [most common]	SATAI3656	£8.38
Male	SATA53942	£9.80



**Swivel for Spray Guns** A very useful attachment for the SATA guns, the swivel allows the hose to move freely without kinking.

Swivel for Spray Guns	code	price
For all SATAjet guns [non-digital topcoat guns]	SATAI9745	£39.20



**Nipple Male BSP** Useful to convert a female fitting to a male one or to convert a 1/2" wall outlet to 1/4" BSP thread. Tapered threads.

Nipple Male	code	price
1/4" to 1/4"	TOL103014	£1.38
1/4" to 1/2"	TOL103016	£2.78

## PIONEER CONVERTER



**Push-Fit Converter** This adaptor will allow 8 mm hoses with standard push fittings to be fitted to the Pioneer 265M and Big Pioneer compressors.

Push-Fit Converter	code	price
	TOL845K	£9.30

## 8 mm BORE HOSES 1/4" BSP THREADS

**8 mm Bore Air Hose** High pressure [300 psi] round rubber hoses with 1/4" BSP swivel nut fittings. If you are using HVLP spray equipment you may consider upgrading to 9 mm hoses which are listed on the previous column.

8 mm Bore Air Hose	code	list	price
10 m	TOL822H	£16.47	£14.97
15 m	TOL823H	£21.97	£19.97
30 m	TOL820H	£37.38	£33.98
Worm drive hose clips [11 - 16 mm]	GEN051		£0.87

## 8 mm BORE HOSE FITTINGS 1/4" BSP THREADS

### 1/4" Hose Fittings for 8 mm Bore Air Hose

Endless fun and confusion! As a bit of a guide, this is what you would need if you want to couple a compressor with 1/4" male thread to a spray gun using quick release fittings. Mount a "snap female body" onto the compressor, put a "snap male adapter" into one end of the hose. The hose will now snap onto the compressor. Put a "snap male body" onto the other end of the hose and a "snap female adapter" onto the gun. The gun will now snap onto the hose. Easy peasy! To simplify things just order the top four listed below.

Fittings	code	price
Snap female body	TOL842	£3.85
Snap male adapter	TOL831	£1.95
Snap male body	TOL841	£3.85
Snap female adapter	TOL832	£1.95
Snap hose adapter	TOL833	£1.95
1/4" hose adapter	TOL824	£1.95
Tail 1/4" nut	TOL844	£1.95
Hose joint	TOL843	£1.95

Compressor to gun snap connectors

**Y-Connectors** Available either complete with snap fittings ready to take standard 8 mm bore air hoses [when fitted with snap adapters] or as a plain fitting with female 1/4" BSP threads on all outlets.

Y-Connectors	code	price
Y-Connector with fittings	TOL8Y	£11.29
Y-Connector plain	TOL103301	£3.48

## 6 mm BORE HOSES 1/4" BSP THREADS

**6 mm Coiled Air Hose** Useful for running small spray guns when the air outlets are ceiling-mounted. 6 mm bore with 1/4" BSP thread connectors on each end. Max working pressure: 10.5 bar [150 psi].

6 mm Coiled Air Hose	code	list	price
7.5 m	TOL3110458	£10.30	£9.27

## P.T.F.E. TAPE

**P.T.F.E. Tape** Used to lubricate and seal air hose joints.

P.T.F.E. Tape	code	price
10 mm x 5 m	TAP077	£0.90

# SATA SPRAY EQUIPMENT

## SATA spray equipment

Flints stocks SATA spray equipment specially selected to suit the scenic artist. With more than 100 years dedicated to providing high-tech spray equipment to over 85 countries, SATA provides a uniform standard of quality which is recognised in the industry as superior. By purchasing SATA equipment you can expect the very best.

## HVLP and RP?

The old-style high-pressure guns have been phased out for health and environmental reasons. The old type of gun, such as the DeVilbiss GFG, would often put as much as 65% of the paint material into the atmosphere rather than onto your canvas. Not only is this a considerable health risk but it is a waste of expensive scenic paint.

**HVLP** stands for High Volume Low Pressure. A spray gun with this specification will place at least 65% of your paint where you want it, on the canvas, and not in the air. These guns tend to have a slightly different feel to high-pressure guns and they generally require very high volumes of air. Except for the small SATAmiJet 3000, HVLP guns are more suited to paintshops which have large fixed compressors. SATA HVLP guns have a green ring around their air cap.

**RP** stands for Reduced Pressure. Guns to this specification also comply with the latest regulations but provide a more similar feel to the old high-pressure guns. They require less air volume and so are more suitable for the freelance scenic artist using a small portable compressor. SATA RP guns have a blue ring around their air cap.

When using these high-specification guns it is advised, although not crucial, to use 9 mm bore hoses. These hoses will deliver almost twice the volume of air than the more common 8 mm bore hoses.

## Problems splattering?

Spray gun designers go to huge lengths to provide perfect paint atomisation, so to get a splatter effect we need to break all the rules! Set the air pressure very low, say 0.5 bar, and set the material flow very high. The gun should splatter merrily away. However, it will need to use a large quantity of paint so it is crucial that:

- The breather hole on the air cap is not blocked or partially blocked to create suction. If in doubt take the cap off the lid.
- The paint is sufficiently diluted to flow easily through the gun. It should be really sloppy.
- If you want to splatter thick textured materials such as CrystalGel or Gesso then it is best to pressurise the pot [page 93]. Happy splattering!

## Which spray gun should I choose?

Well, that is a tricky question to answer, as it of course depends on what you're doing with it! Most Scenic Artists tend to go for the **SATAjet 100 B F RP** [next page] with a standard 1.6 mm set up as it's a great all-rounder at a good price. However, for more flexibility the **SATAjet 1000 B RP** [see ↗] offers the choice of a range of set ups to allow the user to use the same gun, for a wider range of applications, but at a higher initial price. If you're working on something highly textured it's worth looking at the **SATAjet 100 B P** [see ➡] for fillers and gesso (think lots of Idenden) or have a look at our **Air Texture Guns** [page 93]. For detailed work, the **SATAmiJet 4400 B RP PVC** [next page] is the most comfortable in hand, but not great for larger scale work. If we're talking modelmaking it's the **SATAjet 20 B Airbrush** [next page], and for graphic work, the **SATagraph 3** [page 92]. Have a suggestion for a brand and / or model we don't stock?

Let us know by emailing feedback@flints.co.uk.

## SATAjet 1000 B RP



Have you tried the RPS system? See page 92

**SATAjet 1000 B RP** This is a universal gun with a wide range of set-ups from 0.8 mm right through to a staggering 5 mm! Flints stocks the 1.6 mm, a real all-rounder, the 2 mm and 2.5 mm for coverage of larger areas with a bit more texture, and the massive 4 mm set-up for large splatter and heavy texture effects [especially when pressurised! - see page 93]. Chosen by the Royal Opera House, National Theatre and leading scenic artists as their preferred gun for splattering large cloths. The SATAjet 1000 range not only has a wide variety of set-ups but also has some useful accessories such as nozzle extensions for spraying floor cloths [page 92].

SPECIFICATION: Inlet pressure: 1.5 - 2 bar [21.8 - 29.00 psi]. Air consumption: 275 NI/min [7.1 cfm]. Spray distance: 180 - 230 mm [7 - 9 inches].  Supplied with: 0.6 L PVC cup.

- ✓ Amazing splatter effects when used at low pressure
- ✓ Fine atomisation when used at recommended pressure
- ✓ Optimum finish results in all fields of application
- ✓ Robust, long-lasting and easy to clean
- ✓ Suitable for waterborne paints and corrosion resistant
- ✓ Easy clean surface    ✓ Compact and lightweight
- ✓ VOC-compliant        ✓ Wide range of nozzle sizes: 0.8 - 5.0 mm!
- ✓ Extensive range of accessories, such as extensions and pressurised cups, etc
- ✓ Great value for a gun of this quality

SATAjet 1000 B RP [normally held in stock]	code	list	Tradeline
Gun with 4.0 mm set-up	SATA154161	£458.00	£366.40
Gun with 2.5 mm set-up	SATA151209	£426.00	£340.80
Gun with 2.0 mm set-up	SATA149328	£426.00	£340.80
Gun with 1.6 mm set-up	SATA149310	£426.00	£340.80

SATAjet 1000 B RP [available to order]	code	list	Tradeline
Gun with 0.8 mm set-up	SATA151183	£426.00	£340.80
Gun with 1.0 mm set-up	SATA151191	£426.00	£340.80
Gun with 1.3 mm set-up	SATA149302	£426.00	£340.80
Gun with 1.8 mm set-up	SATA150391	£426.00	£340.80
Gun with 3.0 mm set-up	SATA151217	£426.00	£340.80

SATAjet 1000 B RP Nozzle Sets	code	price
0.8 mm set-up only	SATA151316	£156.70
1.0 mm set-up only	SATA151324	£156.70
1.3 mm set-up only	SATA149161	£156.70
1.6 mm set-up only	SATA149179	£156.70
1.8 mm set-up only	SATA150417	£156.70
2.0 mm set-up only	SATA149187	£156.70
2.5 mm set-up only	SATA151332	£156.70
3.0 mm set-up only	SATA151340	£156.70
4.0 mm set-up only	SATA154187	£193.30
5.0 mm set-up only	SATA154195	£193.30

NB: SATAjet 1000 B RP set-ups and nozzle sets may need to be ordered in from Germany therefore please allow 7 days for delivery.

**SATAjet 100 B F RP**



Great price for a superb gun!

**SATAjet 100 B F RP** This is a really excellent reduced-pressure gun at a fantastic price. When operated at around 0.5 bar with the material flow set to high it produces an excellent large splatter effect. These effects need lots of paint so please ensure your paint is diluted enough to flow really freely and make sure the breather in the air cap is clear to avoid any suction. When operating at the recommended pressure of 1.5 - 2 bar the gun provides a controlled spray pattern and rapid even coverage. The air consumption matches the small portable compressors typically used by freelance scenic artists. For scenic work this is an excellent choice of gun.

SPECIFICATION: Inlet pressure: 1.5 - 2 bar [21.8-29 psi]. Air consumption: 290 NI/min - 245 NI/min [7.1 cfm]. Spray distance: 180 - 230 mm [7 - 9 inches].

Nozzle Size can be increased to 2.5 mm see SATAjet 100 B P below.



**SATAjet 100 B F RP Standard Set-up**

Choose this version for maximum versatility. Nozzle size 1.6 mm. Our biggest selling gun.

SATAjet 100 B F RP Standard Set-up	code	list	Tradeline
Gun 1.6 mm nozzle & 0.6 L cup	SATA145193	£343.00	£274.40
Gun 1.6 mm nozzle & 0.75 L ali cup	SATA146134	£345.00	£276.00
Spare 0.6 L cup	SATA27243		£67.20

**SATAjet 100 B F RP Scenic Set-up**

Extra large 2 mm nozzle for very high material flow rates.

SATAjet 100 B F RP Scenic Set-up	code	list	Tradeline
Gun 2 mm nozzle & 0.6 L cup	SATA145219	£343.00	£274.40
Spare 0.6 L cup	SATA27243		£67.20

**SATAjet 100 B P FOR FILLERS AND GESSO**

For fillers and splatters



**SATAjet 100 B P** Any waterborne and solvent-based material available on the market can be sprayed without restrictions using this spray gun which was designed for spraying polyester fillers. The huge 2.5 mm nozzle enables fantastic splattering effects to be performed at speed but the gun will also cope with applying layers of Idenden Spraycote and, of course, spray fillers. This gun is not fitted with an air micrometer, flow should be regulated at the compressor.

- ✓ A specialist gun for spraying fillers and gesso
- ✓ Correct atomisation for fillers etc. Very controlled application
- ✓ Capable of large splatter effects when used at low pressure

SPECIFICATION: Inlet pressure: 2 bar [29 psi]. Air consumption: 245 NI/min [8.7 cfm]. Spray distance: 180 - 230 mm [7 - 9 inches].

SATAjet 100 B P	code	list	Tradeline
Gun 2.5 mm nozzle & 0.6 L cup	SATA145185	£342.00	£273.60
Spare set up [also fits 100 B F RP]	SATA145284P		£135.40

**SATAmijet 4400 B RP PVC SPRAY GUN**



Take spots up to 0.9L directly!

**SATAmijet 4400 B RP PVC**

This is the latest version of the very popular Minijet style of gun. This Minijet 4400 is slightly larger than the old 3000 version but still compact and light in weight. With its ergonomic handle shape, this is possibly the most comfortable spray gun available. It is often chosen because of its suitability for detailed work but soon the user finds that it is a very versatile gun for general work, too. This new version is even more versatile with the ability to produce a much wider spray pattern whilst still being able to focus down

to lines just a pencil thickness wide! Furthermore, the 3000 model was restricted to small size cups [unless an adapter was purchased] but this version will take all QCC quick cup connectors including the RPS system. We have chosen to stock this RP version of this gun which is more suited to scenic work. The air consumption of 7.1 cfm is based on the highest pressure setting, generally the air consumption will be much lower.

SPECIFICATION: Inlet pressure: 0.5 - 2.5 bar [7 - 36 psi]. Air consumption: 200 NI/min - 245 NI/min [7.1 cfm] at 2.5 bar. Spray distance: 120 - 190 mm. Wt: 293 g.

SATAmijet 4400 B RP	code	list	Tradeline
Gun 1.2 mm SR nozzle & 0.125 L cup	SATA198226	£368.00	£294.40
Larger 0.6 L cup	SATA27243		£67.20
Spare QC cup 0.125 L	SATA197541		
£65.30£41.80			

**SATAjet 20 B AIRBRUSH**



**SATAjet 20 B Airbrush**

This air brush is designed for fine detail and artwork. Ideally suited for modelmaking and stencilling. Most airbrushes are held like pens and can be awkward to handle but this SATA airbrush has the conventional grip that most scenic artists are familiar with. It will also cope with paints that small airbrushes cannot handle.

This gun will operate using the very quiet Shhhh...Air compressor. Tip: Please pull in the trigger prior to screwing on the air cap or the hard needle will wear away the softer air cap.

SPECIFICATION: Inlet pressure: 1.0 bar [14.5 psi]. Air consumption: 40 NI/min [1.4 cfm]. Spray distance: 120 - 190 mm. Wt: 250 g.

- ☐ Supplied with: 65 cc gravity cup, 25 cc plug-in glass cup, 3 spare glass cups.

Take a look at Ben Johnson's amazing paintings at [www.BenJohnsonArtist.com](http://www.BenJohnsonArtist.com)

**SATAjet 20 B**

Choose the 0.5 mm version for the finest model work or the 1 mm version for modelmaking and stencilling.

SATAjet 20 B	code	list	Tradeline
Gun 0.5 mm nozzle & 0.6 L cup	SATA86207	£416.00	£332.80
Gun 1 mm nozzle & 0.6 L cup	SATA86223	£416.00	£332.80
Spare 1 mm set up	SATA61523		£98.80

### SATAgaph 3



**SATAgaph 3** An airbrush suited for the finest graphic work. Air consumption of just 0.4 cfm allows the use of a small Shhh...Air compressor. In order to couple up to a compressor you will need to purchase the 3 m long PVC hose which is complete with all the fittings.

SPECIFICATION: Nozzle size: 0.25. Gravity flow cup: 2.5 ml. Inlet pressure variable. Air consumption: approx 10 NI/min [0.4 cfm]

SATAgaph 3	code	list	Tradeline
SATAgaph 3 without hose	SATA134569	£353.00	£317.70
3 m PVC hose and fittings	SATA32987		£57.80

### SATA AIR GAUGES



**Air Micrometer with Gauge** This useful compact micrometer and gauge can be attached directly to the gun. Air pressure may drop over the length of the hose so readings taken from the compressor can be inaccurate. This gauge allows the painter to make fine pressure adjustments without having to go to the compressor. Ideal for setting up scenic effects. Can also be used on other makes of gun.

SATA Air Micrometer with Gauge	code	price
When purchased alone	SATA27771	£98.00
When purchased with a gun - save 15%	SATA27771+Gun	£83.30



**ADAM 2 Digital Micrometer** This is an upgrade of the ADAM Digital Micrometer.

- ✓ Weighs just 49 g - lighter than ADAM model
- ✓ User can replace battery easily and quickly
- ✓ Imminent battery exchange indicated on the display
- ✓ Lifetime of battery is now up to 30% higher
- ✓ EX-proof and ATEX approved
- ✓ With extra docking stations the display can be quickly moved from gun to gun

SATA ADAM 2 Digital Micrometer	code	price
ADAM 2 including docking station	SATA160846	£251.70
ADAM 2 docking station only	SATA160788	£83.90
ADAM 2 docking station only for SATAminijet	SATA160861	£83.90
ADAM 2 battery kit	SATA160739	£39.80

### SATA ACCESSORIES



**Universal Spray Gun and Hose Holder** A well thought through device that will hold any SATA spray gun with or without its cup, and provides a home for the hose too.

Universal Gun Holder	code	price
	SATA192195	£341.91



**SATA Gravity Cup Filters** Gravity cup filters to fit all the SATA guns except the small SATAminijet 3000 B HVLP and SATAjet 20 which should have their paint filtered before pouring into the cup. Sold in packs of 10.

SATA Gravity Cup Filters	qty	code	price
SATA Gravity Cup Filters	pack of 10	SATA3988	£24.70

For more paint filters and strainers see page 85.

**SATA Silicone-Free Grease** High-performance grease for spray guns. Acid-free. An essential accessory.

Silicone-Free Grease	size	code	price
	100 g	SATA48173	£13.20

**SATA 1 L Alloy Cup** Quick change cup for any SATA gun with or without QCC.

1 L Alloy Cup	code	price
	SATA96685	£71.80

**SATA Cleaning Set** Complete with 2 cleaning brushes and 12 cleaning needles.

Cleaning Set	code	price
	SATA64030	£41.90

### SATA RPS RAPID PREPARATION SYSTEM



**SATA RPS Rapid Preparation system**

One cup with four functions:

- ✓ Mixing
- ✓ Painting
- ✓ Refilling
- ✓ Storing



A true all-rounder. The clear graduated RPS cup stands on the bench and mixing takes place directly into the cup. No need to use an extra paint kettle. The cup will then fit directly to any SATA gun with the QCC connection or standard cup thread. The very low weight helps the ergonomics. When changing colour, simply remove the cup and attach the airtight seal. The paint can be stored in the cup ready for its next use. Attach a new RPS cup and carry on spraying. Once the job is complete the used cups can be stacked inside each other and disposed of without having to waste time and solvents cleaning. Cups are also available in 0.9 L size to dramatically increase the guns capacity. Adapters are available so this system can be used with other makes of gun - please phone for details. Tip: If you are spraying a ceiling just bend the RPS cup forwards and it will enable you to spray upwards! You can even bend them sideways! Brilliant.

An ingenious time saving device!

SATA RPS Rapid Preparation System	code	price	Tradeline
			qty price
0.6 L RPS with plug-in sieve	SATA125070	£2.36	57+ £1.77
0.9 L RPS with plug-in sieve	SATA118489	£2.34	40+ £1.98

### EXTENSIONS FOR SPRAYING BOXES AND FLOORS

Save backache when spraying floors!



**SATA Extension A** 200 mm long extension with a 1.6 mm nozzle to fit SATA 1000 B RP Guns. Ideal for spraying inside boxes, lockers etc or to prevent backache when spraying floor cloths. Also a 200 mm right-angle extension ideal for homesick submariners.

SATA Extension	code	list	Tradeline
Right-angle 200 mm extension 1.6 mm	SATA154294	£570.90	£513.81

### HEAVY-DUTY SPRING



**Heavy-Duty Spring** If you are using your gun with a BVD Pressurised Cup you may find that it dribbles a bit even when the fluid control is off. This can be easily solved by fitting a heavy-duty spring. These springs are already fitted to 4 mm and 5 mm set-ups. Fits all guns except the SATAminijet and SATAjet B 20.

Heavy-Duty Spring	code	price
	SATA4648	£11.50

# OTHER SPRAY EQUIPMENT

## PRESSURE POTS & AGITATORS



My favourite toy

Spray Gun Not Included

### SATA BVD Pressurised Cup

Add this cup to your SATA gun to enable it to spray viscous materials. It easily copes with Rosco CrystalGel and Weave Filler 1047. It is ideal for large splatter effects using viscous paints on vertical surfaces when diluted paint would tend to run. Use it to apply texture to built pieces. For large jobs see the 24 L pot below. Use it with a SATA 4000, SATA 3000, SATA 1000 or SATA 100 guns.

Please refer to Heavy-Duty Springs on previous page.

- ✓ Transforms your existing gun into a brand new tool for amazing textural effects
- ✓ Brilliant and repeatable control
- ✓ Watch our video on YouTube



Pressurised Cup	code	list	Tradeline
	SATA25775	£374.40	£336.96

A real time saver



### SATA 24 L Pressure Pot in Stainless Steel

We have selected this pressure pot for projects which require large quantities of paint or viscous material to be sprayed. It can be used to prime large cloths or to spray materials such as Rosco CrystalGel and Weave Filler 1047 and to add texture effects to cloths or scenery. It can also spray any viscous paints to obtain heavy splattering effects on vertical surfaces without fear of the material

running. This pot is suitable for water- or oil-based materials and can be fitted to allow two guns to be operated at the same time. If you are spraying materials which tend to settle, the pot can be fitted with an automatic or manual agitator. These pots are fitted with dual regulators for fine control of both air and material pressure.

- ✓ Dramatic time saving
- ✓ Super fast spraying at unbelievable speeds
- ✓ Ability to spray large quantities of many viscous materials
- ✓ Two operators can work at the same time
- ✓ Perfect control to obtain repeatable and even results
- ✓ Ability to spray materials which would normally have to be hand applied

Sata 24 L Pressure Pot	code	list	Tradeline
24 L Pressure pot	SATA17725	£2,467.00	£2,220.30
Surcharge for allowing second painter	SATA181990	£379.90	£341.95
6 m material & compressed air line supply set	SATA77834	£304.50	£274.05
10 m material & compressed air line supply set	SATA77842	£407.50	£366.75
15 m material & compressed air line supply set	SATA77859	£506.40	£455.76
NB: you will require 2 hose sets for a twin gun set-up			
SATAjet 1000K Spray gun + 2.5 mm nozzle set	SATA153486	£501.00	£400.80
NB: you will require 2 guns for a twin gun set-up			

**Agitator** Should the material that you are spraying be prone to settle during the job it is possible to agitate the material in the pressure pot either by hand or automatically with the air supply.

SATA Agitator	code	list	Tradeline
Compressed air agitator	SATA16477	£821.70	£739.53
Hand agitator for 24 L pot	SATA3525	£248.60	£223.74



**Pro Spray Gun** An economical and serviceable gun suited to those who can't warrant the extra expenditure on the SATA guns. [1.4 mm nozzle].

Pro Spray Gun	code	list	price
	TOL811	£41.33	£37.57



**PSC Spray Gun** Suited for smaller compressors and cheaper than a week's hire! Don't expect the quality of finish you would get with a SATA gun.

PSC Spray Gun	code	list	price
	TOL810	£26.73	£24.30

## AIR TEXTURE GUNS [HOPPER GUNS]



**Graco Air Texture Gun** For frequent users. Double-handle design provides maximum support and control for ceiling, wall and floor applications. Sprays textures such as Rosco Foamcoat and most gravity-fed materials.

- ✓ 5.7 L hopper
- ✓ Air spray trigger gun
- ✓ Four nozzles [4, 6, 8 and 12 mm]

Graco Air Texture Gun	code	Tradeline
For frequent users	TOL245924	£209.00



**Clarke Air Texture Gun** For occasional use. High capacity unit for textured finishes. 7.8 L tough plastic hopper. 4 nozzles and 5 spray patterns give 20 combinations. 45° offset connector for spraying ceilings. Includes instruction booklet with a truly alarming picture of their hand model.

Clarke Air Texture Gun	code	list	Tradeline
For occasional use	CLA5091120	£139.27	£82.47

## BLOW NOZZLES



SATA Turbo Nozzle

**Blow Nozzles** Valuable tools in any workshop for clearing away dust prior to glueing or painting. Unlike vacuum cleaners, blow guns can get ingrained dust out of shakes and screw holes preventing paint contamination. Useful for cleaning machines

and motors. Choose between: The handy pocket-sized SATA Turbo Blow Nozzle with rubberised protection – just clip it onto the 9 mm air hose, twist the front part to adjust the air flow and blow off. Fits 9 mm quick fittings. Alternatively, use the Long Nozzle Gun to get into nooks and crannies. 1/4" BSP male thread connection.

Blow Nozzles	code	list	price
SATA Turbo nozzle	SATA133306		£33.20
Long nose gun	TOL825	£7.68	£5.69

**HAND SPRAYERS**



**Hand-Held Misters** Strong hand sprayers with a wide range of applications such as applying flameproofing. We stock the popular and economical Kingfisher 2 pint version and the extra robust Hozelock Spraymist Sprayer.

Hand-held Mister	size	code	price
Kingfisher Economy	1.5 L	SAFS4000	£4.65
Hozelock Spraymist Sprayer	1.25 L	SAFHOZ4122	£21.61



**Hudson PumpLess Sprayer**  
Excellent value larger capacity sprayer with a highly efficient pump which pressurises with fewer strokes. So when they say "PumpLess" they mean you pump fewer strokes rather than a pumpless sprayer with no pump at all which would be clever.

✓ Our most popular big sprayer

Hudson PumpLess Sprayer	capacity	code	price
	8 L	HUD27912	£39.98



**Hudson Suprema Bak Pak Sprayer** Ideal for fireproofing large areas.

- ✓ Tough one-piece blow-moulded tank that is translucent for viewing liquid level
- ✓ Large easy-fill opening
- ✓ Corrosion resistant piston pump
- ✓ Roto-valve on/off control rotates 360° for up or down spraying with no bending or wrist twisting

Hudson Bak Pak Sprayer	capacity	code	Tradeline
	15 L	HUD63184	£125.00



**Professional X-Pert Sprayer**  
Widely used in America for painting large cloths. Built for the finest performance and ease of use, extra rugged and dependable. Heavy gauge stainless steel, 390 mm brass pump with locking T handles, built-in pressure gauge and pressure relief valve, 60 mesh in-line strainer, Kem-Oil™ hose and more. Makes a first class paint sprayer. Can also be used to power spray guns.

Professional X-Pert Sprayer	capacity	code	Tradeline
	11.4 L	HUD93793	£378.29

For cleaning, use Mylands Spray Gun Cleaner [page 61].

**AIRLESS SPRAY EQUIPMENT**



**TriTech Airless Spray Equipment** For extremely rapid spraying of large areas nothing compares with airless

Spray paint and textures fast!

equipment. Choose the T5 unit for rapid priming of large cloths, spraying interiors of theatres or warehouses. Choose the T7 unit for spraying Flints Mud, Flintex, Idenden Brushcote and Spraycote. T5 comes as a stand mount, T7 as a hi-cart. Both also available as stand, or hi-carts; call for a quote.

SPECIFICATION: T5 110 V. Max working pressure: 3,300 psi. Max tip size: 25/1000". Max flow rate 2.27 L/min. Wt: 16.8 kg.

T7 110 V. Max working pressure: 3,300 psi. Max tip size: 27/1000". Max flow rate 2.65 L/min. Wt: 39.4 kg.

☐ Supplied with: 15 m hose, gun and tip.

- ✓ High quality finish
- ✓ Virtually no overspray
- ✓ Aluminium exterior
- ✓ Very quick and efficient

Airless Spray Machine	code	list	Tradeline
T5 Stand mount [110 V]	PATT5110V		£1,650.00
T7 Hi-Cart [110 V]	PATT7110V		£2,150.00
Transformer for 240 V supply [Twin outlet]	TOLCM10002	£97.19	£74.59

Mylands Airless Paint	code	list	10 L
White Emulsion	MYL040	£99.74	£83.81

**DUSTING TOOLS**



**Dustin-Mizer** A hand-cranked dust blower ideal for applying Fuller's Earth or walnut dust to set dressings. The Mizer now comes with the deflector to direct the flow upwards as standard.

Dustin-Mizer	code	price
Dustin-Mizer [now includes deflector]	PATDM1085	£59.80
Spare Deflector	PATDM1094	£7.90

# PROPMAKER'S MATERIALS

To help you find just what you need we have organised this section so it starts with stringy things, then lumpy things, then blobby things, then sheety things and finally...

"All sorts of queer things,  
Things never seen or heard or written about,  
Very strange, un-Welsh, utterly peculiar  
Things. Oh solid enough they seemed to touch,  
Had anyone dared it. Marvellous creation,  
All various shapes and sizes, and no sizes,...."

[an extract from Welsh Incident by Robert Graves]

Many other propmaking materials are listed elsewhere in this catalogue.

## PAPER ROPE



**Paper Rope** A versatile material mainly manufactured to act as a former during glass fibre laminations. Once glassed over it will provide stiffening ribs to the structure. However, it has many other uses. Use it to create curved mouldings, to

add texture and bulk to trees and branches, and to add relief to any surface. It can be flame retarded with Flamebar type SIWA2 [page 70] and textured with Idenden Brushcote or Flints Mud [page 45 & 46]. I have heard it is also used for pyrotechnic fuses.

Paper Rope	code	per m	coil code	per coil	10+
diameter			approx coil length		
6.5 mm	PRO120	£0.30	200 m reel	PRO120D £32.05	£20.14
13.8 mm	PRO121	£0.62	250 m	PRO121D	£107.93 £90.68
18 mm	PRO122	£0.98	100 m	PRO122D	£76.20 £53.65
25.5 mm	PRO123	£1.54	100 m	PRO123D	£117.25 £98.13
40 mm	PRO124	£2.89	40 m	PRO124D	£86.17 £70.40
55 mm	PRO125	£4.60	25 m	PRO125D	£85.88 £70.49

## WIRED PAPER ROPE



**Wired Paper Rope** A few years ago we used to sell a wired sisal rope but just as it got popular the manufacturers stopped making it! We now stock two sizes of wired paper rope. The addition of a stiff wire makes it the perfect choice for undergrowth, foliage and tree effects. The paper

rope can be flame retarded with Flamebar type SIWA2 [page 70]. It can be directly painted or textured with Idenden Brushcote or Flints Mud [page 45 & 46] or it can be scrimmed with muslin [page 134]. "Branches" and "twigs" can be bound together using unbleached cloth tape [page 272]. Further strength can be added, where needed, by binding the paper rope to aluminium armature wire. A piece of wired paper rope will generally support its own weight over about 2 - 3 ft before drooping.

Wired Paper Rope	code	per m	coil code	per coil	10+
thickness			approx coil length		
13.8 mm	PRO121W	£0.93	250 m	PRO121WD	£188.16 £151.58
18 mm	PRO122W	£1.43	100 m	PRO122WD	£117.60 £94.73

## GALVANISED SINGLE STRAND WIRE [SENTINEL]



**Galvanised Single Strand Wire** An economical wire for binding and forming small armatures. 500 g and 10 kg coils. Also called Sentinel Wire. For softer wire choose the aluminium armature wire listed below. See also wired paper rope.

Galvanised Single Strand Wire	code	price
diameter	500 g length	
0.71 mm	161 m	WIR060 £3.85
0.90 mm	100 m	WIR061 £3.75
1.00 mm	81 m	WIR063 £3.65
1.25 mm	51.9 m	WIR065 £3.52
1.60 mm	31.6 m	WIR067 £3.40
2.00 mm	20.3 m	WIR069 £3.30
diameter	5 kg length	
2.5 mm	130 m	WIR075 £22.43
diameter	10 kg length	
2 mm	407 m	WIR076 £54.25
3.15 mm	164.1 m	WIR078 £39.85

## ALUMINIUM ARMATURE WIRES



**Round Aluminium Armature Wire** This popular wire is easy to work, enabling rustproof armatures to be constructed at great speed. Ideal for animation. It also has decorative uses such as imitation silver binding on sword handles and representing climbing plants. The 0.7 mm x 30 m wire is now sold in 3 x 10 m coils.

Round Aluminium Armature Wire	code	price	10+
diameter	length		
0.7 mm	3 x 10 m	ARM0730	£9.90 £8.91
1.5 mm	17 m	ARM15	£5.28 £4.89
2 mm	9 m	ARM20	£5.98 £5.38
3.2 mm	10 m	ARM32	£8.91 £8.27
4 mm	3 m	ARM40	£5.28 £4.89
5 mm	3.75 m	ARM50	£6.50 £5.85
6 mm	2.5 m	ARM60	£6.85 £6.17
8 mm	3 m	ARM80	£12.60 £11.69
10 mm	3 m	ARM100	£13.38 £12.40



**Square Section Aluminium Armature Wire** We stock a range of square section soft aluminium armature wires for those who prefer using

square to round! For Mod Mesh see page 100, for Tin Snips and Shears see page 309.

Square Aluminium Armature Wire	code	price
square	length	
3.18 mm	5 m	ARM318S £6.60
4.75 mm	5 m	ARM475S £12.57
6.35 mm	3 m	ARM635S £17.12
9.53 mm	3 m	ARM953S £19.98



**Coloured Aluminium Armature Wire** Excellent for decorative work. Often used for floral displays. Also available as a mixed pack of 5 rolls. Fantastic value! For Mod Mesh see page 100.

Coloured Aluminium Wire			code	price
colour	diameter	approx. length		
Black	2 mm	12 m	ARM02N	£3.90
Red	2 mm	12 m	ARM02R	£3.90
Pink	2 mm	12 m	ARM02P	£3.90
Green	2 mm	12 m	ARM02GR	£3.90
Gold	2 mm	12 m	ARM02G	£3.90
Mixed pack of 5 rolls			ARM02K	£17.00

**PLASTIC BARBED WIRE**



Plastic barbed wire in situ; Not About Heroes, 2014, Theatr Clwyd, Director: Tim Baker, Designer: Mark Bailey, Wilfred Owen played by Owain Gwynn, Photo ©Catherine Ashmore



**Plastic Barbed Wire**

A safer version of the real thing; the barbs are plastic, but the wire is real! Almost indistinguishable from actual barbed wire, this is the ideal prop for creating evocative war or industrial scenes for

film or theatre. (For an authentic war scene consider also using Flints Mud [page 45]). Supplied in a coil, the wire can be easily manipulated [please take care when opening the coils]. Spare plastic barbs are also available to make you barbed wire last longer, sold in packs of 10.

Plastic Barbed Wire	code	price	10+	100+
5 m	PROPBW05	£16.50	-	-
30 m	PROPBW30	£79.00	£70.90	-
Spare Barbs [pack of 10]	PROPBWS	£2.50	£2.20	£1.80

**HESSIAN BAGS**

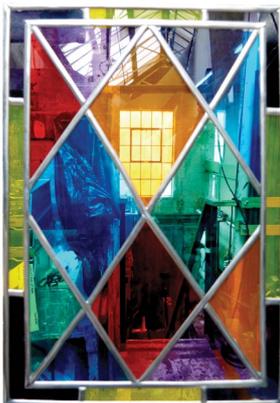


**Hessian Bag** These hessian bags are ideal to complete a wartime or disaster scene. The bags are supplied empty but that doesn't make a very interesting photo so we

filled one with Foam Crumbs [page 48] to replicate an authentic but lightweight sandbag. For exterior shoots see Smoke Grenades page 106.

Hessian Bag	L x D	code	price
Empty	800 x 330 mm	PROCATBAG	£1.75

**SELF-ADHESIVE WINDOW LEAD TAPE**



Glass window with self-adhesive lead and painted with Hatolite [page 31].



**Self-adhesive Window Lead Tape** An easy to use self-adhesive lead tape to make realistic leaded windows. Use **Regasheen**, a special water-based product, to produce an aged effect on lead window tape. For French Enamel Varnish and Hatolite

see page 31.

Self-adhesive Window Lead Tape [50 m]	code	50 m
4.5 mm wide	TAP161	£16.07
6 mm wide	TAP162	£16.50
9 mm wide	TAP163	£21.22
12 mm wide	TAP164	£29.95
250 ml Regasheen Plus	TAP165N	£10.39

**PLASTICINE**



**Plasticine** Simple to use non-toxic modelling medium, available in a range of colours. It can be used, and re-used, for every modelling job, easy to shape. Conforms to BS 5665 CE.

Plasticine	code	500 g
Black	PRO490	£2.19
Dark Blue	PRO491	£2.19
Light Green	PRO492	£2.19
Red	PRO493	£2.19
Stone	PRO494	£2.19
Terracotta	PRO495	£2.19
White	PRO496	£2.19
Grey	PRO497	£2.19
Violet	PRO498	£2.07

**SUPERSCULPEY**



After curing Super Sculpey can be further worked into



**Super Sculpey** A polymer clay that stays soft and malleable until baking. Ideal for use in animation, prototypes, mould making and sculpture. Super Sculpey Original is available in semi-translucent beige and has a ceramic-like feel to work

with. Can achieve fine tooling and detail without the clay filling in and can be reworked numerous times. Also available in a firm grey-coloured version, most suited to working on minuscule and realistic features or where you are after a higher-level detail and complexity. Is more firm than the original both before and after curing. Both clays are cured by oven baking at 130° C. After curing in the oven, Super Sculpey can be further worked into through sanding, drilling, carving and painting with water-based acrylic paints.

Super Sculpey	size	code	list	price
Original Beige	454 g	PROSS1	£20.00	£19.00
Firm Grey	454 g	PROSS2	£22.32	£20.00

**PLASTILIN**



**Plastilin** A high quality wax-based modelling material with the smooth consistency of clay but does not dry out so it can be used over and over again.

Plastilin	code	1 kg
Standard Grade [Ivory]	PROPLS	£7.98
Hard Grade [grey]	PROPLH	£7.98

**MILLIPUT**



**Milliput** Extremely versatile two-part putty. When the two parts are mixed together, the mixture can be used for modelling, repairs to ceramics, cars, water pipes, tiles, etc. It has a working time of about three hours, when hardened it can be drilled, sawn, carved or filed. N.B. At low temperatures Milliput can go hard, and may need warming up before working with it and combining the two components.

Milliput	code	113.4 g
Standard, Grey/Yellow	FIL190	£3.70
Superfine White	FIL193	£5.85
Black	FIL195	£6.45
Silver Grey	FIL192	£6.55
Terracotta	FIL191	£4.22

**For clay and other mouldmaking materials see page 123.**

**IMPRESSION COMPOUNDS**



**Flints Alginate [Fast and Slow Set]** Alginate is a powder which, when mixed with water [2:1 for pouring, 1:1 for spreading], forms a gel suitable for taking impressions of human tissue.

A spearmint-flavoured natural plant extract which is quick-setting, self-releasing, and gives excellent reproduction of fine detail. It has been used by dentists for many years and is safe for use on the skin. The skin can be lubricated with petroleum jelly to protect hair growth. The Fast type gives two minutes for mixing and one minute for setting. The Slow type gives four minutes for mixing and two minutes for setting. Both types set quite soft making them easy to unmount. Each 550 g package is enough to make a full face cast. An outer casing can be made with Mod Roc or Plaster bandage [page 123] to support the Alginate or consider a Plaster of Paris mould to do the job [page 123].

Flints Alginate	size	code	price
Fast	550 g	PROALG550F	£9.98
Slow	550 g	PROALG550S	£9.98

A quick how-to of casting using Flints Alginate:



Decant a measurement of water into a mixing bowl



Measure a volume of Alginate according to your chosen ratio



Sieve the Alginate into the mixing bowl to avoid clumps



Mix the solution slowly and take care to avoid creating air bubbles



Get messy! Use hands to thoroughly mix until it's a jelly-like substance



Hold still while the Alginate sets!

To finish, pour plaster into the mould, wait for it to dry and release it from the Alginate



**Body Double** Body Double Fast Set is a long-lasting silicone rubber that can be applied directly to the skin to make moulds of the face, hands and other body parts. It is supplied in a 454 ml cartridge tube system which mixes the product as it is being dispensed. The rubber cures quickly and reproduces more detail than using alginate. The mould can also be used for repeated castings using plaster, resins etc. Body Double will not stick to skin although it will lock onto hairs. Body Double release cream will

make releasing easier. Once the mould has set it should be coated with Vaseline, and a Plaster bandage [page 123] support shell should be made. Full instructions and health and safety sheets are included.

Body Double	code	Tradeline
Dispensing cartridge[+ 2 mixing nozzles] [2 x 0.9 kg]	PROSKN1	£66.92
Extra mixing nozzles	PROSKN2	£3.12
Body Double release cream [per 3.5 oz]	PROSKN3	£14.90
Dual cartridge dispensing gun	PROVBM200X	£52.38

**WOODEN BALLS**



**Wooden Balls** A multitude of decorative uses. For the vicar's coconut shy use 50 mm or 70 mm. Made from birch. Wooden knobs can be found on page 252. For coconut tree see page 400.

Wooden Balls	code	price	100+	Tradeline 1000+
diameter				
12 mm	PRO210	£0.17	£0.15	£0.13
19 mm	PRO211	£0.23	£0.21	£0.18
25 mm	PRO212	£0.36	£0.34	£0.32
33 mm	PRO213	£0.66	£0.59	£0.56
50 mm	PRO214	£2.47	£2.32	£2.22
70 mm	PRO216	£5.38	£4.84	£4.60

**WOODEN RIVETS**



**Round Wooden Rivets** These beech turnings are ideal for representing steel girder rivets. Our "Preferred Version" rivets have a cross section of almost half a sphere. However, some of our clients don't prefer them so we also stock a "Non-Preferred Version" which are flatter - roughly, the height is about a quarter the diameter. Full technical drawings can be found by scanning the QR code. For a realistic rust effect try Iron Powder [page 32], the Dirty Down Rust Spray [page 69], or HATO®Rust [page 32].



Wooden Rivets "Preferred"		code	price	100+	Tradeline 1000+
diameter	metric				
3/4"	18 mm	PRO200	£0.32	£0.29	£0.27
1"	25 mm	PRO201	£0.35	£0.32	£0.30
1 1/4"	32 mm	PRO202	£0.43	£0.40	£0.38
1 1/2"	38 mm	PRO203	£0.43	£0.40	£0.38

Wooden Rivets "Non-Preferred"		code	price	100+	Tradeline 1000+
diameter					
3/4"	[18 mm]	PRO200NP	£0.55	£0.51	£0.49
1"	[25 mm]	PRO201NP	£0.56	£0.52	£0.50



**Hexagonal Wooden Rivets** A hexagonal alternative to the rounded rivets. Can be used to represent bolt-heads on industrial props and scenery. Available in two different sizes

Hex Rivets	size	code	price	100+	Tradeline 1000+
	M12	PRO220	£0.28	£0.25	£0.23
	M16	PRO221	£0.30	£0.27	£0.25

**How many rivets will I need?**

If you are making a model of the Eiffel Tower then you will only need about 2.5 million rivets but if you are working on a model of the Forth Railway Bridge you will need an impressive 6.5 million!

**WORBLA'S® ART SERIES**



Worbla's® Finest Art

**Worbla's® Art Series** A range of thermoplastics which include sheets and granules. The sheets are easy to cut with scissors or a hot knife [page 207]. For best results soften by using a heat gun [page 282] but a hairdryer, hot water or steam can be used in a pinch. Stays workable for a couple of minutes and can be reactivated with heat to continue to mould into shape.

While its thinness has advantages, it can crack or split and should be layered or backed by Plastazote or Modelfoam [page 103] for a more robust structure. No toxins are released. When it cools it will be rigid. Scraps can be reheated, combined and used like putty. Other than the TransArt they have an adhesive side which will stick to itself to create a double layer, and they can be sanded and painted once cooled. When heated they can be stretched to a certain extent to create curves so are excellent for chest plates or armour. They are also able to be shaped over a mould. They can also be cut using a laser producing very fine detail. They can also be used in combination with Wonderflex [see next page] to create a stronger structure.



Worbla's® Black Art    Worbla's® Pearly Art    Worbla's® TransArt    Kobra Cast

**Worbla's® Finest Art**

✓ Cheaper material with decent impact resistance; good for large items  
 ✗ Not great for detail work; requires lots of sanding and priming to get smooth

**Worbla's® Black & Pearly Art**

✓ Very smooth; can take much finer detail and requires little sanding to finish

✓ Available in Black or a Pearly white [latter designed to be overcoated].  
 ✗ Requires more heat to bond successfully; less impact resistance

**Worbla's® TransArt**

✓ Remains clear after heating; can be stained or painted with Hatolite [page 31]; easier than working with clear acrylic

✗ Tricky to get right; requires a lot of heat [120° C optimal]; slight warping like old glass



**Worbla's Kobra Cast**

✓ Can be sewn into ✓ Fine, Stretchable and tear resistant mesh  
 ✓ Retains some flexibility ✓ Like Varaform mebrane and mesh combined  
 ✗ More expensive ✗ Scraps can't be reheated and moulded together

Worbla®	Type	Medium	price	Large	price
		500 x 750 mm		1000 x 750 mm	
Finest Art	PROWORB5		£12.45	PROWORB1	£23.50
Black Art	PROWORB5B		£14.00	PROWORB1B	£24.00
Pearly Art	PROWORBP5		£15.00	PROWORBP1	£24.00
TransArt	PROWORB5T		£14.15	PROWORB1T	£25.20
Kobra Cast	PROWORB5C		£17.00	PROWORB1C	£26.00



**Worbla's® Deco Art**

✓ Activates at a moderate temperature [65° C]; when softened can be dyed directly with acrylics; reproduces very detailed surfaces using moulds [e.g. silicone moulds]

✗ It is extremely sticky when activated

Worbla's® Deco Art	size	code	price
	250 g	PROWORBDEC250	£10.95

**RHENOFLEX**



**Rhnoflex RX 3145** An excellent value thermoplastic, Rhnoflex is a strong and tear resistant sheet material best suited to large scale working or making prototypes. Made from 2 layers of material, both sides have an inbuilt adhesive which is activated when heated. Both sides have a mesh which gives the surface of Rhnoflex a slight texture, similar to Wonderflex 3, so it's not recommended for capturing very fine detail. The high bonding strength of the compound adhesive make it ideal for sandwiching within other materials, and will easily both with most fabrics including wool or leather. Easily cut with scissors, and heated with either a heat gun or hot water; it should be heated to 130° C - 140° C to a fully activate the adhesive, but heating to 90° C - 100° C will give the material the pliability to form a shape. Sheets are 0.95 mm thick, other thicknesses available to order

Rhnoflex RX3145	size	code	price
0.95 mm thick	750 x 1,000 mm	PRORX3145HS	£15.00

**WONDERFLEX 3™**



**Wonderflex 3™** A light but tough heat activated formable composite sheet material which can be moulded to any shape by applying moderate heat [70 - 80°C]. A hot air gun [500 - 1,000 W] is the usual tool but ovens, microwaves and hot water can also be used. When hot, the adhesive activates so it will stick to itself [and not to your fingers]. Additional thicknesses are easily achieved. The patented material is easy to cut with scissors or utility snips, and the off-cuts can be saved for future projects. Once shaped it becomes very stiff and strong but can be reworked by re-applying heat. A clean and time-saving props material which is ideal for making masks and costume props.

Wonderflex 3™	size	code	price
Per 1/2 sheet	698 x 1,092 mm	PROTRMHS	£29.00
Full sheet	1,397 x 1,092 mm	PROTRM3	£49.00

**FOSSHAPE™**



**Fosshape™** A unique patented non-woven fabric. The breathable fabric can be cut to shape with scissors and sewn to itself or other fabrics. So what makes it unique? Fosshape™ can be heated with a domestic steamer [or hot air gun] to form any shape. When heated the material will shrink and become stiff. Its breathable properties and very light weight make it ideal for stiffening costumes and making large headgear and costume props. The white fluffy texture makes it a good choice for snow scene displays and costumes. Choose Fosshape™ 600 for larger items that require more structural support. Now available in a mid-weight jet black version.

Fosshape™	width	code	per m	45 m+
White 300 gsm	45" [1,143 mm]	PROFS300	£16.00	£14.40
Black 400 gsm	45" [1,143 mm]	PROFS400B	£23.00	£20.00
White 600 gsm	45" [1,143 mm]	PROFS600	£26.95	£24.25

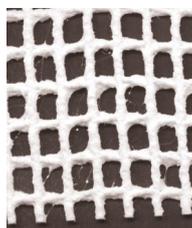
**PLASTAZOTE®**



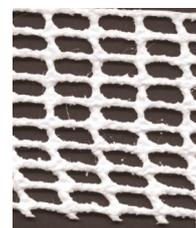
**Plastazote®** A soft expanded polyethylene foam which is tough but easy to cut with scissors or craft knives. It can be vacuum-formed or heat moulded. If heat moulding, pre-heat the oven to 140° C and heat for 12 seconds per mm thickness turning if necessary. It should feel warm but not sticky. Density 45 kg per m<sup>3</sup>. Now available in Black or White!

Plastazote® [1 m x 750 mm]	code	price
3 mm thick	PROPLW3	£6.39
6 mm thick	PROPLW6	£10.28
12 mm thick	PROPLW12	£18.00
Black 6 mm thick	PROPLB6	£11.25

**VARAFORM**



Heavy



Light



Membrane



A simple dinosaur mask made using aluminium armature wire with heavy Varaform and Membrane scales.



**Varaform** This product has become a best-seller since we introduced it over ten years ago. It is a natural cotton mesh impregnated with a thermoplastic resin. When heated with hot water or hot air it quickly softens so that it can be worked into any shape. It sets on cooling to form a rigid lightweight armature. Varaform will stick to itself in its warm state and it can be re-heated and re-moulded as many times as required. It is non-toxic and has an indefinite shelf life. Varaform is biodegradable, water resistant and is 50% lighter than Plaster of Paris making it ideal for use as elaborate masks. Extremely easy and clean to use and could potentially save the propmaker hours of messy work. Available in three grades. Recently, the manufacturers have changed to a smoother and more square cotton for the heavy; it's easier to use but narrower at 1,050 mm. We also stock smaller sheet sizes ideal for masks or sampling. Highly recommended. Ask for a free sample.

Varaform Rolls	width	code	per m	10+
Heavy	1,050 mm	PROVAR201	£39.95	£35.95
Light	900 mm	PROVAR211	£30.85	£27.77
Gauze Membrane	1,150 mm	PROVAR221	£38.34	£34.48

Varaform Sheets	width	length	code	per sheet
Heavy	450 mm	600 mm	PROVAR204	£14.75
Light	450 mm	600 mm	PROVAR214	£12.95

**HATBOND CM**



**Hatbond CM** Thermoplastic modelling material developed for millinery by Carole Maher, but also great for use in costumes, castings and hand moulded pieces. It is intended to give an inner structure to a variety of fabrics- both sides are sticky when heated, so it easily bonds to fabrics. Once cooled Hatbond CM retains it's moulded shape and is almost invisible between bonded materials. It can be reheated and moulded with heat gun repeatedly to achieve the desired shape. Easily cut with scissors, or a All sheets are approximately 0.3mm thick.

Hatbond CM	width	length	code	price
0.3 mm thick	700 mm	1000 mm	PROHBCM	£15.00

**MOD MESH**



Fine Medium Coarse

**Mod Mesh Aluminium** These are aluminium meshes which form easily in the hand and retain fine detail. Available in fine, medium and coarse gauges. Perfect for masks and small detailed props. May be covered with Mod Roc or the Jesmonite System [page 115].

For Tin Snips and Shears see page 309



**Mod Mesh Copper** All the features of the aluminium meshes but this copper mesh can be soldered.

Mod Mesh	hole size	width	code	3 m roll
Aluminium Fine	1 x 2 mm	500 mm	PROM078A	£19.07
Aluminium Medium	2.5 x 4.5 mm	500 mm	PROM078C	£19.07
Aluminium Coarse	5 x 10 mm	500 mm	PROM078F	£19.07
Copper Medium	2.5 x 3 mm	500 mm	PROM074A	£74.75

**CHICKEN WIRE**



**Chicken Wire** Unfortunately, it is now hard to source the "galvanised after" wire netting. For propmakers galvanised-after mesh is much preferred because it holds its shape better than the rather springy chicken wire made from pre-galvanised wire. We can still obtain 50 m rolls of 25 mm- and 50 mm-hole mesh which is "galvanised after" [to BS 443 EN 10223/2] but the smaller rolls are sadly made from pre-galvanised wire.

Chicken Wire "Pre-galvanised"				code	price
length	hole size	gauge	width		
10 m	13 mm	22 g	900 mm	PRO300	£22.60
25 m	13 mm	22 g	900 mm	PRO310	£47.90
10 m	25 mm	20 g	900 mm	PRO301	£20.94
10 m	50 mm	19 g	900 mm	PRO302	£13.04
Chicken Wire "Galvanised After"				code	price
length	hole size	gauge	width		
50 m	25 mm	20 g	900 mm	PRO314GA	£89.98
50 m	50 mm	20 g	900 mm	PRO301GA	£62.38

**RIGID FOAM SHEETS**



**Rigid PVC Foam Sheet** Lightweight rigid PVC foam sheet, sometimes referred to as Foamex – a real alternative to acrylic. The sheets are 3 mm thick and measure 605 x 605 mm. Available in black or white. Supplied with a polythene protective film on one side.

- ✓ Both faces semi-matt, ideal for printing and painting
- ✓ Self-extinguishing Class 1 fire rating
- ✓ Weather resistant and rotproof
- ✓ Can be nailed without splitting [blunt the nail head first and nail more than 6 mm from the edge]
- ✓ Easy to machine, no specialist tooling
- ✓ Fully thermoformable

A full information sheet is downloadable from our website - flints.co.uk.

Rigid PVC Foam Sheet	L x W x thk	code	price
White	605 x 605 x 3 mm	PRO1002114W	£7.13
Black	605 x 605 x 3 mm	PRO1002114B	£7.13

**VACUUM-FORMED SHEETS**



Rough Worn Brickwork



Brickwall English Bond Brickwork



Rough Slates



Rubble Stone Wall

**Vacuum-Formed Sheets** This is an economical way to get large areas of brick and stone. Made from 0.3 mm flame retardant PVC these sheets are very lightweight. Prepare the surface using Covent Garden Primer [page 10]. Putting Covent Garden Primer in subsequent paint will help it stick and resist scratches. Use a flexible paint like Rosco Supersaturated [page 12] because once cut out these sheets can be rolled up. When the basecoat is dry, the topcoat can be textured using a paint technique and the mortar accentuated with a texturing material [page 44]. Joins can be disguised with muslin. Staple to ply clad flats, see stage braces on page 152. Only available in grey.

Vac Formed Sheets	L x W x thk	code	Tradeline
Rough Worn Brickwork	2,235 x 1,040 x 12 mm	PROVAC01	£25.14
Brickwall English	2,394 x 1,070 x 12 mm	PROVAC02	£25.14
Rough Slates	2,270 x 1,060 x 20 mm	PROVAC03	£25.14
Rubble Stone Wall	2,240 x 1,040 x 40 mm	PROVAC04	£25.14

**EXPANDED POLYSTYRENE BALLS & BEADS**



**Polystyrene Balls** Turned and moulded flame retardant polystyrene balls for set decoration and props. Also can be ordered in other sizes.

Polystyrene Balls	type	code	price	10+
50 mm diameter	moulded	PROPB50	£0.72	£0.56
100 mm diameter	moulded	PROPB100	£1.80	£1.50
150 mm diameter	cut	PROPB150	£28.34	£24.70
250 mm diameter	cut	PROPB250	£53.61	£46.11

**NEW**  
**F**



**Flints Flame Retardant Eco BIOBeads** Sustainable, renewable, expanded polylactic acid Bio Beads made from corn starch and sugar cane you can use in just the same way as polystyrene. Great for lightweight gap filling, adding to textures or even filling up a bean bag. **BioBoard** coming soon. Compostable to EN 13432 standard and

FR grade to BS 5852:Part2:1982. Cradle to Cradle certified

Polystyrene Beads	code	price
5 cubic feet	FHSBB60L	£38.70

**FLAME RETARDANT-GRADE POLYSTYRENE**



Also  
in black!

**Expanded Polystyrene** Flints stock two thicknesses of flame retardant-grade polystyrene in **black** or white. Polystyrene should be glued using a suitable adhesive such as Tretobond 375 or General Purpose Adhesive 1088. Flints Cyclorama Adhesive, Copydex, Flexbond and two-part foams are also suitable.

Expanded Polystyrene	L x W x thk	code	price
White	2,400 x 1,200 x 25 mm	PROFRP1	£15.70
White	2,400 x 1,200 x 50 mm	PROFRP2	£23.60
Black	2,400 x 1,200 x 25 mm	PROFRP1B	£22.30
Black	2,400 x 1,200 x 50 mm	PROFRP2B	£31.95

**NB:** Due to packaging difficulties, this product cannot be sent on parcel carriers. Flints can deliver on our London Van Run route [see page 385 for postcodes], or it can be collected from our trade counter.

For Black Foamboard see page 103. For Polystyrene Balls see above ↑.

**Some thoughts on Polystyrene**

Although super useful stuff - lightweight, robust, carve-able, the environmental impact of Polystyrene is horrendous. On top of all that we have recently been struggling to source it!

Thankfully some good news - our amazing new BioBeads, which are compostable, flame retardant, and can be used just the same way as polystyrene will soon be joined by a BioBoard! Sadly didn't quite make the print deadline, but please keep an eye out, and make your #ecoswap if you can.

Read more about sustainable theatre production and Flint's thoughts and efforts on pages 2-3.

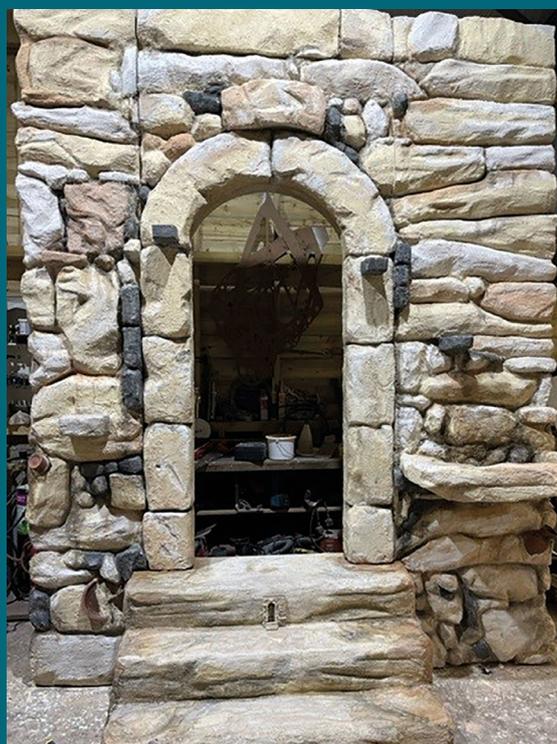
**POLY BOARD HOLDER**



**Poly Board Holder** The best-looking Poly Board Holder in smart black powder coat. Floor standing. Takes a 50 mm sheet but extend their usefulness by having one side a sheet of our 25 mm white FR polystyrene and the other side a sheet of our 25 mm black FR polystyrene see above ↑ – white for a soft light, black to create harsh shadows for sculpting. With four non-marking plastic stand off feet. Steel. Dims LxDxH: 457 x 216 x 267 mm.

Poly Board Holder	weight	code	price
50 mm	1.75 kg	DOUG1147	£51.43

**Product Spotlight**



This stunning stone wall was carved by Penny Spedding from Polystyrene and then coated in a range of the Jesmonite AC730 Stone Finishes [page 116]. It was created for *Hakawatis* at the Sam Wanamaker Playhouse, and designed by Rosa Maggiora.

**POLYSTYRENE CUTTERS**

Why not hire?  
[page 381]



**F**  
CE  
HIRE

**Flints Polystyrene Cutter** A robust machine designed to cut polystyrene up to 8 ft thick using a thin heated wire. The machine also has a thick-wire sculpting facility. Isolated low voltage output for safety with overload cut-out. Continuously variable control including ampere meter to accurately set the wire temperature. Comes with a 12 month limited warranty. Now Available in 240 V and 110 V versions.

Flints Polystyrene Cutter	code	price
Polycutter Machine only 240 V [white]	FHSPOLY	£860.48
Polycutter Machine only 110 V [yellow]	FHSPOLY110V	£860.48
Thin-wire handles [pair]	FHSPOLYTW	£102.80
Sculpting wire handle	FHSPOLYSH	£68.15
Sculpting wire [per metre. Ø: 1.6 mm]	PROT400SW16	£4.30
Sculpting wire [29 m reel. Ø: 1.6 mm]	PROT400SW16D	£109.35
Thin cutting wire [per 125 g reel Ø: 0.71 mm]	PROT400CW	£29.95
Machine with both handles & both wires 240 V	FHSPOLYK	£998.00
Machine with both handles & both wires 110 V	FHSPOLY110VK	£998.00
Spare fuses	FHSPOLYFUSE	£1.00

**NEW**



**Edma Handheld Hot Knife Foam Cutter** Hot knife with with cooling system for continuous operation. An innovative new tool to cut polystyrene. Simply plug in, attach a blade and squeeze the trigger to operate. Cuts through polystyrene like butter leaving no mess. Includes 2 long blades for slicing the board into shapes accurately and groove cutter that cuts channels, great for creating raised designs. Dial on handle to adjust the heat settings.

Kit Includes: 1 x 200mm Blade, 1 x 250mm Blade, 1 x 30mm Groove Cutter, 1 x Wire Brush for cleaning, 1 x Blade Fixing Key. CE certified. All supplied in compact carry case.

**NEW**



**Edma Hot Knife Guide** Guide for Edma Hot Knife to cut straight lines from up to 210mm from edge

Edma Handheld Hot Knife	code	price
Edma Handheld Hot Knife Foam Cutter	PR03675	£235.10
Edma Hot Knife Guide	PR04666	£49.85



**Proxxon Thermocut Bench Cutter** Ideal for architectural and theatre modelmakers. The 390 x 280 mm working surface is of aluminium CoBond compound. This eases the pushing of work pieces. The table top has a printed grid and protractor. Supplied with a dual function fence with lockable feed bar. The throat depth is 350 mm and the machine will cut material up to 140 mm thick. Cutting wire temperature is variable between 100° and 200°C. Weighs approx 3 kg. Insulated to Class 2 requirements. 240 V, 50/60Hz. Working space: 390 x 280 mm.

Proxxon Thermocut Bench Cutter	code	price
Polystyrene Cutter	PRO27080	£95.82
Spare Wire [30 m x 0.2 mm]	PRO28080	£6.98



**Proxxon Hot Wire Cutter** The wire can be deformed with pliers or by hand to create a profile for easy freehand cutting into polystyrene. The pivoted fixing element can extend the wire up to 200 mm. Takes just 1 second to heat up! The Wire Cutter must be used with the Micromot Adaptor. Sold separately or as a kit. Specification: Cutter: 12V. 60W. 50/60Hz; temperature is variable between 150° and 350°C. Adaptor: Micromot NG 2/S 2A Single Speed 12V.

Proxxon Hot Wire Cutter	code	price
Proxxon Hot Wire Cutter Thermocut 12/E	PRO211076	£33.32
Proxxon Micromot Mains Adaptor	PRO476059	£29.15
Kit of both of the above	PRO211076K	£58.56
Spare Wire [200 x 0.85 mm]	PRO212470	£13.98

# MODEL MAKING

## BALSA WOOD



**Balsa Wood** Finest quality eco-friendly balsa for all your model making and prop needs. Due to lack of demand, we now only stock the economy random pack, rather than a complete range of sizes.

Balsa Wood Economy Pack	code	list	price
Random sizes [about 72 cubic inches]	PROQWA1	£17.99	£13.95

## FINE-CELL POLYSTYRENE



**Modelfoam** Fine-cell extruded polystyrene which is very easy to shape and form using conventional hand tools. It can be glued with Modelfoam Adhesive. Modelfoam comes in two grades – use the dense grade for finer detail work. Battenburg

colours: dense is always blue but standard may be orange or yellow [at random!]. The dense blue version is increasing in popularity amongst cos-players as a structural support for more flexible thermoplastics like Worbla [see page 98]

Modelfoam	thickness	code	price
grade			600 x 300 mm
Dense	25 mm	PRO1001933	£5.95
Standard	25 mm	PRO1001773	£4.65
Dense	50 mm	PRO1001971	£9.35
Standard	50 mm	PRO1001810	£6.29



**Modelfoam Adhesive** Ideal for fine-cell extruded polystyrene. Water-based. Sets in 30 minutes.

Modelfoam Adhesive	size	code	price
	1 L	PRO1002091	£10.50

## FOAMBOARD



**Black Foam Board** This board is ideal for making model boxes. It is easy to cut, ultra lightweight and makes strong and rigid constructions. Corners can be temporarily fixed with pins so large models can be dismantled for transportation. Unfortunately, if you want a single sheet you will

need to buy it from our trade counter because of the risk of damage when couriered. Pack quantities can be delivered. Sheet size A2 [420 x 594 mm]. 5 mm thick.

Black Foam Board	code	price	20+
A2 sheet	PROWF7002	£3.07	£2.77

## USEFUL TAPES



**Black Masking Tape** This tape is ideal for securing model boxes made from black foamboard. It forms a very neat fixing which can be easily scalped through to aid transportation. Also widely used by photographers for sealing light leaks. Easy removal even after long periods.

Adhesion To Steel: 4 N/10 mm. Elongation At Break: 6%. Tensile Strength: 32 N/10 mm.

Black Masking Tape for Model Makers [50 m]	code	price
25 mm [1"]	TAP150	£4.99
50 mm [2"]	TAP151	£9.99



**Filament Cross-weave Tape** This fibreglass-reinforced tape is incredibly strong and suitable for providing structural support in model making. The cross-weave filaments give the tap bi-directional strength. Available in 2 widths for a variety of applications. The adhesive is especially formulated to give good adhesion to fibreboard surfaces. Adhesion To Steel: 10 N/10 mm. Elongation At Break: 5%. Tensile Strength: 240 N/10 mm. Thickness: 120 microns

Filament Cross-weave Tape [50 m]	code	price
25 mm [1"]	TAPFRCT25	£2.49
50 mm [2"]	TAPFRCT50	£4.52

## ADHESIVES



**UHU and UHU Gel** Strong crystal-clear adhesives suitable for virtually everything except expanded polystyrene. The UHU gel is a non-drip version which many find cleaner and easier to use.

UHU	size	code	price
UHU All purpose	35 ml	UHU042862	£2.76
UHU Extra Gel	31 ml	UHU043437	£2.76



**Zap a Gap** Fills Gaps. Allows 7 – 10 seconds for positioning and cures in 20 seconds. Can be accelerated by using the aerosol [Kicker]. Bonds most materials including metal, wood, rubber, pottery, and most plastics. The aerosol [Kicker] is an accelerator only, not an adhesive!

Zap a Gap	size	code	price
	1 oz	ADHPT02	£7.08
	4 oz	ADHPT05	£24.13
Aerosol [Kicker]	2 oz	ADHPT15	£6.55

## SAFETY RULE



**Safety Rule** A unique M profile keeps the fingers well away from any knife edge when used for cutting or scoring card etc. The rule is stainless steel to give a long corrosion-free life. Metric and imperial scales. Size: 300 mm [12 in]. Weight: 117 g.

Safety Rule	length	code	price
	300 mm [12"]	MAU1773012	£2.57

# SPECIAL EFFECTS

## SUGAR GLASS BREAKAWAYS



Sugar Glass Breakaways	code	box of 12
glasses: Champagne Flute	BAG10B	£263.70
Wine Glass	BAG18B	£242.10
Paris Goblet [red wine]	BAG36B	£242.10
glasses: Whiskey Tumbler	BAG04B	£247.00
Pint Glass [standard]	BAG23B	£247.00
Hiball glass	BAG03B	£230.00
bottles: Beer [brown Budweiser]	BAG21B	£230.00
Champagne [plain]	BAG08B	£247.00
Champagne [dressed]	BAG07B	£426.00
Wine [clear]	BAG09B	£264.10
Wine [green for red wine]	BAG09GB	£230.00
Wine [green for white wine]	BAG37B	£230.00
Vodka Bottle	BAG39B	£315.25
plates: Dinner Plate	BAG33B	£264.10
other: Cut Glass Decanter	BAG25B	£563.75
Bayonet Light Bulb [clear]	BAG40B	£213.00

Window Glass price on application, call for quote.

**NEW SIZE**

**Breakaways** Used within the theatre, film and television industries for stunts and special effects. The Champagne bottles are also widely used for boat launches. Breakaway bottles and glasses shatter very realistically without causing injury. We should point out that these objects are very fragile so regrettably, we can only sell them sent direct in special sprung boxes [box included in price] containing twelve of the item. Breakaways must be stored in a cool place away from direct sun or heat. The maximum window-glass sheet size is 1 m x 1 m. The sheets are packed in wooden crates to allow for transportation. **WE CAN ONLY DESPATCH THESE GOODS AT THE CUSTOMER'S RISK.**

## BREAKAWAY RAW MATERIAL



**Breakaway Glass** This breakaway glass raw material has shatter characteristics closely resembling glass. It has excellent clarity and low surface tack when handled. Melts at 104° C. Small panes of glass [about 1 ft<sup>2</sup>] can be made relatively simply by using a sheet of Melamine-faced plywood as a mould.

Screw some 25 mm square battens onto the ply to define the size. The battens should be covered in parcel tape or polythene to stop the Breakaway Glass from sticking. Use a light release agent on the board such as Formula 6 [page 123]. Heat the Breakaway Glass in a double pot with an air gap rather than a water jacket to 104° C. Pour the melted glass to cover the board and leave it level to cool. Unscrew one or more of the battens and tap the Melamine-covered board with a hammer. The glass will slide off. We used to use squares of Underfelt [page 141] between each sheet and tour the sheets in a special wooden box. Keep the boxes cool.

## SMASH PLASTIC



As used by James Bond.

**SMASH! Plastic** is a two-component urethane that is mixed 1A:1B by volume and cures to a water-clear solid plastic designed to break like glass on impact. The Smooth-On lab did a tremendous balancing act, formulating this product not to be too fragile, but to certainly break on impact. It truly looks and sounds like breaking glass when smashed. Broken fragments look like

broken glass. SMASH!™ can be cast solid [for making window panes] or rotationally cast [for making bottles, drinking glasses, etc.] in thicknesses NO GREATER THAN 1/8" [3.2 mm]. If using this product for smashing over someone's head, make sure you observe this thickness limitation or someone could be injured. If casting solid, vacuum degassing or pressure casting are recommended to help eliminate air voids. If rotocasting, finished castings will look like frosted glass. If you want clarity in a bottle casting, better to build a core mould and cast with a 1/8" wall thickness. SMASH!™ can be pigmented to look like a beer bottle – or any other colour – using SO-Strong™ tints [please phone for information].

Breakaway Glass	code	per kilo	Tradeline 20+
	PROBG25	£29.50	£25.95

See also Rubber Ice & Glass on page 108.

SMASH! Plastic	size	code	Tradeline
	900 g	PROSP9	£87.19
	7.2 kg	PROSP972	£416.10
	36.2 kg	PROSP9362	£1,844.53

## COBWEB EFFECTS



**Kobweb Spinner** This device attaches to a standard electric drill to spin out cobweb filaments for effects purposes. To use, fill the container with Kobweb solution, crack open the lid a fraction and spin at about 2,000 rpm. The filaments should shoot out forwards [hey, check your drill is not in reverse!]

about 3 or 4 ft. For full instructions and data sheets visit [flints.co.uk](http://flints.co.uk).

**Kobweb Solution** For use in the Kobweb Spinner.

**Kobweb Cleaner** For use with a soft rag to remove cobweb contamination.

Kobweb Spinner	code	price
Kobweb Spinner	SFXCOBSPINNER	£121.00
Kobweb Solution 500 g	SFXCOBFLUID	£25.00
Kobweb Cleaner 500 g	SFXCOBCLEANER5	£13.45



**Kobweb Spray** An easy to use aerosol which sprays copious amounts of cobweb filaments. Ideal for theatre, photography, and display purposes. Solvent-based, cleans up with White Spirit [page 61]. N.B. At low temperatures the vapour pressure can drop and the effect won't work. Follow guidance on can carefully.

Kobweb Spray	code	price	12+
	PAT975	£14.95	£13.78

## LIGHTSTICKS



**Lightsticks** Non-toxic, non-flammable, 360° illumination, 100% safe. Available in six colours. Just bend and shake to start.

Lightsticks	duration	code	price	colour	duration	code	price
Green	12 hrs	SFXG12	£1.95	Orange	12 hrs	SFXO12	£1.95
Red	12 hrs	SFXR12	£1.95	Blue	8 hrs	SFXB8	£1.95
Yellow	12 hrs	SFX12	£1.95	White	8 hrs	SFXW8	£1.95

### Candlelight

"Electricity kills darkness, candlelight illuminates it" Thoreau.



**Flicker Candles** are sadly no longer available - our existing supplier discontinued them, and any replacements we found were over priced and poor quality. We'll keep hunting for them though!

## SMOKE AND FOG



**Mini Mist Machine 240V** The Mini Mist has long been established as the leading aerosol fog machine. A robust hand-held unit, making it the chosen generator for the film and TV industries as well as the armed forces and fire brigades.

- ✓ Can be used off the power supply for up to 20 minutes
- ✓ One canister will provide six x 1 minute bursts at full output
- ✓ Smoke output of 180 cubic metres per minute
- ✓ Variable control
- ✓ Weighs just 8 kg

Mini Mist Smoke Machine	code	list	Tradeline
	SFX1903	£851.00	£679.10
Smoke canister - 400 ml	SFX1911		£17.50



**Antari Z 80** This small versatile and economical fogger is a great choice for small stages and clubs. Heater: 700 W. Tank: 1 L. Warm-up time: 4 minutes. Fog output: 80 m<sup>3</sup>/minute. 230 V. Weight: 4.9 kg.  
 Supplied with remote pendant controller.

Antari Z 80 Fog Machine	code	list	Tradeline
	SFX60651UK	£105.46	£94.18
Wireless version	SFX60650UK	£123.18	£108.11



**Antari Z 1000** This medium-size machine pumps out masses of fog. It is DMX controllable and also available in a wireless version. Heater: 1,000 W. Tank: 1.7 L. 1st Warm-up time: 5.5 minutes. Fog Output: 283 m<sup>3</sup>/minute. Consumption: 1 L/per 49 minutes at 100%. 230 V, Dims: 400 x 182 x 177 mm. Weight: 4.9 kg.  Supplied with 10 m remote pendant controller [wireless controller available as extra].

Antari Z 1000 Fog Machine	code	list	Tradeline
	SFX60673UK	£327.01	£280.35
Z 50 wireless controller	SFX60678		£64.60



**Antari Z 350 Hazer** This is the latest creation from Antari using new air-pump technology which generates a dry haze and also provides its heater with a self-clean function. Very low consumption rate giving 430 minutes use on a full tank at 100%. When no signal is received and it goes into sleep mode the two-channel DMX function automatically starts the self-clean. Heater: 800 W. Tank: 1.3 L. Fog output: 84 m<sup>3</sup>/minute. Consumption: 3 ml/min at 100%. 240 V. Dims: 320 x 153 x 391 mm. Weight: 8.7 kg.  
 Supplied with VR-1T Volume remote pendant controller.

Antari Z 350 Hazer	code	list	Tradeline
	SFX60760UK	£429.81	£361.14

"And now there came both mist and snow,  
 And it grew wondrous cold:  
 And ice, mast high, came floating by,  
 As green as emerald".  
 The Rime of the Ancient Mariner by Samuel Taylor Coleridge.

## FOG FLUIDS



**Rosco Fog Fluid** Rosco's water-based fog fluids have been developed and proven over many years and have justly become the most widely used fog fluids in theatre, live entertainment and theme parks.

- ✓ Rosco Fog Fluid for thick clouds with very long hang time. Has a mild scent. The best general purpose fluid.
- ✓ Rosco Stage and Studio for fast dissipation. Best for chilled low-lying fogs.

Rosco Fog Fluid	code	1 L	code	5 L
Rosco Fog Fluid	ROS830711	£28.00	ROS8305125	£91.50
Rosco Stage and Studio	ROS830011	£32.00	ROS8300135	£95.25



**Showtec Fog Fluids** Compatible with the Antari machines. A great value water-based fluid that produces a white fog.

Fog Fluid	size	code	price
	1 L	SFX60627	£4.12
	5 L	SFX60603	£10.19

**SMOKE CANS AND PELLETS**

**NEW SIZE**



**Smoke Grenades** A two-second delay followed by thick brightly coloured smoke lasting an average of 90 seconds. Originally designed for combat sports, these cool burning smoke grenades are not to be used inside. Ring Pull activation for ease of use [follow instructions carefully]. The manufacturer advises that as long as the body of the grenade, once depleted, is disposed of properly - including the plastic cap and ring pull - there should be no negative impact on the environment from use. Regrettably due to shipping and transportation restrictions we are no longer able to sell these individually. Boxes of 50 can be ordered and will be sent direct from the manufacturer. Boxes of 50 can still be collected from our trade counter and delivered on our Van Run. Please note, the date printed on the top indicates production date. When stored correctly the grenade should have a shelf life of 5 years. Over 18's only - proof of age will be asked on purchase.

Smoke Grenades	code	price	colour	code	price
		per box of 50			per box of 50
White	SFXWSGB	£195.00	Blue	SFXBSGB	£195.00
Red	SFXRSGB	£195.00	Orange	SFXOSGB	£195.00
Yellow	SFXYSGB	£195.00	Green	SFXGSGB	£195.00



**Fantasy FX [Haze in a Can]** One can will fill a normal room 15 times! Enhances lighting effects and creates atmosphere ideal for theatre, photographic, disco or nightclub use. Available as a standard aerosol or a continuous aerosol where the trigger locks-down for a constant hands-free release.

Fantasy FX	size	code	price
Regular Type	16 oz	SFXFXR	£21.84
Lock-Down Type	16 oz	SFXFXLD	£21.84



**Magican [Haze In A Can] [Long-lasting]** It will last you all night! Odourless and completely safe, meeting all safety standards. Not known to affect any with breathing problems. This can sprayed for 15-30 seconds will create a smoky haze that lasts for 1-2 hrs. It will fill a large room 15 times. 10 fluid ounces [284 ml].

Magican Haze	size	code	price
	284 ml	SFXMH	£12.32



**Smoke Pellets** Oil-free and non-acidic pellets that should be lit on a fireproof base. Each pellet lasts for about 1 minute 25 seconds. Not designed for special effects, see safety data sheet on our website to decide if it's right for you.

Smoke Pellets	code	price
10 pellets	SFXSPI	£19.86

**HERBAL CIGARETTES**



**Honeyrose White Cigarettes & Loose Herbal Smoking Leaf** Specially designed for the film and theatre industry, the herbal cigarettes have white tipping paper/filter and no logo for an ageless look. Cork tipped version available, and we also stock the loose leaf. Honeyrose herbal products are 100 % natural, and guaranteed to be completely free of nicotine and tobacco.

Honeyrose Herbal Products	pack size	code	price
White Cigarettes	20 cigarettes	SFXHCWC	£18.20
Loose Leaf	30 g	SFXHCLL	£15.34
Cork Tipped Cigarettes	30 g	SFXHCCK	£18.98

**NEW TYPE**

**SNOW AND FROST EFFECTS**



**Antari SW250 High Power Snow Machine** This is a digitalised snow machine with onboard DMX and wireless control. Its snow output has increased by 250% over the previous model! In addition, the time and volume controls allow you to control your snowflakes even more accurately. Virtually silent. Not recommended for continuous use (such as in a shop display). 240 V 50 Hz. 50% output: 600 W. Full output: 1,290 W. Output: 240 ml/min. Tank capacity: 5 L. Fluid consumption: 1L/ per 4 minutes. Dims: 550 x 276 x 228. Weight: 12.6 kg.  Supplied with W-1 wireless remote, LCD display and trunion arm.

Antari SW250 Snow Machine	size	code	list	Tradeline
Machine		SFX80372	£810.47	£682.65
Fluid	5 L	SFX80358		£12.64



**Show Snow** Polyethylene self-extinguishing snow for falling snow effects or dressing. This is the best artificial snow around. Fire rated to Source 1 BS 5852. Fire regulations vary so check with your local authority before ordering. Covers 10 m<sup>2</sup> to about 4 mm. Consider sprinkling some Opalina Snow [page 41] over the top for a sparkling effect!

Show Snow	size	code	price	10+
	58 L Bag	SFX700	£45.00	£43.00



**Kolsnow** Artificial falling snow effect. Melts in 10-15 minutes leaving no trace. Can be sprayed onto clothes, scenery and the ground for a realistic melting snow effect. Clean with water if required. Supplied with two nozzles, a red one for larger flakes and a white one for smaller flakes.

Kolsnow	size	code	price
	600 ml	PAT973	£12.55



**Snocene** Decorative snow spray for windows, mirrors, decorations, trees, foliage, and scenery. Can be cleaned with hot soapy water or solvents. Once applied, the snow is non-toxic and flame retardant.

Snocene	size	code	price
	400 ml	PAT972	£7.85



**Frost Crystal Spray [Krystal FX]** Realistic frost crystals which stick to glass. Spray onto the glass, allow to dry and watch the crystals appear in minutes. Clean away with water. Now in pump spray bottle for a finer mist and better control.

Frost Crystal Spray	code	price
250 ml	PAT974	£6.53

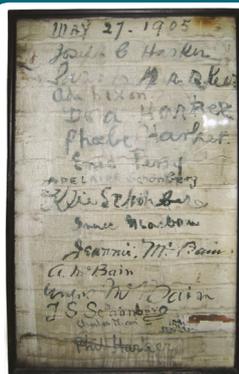


**Frost & Snow Effect by Dirty Down** A light spray from the can will give a gentle frost effect. A harder spray creates a hard frost or snow.

Frost & Snow Effect	code	price	Tradeline
400 ml	PAT9598	£8.80	12+ £7.95

For other snow effects see Fosshape™ [page 99], Marble Dust [page 25], and Opalina Snow [page 41].

## MAKE-UP AND BLOOD EFFECTS



### Dracula and Flints

Flints' old shop and showroom on Queens Row was built as a scenic paint studio for Joseph Harker over 100 years ago. Joseph Harker was a good friend of Bram Stoker. The hero of Dracula, Jonathan Harker, was based on Joseph Harker. Unfortunately the building's owner is soon to turn it into Flats.

Signatures of all the famous scenic artists including Joseph Harker seen on the wall of the studio.



**Pigs Might Fly [Blood]** When multi-award winning special effects make-up artist, Nick Dudman, needed an ultra-realistic, fully washable, non-staining, running theatrical blood – he brewed his own. We're really amazed by how washable it is! We've also heard of blood being removed from a silk dress with damp kitchen towel and leaving no mark. Just **don't** dry clean. Also for use in mouth capsules 🍷, and for mouth effects.

Two types: Standard is arterial/fresh; Dark is venous/aged.

Pigs Might Fly	size	standard code	price	dark code	price
	30 ml	SFX46146	£6.75	SFX46146D	£6.75
	250 ml	SFX46145	£16.25	SFX46145D	£16.25
	500 ml	SFX46144	£26.50	SFX46144D	£26.50
	1 L	SFX46143	£47.50	SFX46143D	£47.50



**Kryolan Stage Blood** Safe for use externally and for mouth effects. Washable, but try it on a sample of the costume first. Can be used to fill capsules 🍷.

Kryolan Stage Blood	code	list	price
500 ml	SFXSB6	£46.97	£36.96
1 L	SFXSB7	£81.84	£63.95



**Mouth Capsules [Blood]** Flints supplies gelatin capsules empty or ready-filled with powdered stage blood. Bite to release, when mixed with saliva it will produce a realistic blood effect.

Mouth Capsules	code	list	price
20 Empty Capsules	SFXGB232	£6.56	£5.90
10 Full Capsules	SFX04046	£9.16	£8.25
50 ml Syringe [for filling]	SAF300866		£2.33



**Problood® - Original** Realistic fake blood that demonstrates great value for the quality of the product, if it's good enough for Holby City it's good enough for Flints. Non Staining. Vegan. Washable (test before heavy use on fabrics). Safe to be held in mouth for short period of time. Please Note: Do not use near eyes!

Available in Original and Dark for aged blood effect.

Problood® - Original	size	code	price
	60 ml	SFXPBR0060	£7.60
	100 ml	SFXPBR0100	£8.75
	600 ml	SFXPBR0600	£28.60
	1 L	SFXPBR1000	

Problood® - Dark	size	code	price
	60 ml	SFXPBD0060	£7.60
	100 ml	SFXPBD0100	£8.75
	600 ml	SFXPBD0600	£28.60
	1 L	SFXPBD1000	£41.65



**Congealed Blood** Blood that has congealed - Lovely! Fantastic for fake wounds, especially those festering untreated ones. Not to be used in mouth or eyes. Washable. Vegan. Not tested on animals.

Available in Dark for an aged blood effect.

Congealed Blood	size	code	price
	30 ml	SFXCB0030	£6.98
	100 ml	SFXCB0100	£12.50
	350 ml	SFXCB0350	£29.50
	1 L	SFXCB1000	£65.00



**Body Hits/Bullet Holes** Three pre-made latex prosthetics in the shape of bullet holes. For maximum effect use with Pigs Might Fly South or Kryolan Stage Blood [above 🍷] and Bruise Gel 🍷. Pack of 3.

Mouth Capsules	code	list	price
	SFX43003	£6.80	£6.12



**Bruise Gel** Comes in four colours that build up into all the stages of bruising. Apply by dabbing on sparingly. Washes off with soap and water. Available in Light Red [LR], Blue [B], Brown [BR], Purple [P], Yellow [Y].

Bruise Gel	size	code	price
Light Red	30 ml	SFX46100LR	£9.88
Brown	30 ml	SFX46100BR	£9.88
Blue	30 ml	SFX46100B	£9.88
Purple	30 ml	SFX46100P	£9.88
Yellow	30 ml	SFXBGY30	£6.98





**Liquid Latex** Liquid rubber compound for making prosthetic pieces and special effects. Low in ammonia content. Can be used on the skin and peeled off when dry but remember to protect body hair with a sealer.

Liquid Latex	code	list	price
250 ml	SFX02542	£11.19	£9.98



**Spirit Gum** Spirit Gum is the traditional adhesive used on beards and wigs for theatre and the opera. It's great for sticking on pre-made latex prosthetics to create nasty/scary injuries and effects, once applied add plenty of blood and bruising gel to perfect your Halloween costume. Comes in a 12 ml bottle. The top has a brush.

Spirit Gum	code	list	price
12 ml	SFX0200112	£5.05	£4.55



**Glycerine** A clear heavy liquid that has oily properties and is a by-product of the soap industry. It is odourless and will mix with water. If dyed red with cochineal it resembles blood. Comes in a 6 kg flagon which is approximately 5 L or 10 armfuls.

Glycerine	code	price
6 kg	SFXGLY	£28.25



**Foam Capsules** Gelatine capsules containing a white non-toxic powdered pigment. Creates foaming at the mouth. Bite to release effect.

Foam Capsules	code	list	price
10 Capsules	SFX04047	£14.42	£12.98



**Snazaroo Face Painting Kit** A simple starter kit with enough materials to paint 300 faces! Not suitable for use on children under 3 years old.

☐ Supplied in a box with carry handle containing: 28 page step-by-step painting guide, 6 x pallets of paint (White, Black, Red, Yellow, Blue and Green), Silver Glitter Gel, 3 brushes (round, flat, and fine), and 2 sponges.

Snazaroo Face Painting Kit	code	list	price
	SFX1194010	£34.00	£29.95

**COSTUME EFFECTS**



**Dirty Down Costume Crayons - Box of 10** These wax crayons are ideal for any costumer, set dresser, prop master, stage manager, or art department assistant to have in their bag. Easy to use, they will quickly dirty down, and distress fabrics, costumes and even props and pieces of set. Especially good for seams. Perfect for last minute alterations. A great range of colours, that compliments the ever-popular Dirty Down Sprays [page 69]. Non-toxic, so safe to use for skin contact.



Dirty Down Costume Crayons	code	price
	PATCC10	£16.55

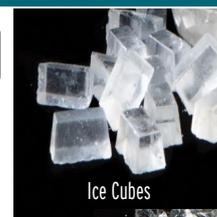


**PermBlood** Permanent realistic wet blood effect for costumes and props - not to be used on skin! Great for creating fresh blood effects on costumes as once it is set, costumes can be laundered and used again without having to reapply the blood

effect. Also suitable for application to costumes / props being used when shooting underwater scenes. Similar effect can be achieved by pigmenting the transparent coatings listed on page 47 for larger scale effects. Available in Original (fresh blood) and Dark (dried/old blood). 250ml Jar. Not to be confused with washable ProBlood on page 107.

PermBlood	code	price
Original	SFXPMR250	£33.25
Dark	SFXPMD250	£33.25

**RUBBER ICE & GLASS**



**Rubber Ice Cubes** These are as realistic as the ones out of your ice tray. Crystal clear on the top and slightly frosted around the sides, each ice cube is ever so slightly different so look just like the real thing even in close ups. They also float in water and make no noise in glass. However, the slight frosting on the outside of these ice cubes means they look their most realistic when dry. **N.B.** Not to be used in liquids to be drunk from as they are not food-grade



**Rubber Glass Crumb & Shards** Two versions, the crumb version is great for shattered glass effects; The sharp [but safe to handle] irregular shapes make the crumbs highly realistic. Made of clear rubber, each individual 'crumb' is 10mm thick ranging in size from 5 - 30 mm across. For an even finer crumb these can be broken up by hand even

further and remain clear and sharp. The shards are also 10 mm thick, but vary from 40 - 90 mm across.

Rubber Effects		code	price
Ice Cubes	1 lb [450 g] tub	SFXRGIC	£38.50
Rubber Crumb	1 lb [450 g] tub	SFXRGCR	£38.50
Rubber Glass Shards	1 lb [450 g] tub	SFXRGSH	£38.50

# DISCO & PARTY

## SLASH CURTAINS



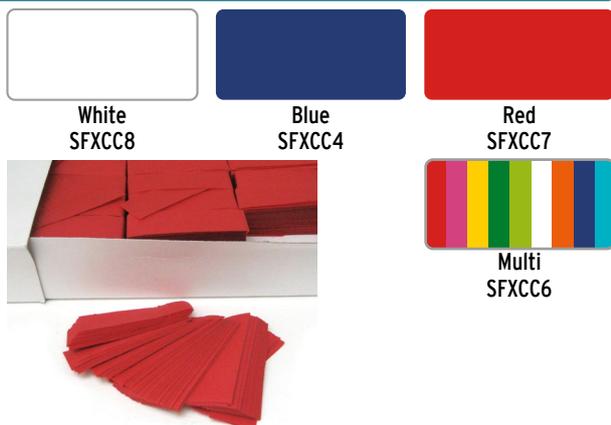
**Budget Slash Curtains** Economically priced slit curtains ideal for parties etc. 910 mm wide with 12 mm slashes. Available in two different drops. Certified as Flame Retardant to BS5867 Type B. Visit our website to access the certificates.



Budget Slash Curtains [910 mm]	code	2.4 m	code	4.8 m
Gold Metallic	SLIT24G12	£10.41	SLIT48G12	£17.63
Silver Metallic	SLIT24S12	£10.71	SLIT48S12	£18.15
Red Metallic	SLIT24R12	£10.41	SLIT48R12	£17.63
Copper Metallic	SLIT24C12	£10.41	SLIT48C12	£17.63
Royal Blue Metallic	SLIT24RB12	£10.41	SLIT48RB12	£17.63
Purple Metallic	SLIT24P12	£10.41	SLIT48P12	£17.63
Cerise Metallic	SLIT24CE12	£10.10	SLIT48CE12	£17.28
Black Satin	SLIT24B12S	£10.41	SLIT48B12S	£17.63

**Need a longer length?** We can order them to any length for a minimum quantity of ten. Please allow 10 days for delivery.

## CHINESE CONFETTI



**Chinese Confetti** A neatly packed box full of light tissue rectangles that float very slowly to the ground if released from a theatre grid or thrown from a balcony. Flame retardant. Size: 2" x 1/2".

Chinese Confetti	qty	code	price
White	500 g	SFXCC8	£12.00
Multi	500 g	SFXCC6	£12.00
Red	500 g	SFXCC7	£12.00
Blue	500 g	SFXCC4	£12.00

## BUBBLE MACHINES



**Bubble Machine**  
Continuous high output bubbles from a 1.5 litre tank for 30 minutes.

SPECIFICATION: Power consumption: 100 W. Weight: 11.5 kg.

Bubble Machine	code	list	Tradeline
Machine	SFXB100	£140.91	£125.19
Fluid 5 L	SFX80360		£11.43

## MIRROR BALLS



**Mirror Balls** Add a spot of glamour with a glistening mirror ball. The 400 mm and the 500 mm mirror balls are professional versions using smaller 5 mm square tile mirrors.

NB: Mirror Balls must be installed in accordance to EN 60598-217. A second safety attachment must be used at all times. The installation must be approved

by a competent person before first use. Motors have Euro Shuko plug on an approximately 300 mm lead and are supplied with an UK 13 A adapter.

Mirror Balls	rpm	code	price
200 mm [no motor]	-	SFX60404	£14.62
300 mm [no motor]	-	SFX60405	£30.04
Motor for above [inc. chain and 2-pin plug]	3	SFX604083	£14.09
400 mm [no motor]	-	SFX60431	£82.86
500 mm [no motor]	-	SFX60432	£128.50
Motor for above	1	SFX60411	£42.45

# PYROTECHNICS & STAGE EFFECTS

**Le Maitre Pyrotechnics** Sadly we are no longer able to supply any pyrotechnics of this sort.

## FLAME PASTE



**Flame Paste [Angel Fire]** A flammable paste that can be applied to a suitable surface. It burns with an even orange flame and a small amount of paste burns for a surprisingly long time. The paste is virtually invisible when applied. The paste can be used anywhere a small controllable flame is needed. This paste can be used on stage to simulate a camp fire without the use of flammable liquids or gas. Flame Paste is best extinguished by smothering the container and starving the paste of oxygen. The flame can also be extinguished by blowing the flame out.

SPECIFICATION: 200 ml of paste in a round container 75 mm diameter, burns for approx 7 mins and 30 sec.



Flame Paste	size	code	price
	1 L	SFXLMFL11	£74.70
	2.5 L tub	SFXLMFL1	£129.60

## HANDHELD PYROTECHNICS



**Single Electronic Flash Gun** Easily concealed in the hand yet it creates a dramatic effect on a large stage when it shoots a brilliant ball of fire 3 - 4 metres in the air. It requires one

AA battery [page 347] and a small piece of Flash Paper and Flash Cotton for each firing.

Single Electronic Flash Gun	code	price
	SFXMG01	£58.00



**Flint Flasher** This unfortunately named mechanical flash gun uses a small piece of Flash Cotton to create the effect.

Flint Flasher	code	price
	SFXMG04	£31.00



**Electronic Flash Wand**

A magician's wand that fires a brilliant ball of fire 3 - 4 metres into the air. It requires two AA batteries [page 347], Flash Cotton and Flash Paper.

Flash Wand	code	price
	SFXMG11	£79.00



**Flash Cotton & Flash Paper**

Flash Cotton burns much quicker than Flash Paper. Flash Cotton creates an instantaneous flash of fire. One of Flash Cotton pack contains enough for at least 10 firings. Flash Paper burns quickly with a bright orange flame and leaves no ash. Each pack of Flash Paper contains 4 sheets 8" x 9". Dry out for 24 hours before use.

Flash Cotton and Paper	code	price
Flash Cotton	SFXFP11	£14.00
Flash Paper	SFXFP01	£14.00

## PYROTECHNICS TAPE



**Pyrotechnics Tape** Non-adhesive barrier tape with "PYROTECHNICS IN USE DO NOT CROSS" plus logos for No Smoking and No Mobiles. Red and black on white.

Pyrotechnics Tape [250 m]	width	code	price
	75 mm	TAP103	£23.85

# DRAWING & STENCILLING

## CHARCOAL



**Charcoal** Willow charcoal of a consistent high quality. We stock the largest size of willow which is approx 20 mm diameter! You might need a Charcoal Holder [page 80].

Charcoal	box qty	code	price
Thin	25 sticks	PAT652	£3.84
Medium	25 sticks	PAT651	£4.11
Scene Painter's	12 sticks	PAT650	£5.48
Extra Thick	4 sticks	PAT650ET	£4.45
Tree Sticks [140 x approx 20 mm Ø]	each	PAT650TS	£3.10
Charcoal Pencils		code	price
Charcoal Pencils	each	PAT656	£1.99



## CHALK, PENCILS & MARKERS



**Chalk** For throwing at school children.

Chalk	box qty	code	price
100 white anti-dust chalk sticks.	100	TOL695	£7.20



**Pencils** The very best drawing pencils. Made in Cumbria. HB stands for Hard Black. The higher the H number, the harder the pencil and the higher the B number, the blacker [or softer] the pencil. The hardness is made by adding clay to the graphite. Sold individually.

Derwent Pencils		code	price
Graphic 2H		PAT655	£1.49
Graphic HB		PAT654	£1.35
Graphic 2B		PAT653	£1.49
Set of 12 Derwent Graphic Pencils	tin qty	code	price
4H to 6B Pencils	12	PAT660	£16.45



Berol Mirado Writing Pencils	box qty	code	price
HB Pencils	12	PAT649HB	£4.30



Carpenter's Pencils [that won't roll]		code	price
Hard [Green]		PAT657	£0.78
Medium [Red]		PAT658	£0.78
Soft [Blue]		PAT659	£0.78



**Grease Pencils [Chinagraph]** Finer, more fixed and don't smudge as much. Easily removed with a damp cloth or Amberclens. Good colours. Careful, though: the finer point will leave an indentation on gels.

Grease Pencils	code	price	code	price	
Black	PATCGPBK	£1.98	White	PATCGPWH	£1.98
Red	PATCGPRE	£1.98	Blue	PATCGPBL	£1.98
Yellow	PATCGPYE	£1.99			



**Rubbers and Pencil Sharpeners**

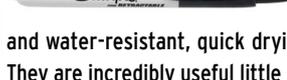
Drawing Materials	code	price
Winsor & Newton Rubber	DRWWCFGE	£2.44
Daler Kneadable Rubber	DRWDAPRS	£2.84
Canister Pencil Sharpener	DRW925001	£1.45



**Black Pentel Markers**

Popular permanent markers.

Black Pentel Markers		code	price
Bullet Point [N50]		PAT665	£1.80
Chisel Point [N60]		PAT665C	£1.95



**Sharpies** The artist's and celebrity's choice of marker. Permanent on most surfaces, fade- and water-resistant, quick drying ink. Also available in retractable. They are incredibly useful little pens!

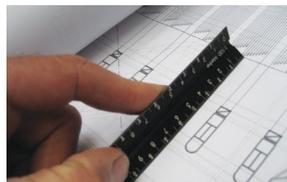
Sharpie Markers		code	price	12 +
Fine Point		PATS81107B	£1.77	£1.57
Retractable Fine Point		PAT713862	£2.10	£1.89



**Metal Marker** Valve action bullet point paint marker for marking metal, glass, plastic etc. Dries in 3 minutes. White.

Metal Marker		code	price
Bullet Point		PAT685	£7.30

## SCALE RULES AND DRAUGHTING



**Scenery Scale Rule**

This triangular section theatre rule features three laser etched scales. It is made of lightweight aluminium with a black finish.

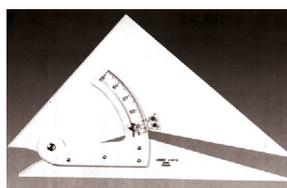
- ✓ Triangular section ✓ Black Anodised ✓ 4 ft imperial markings
- ✓ Three common scales ✓ Flush one end – great for model boxes!
- ✓ Supplied wrapped in tissue in card storage tube ✓ Laser etched

Scenery Scale Rule		code	price
[metric scales 1:25, 1:50, 1:100]		DRWSSR	£25.00



**Linex Scale Rules** The **382** black aluminium triangular scale rule has coloured identification stripes and 11 divisions. The **325** is popular and offers fantastic value but still has all the metric scales commonly used on theatre plans. The **415** is a small 150 mm flat rule which fits easily in the pocket. The **305** is the professional's choice as it is engine divided, has coloured stripes to quickly identify the scale and is supplied in a strong triangular storage box. The **308** is also engine divided.

Linex Scale Rules		code	price
<b>382 Black Aluminium Scale Rule, Triangular</b> [metric scales 1:1, 1:2, 1:5, 1:20, 1:50, 1:100, 1:200, 1:500, 1:1000, 1:1250, 1:2500]		DRW382	£13.87
<b>325 College Scale Rule, Triangular</b> [metric scales 1:20, 1:25, 1:33 1/3, 1:50, 1:75, 1:100]		DRW325	£11.25
<b>415 Division Divided Scale Rule, Flat</b> 150 mm pocket size [metric scales 1:1, 1:20, 1:25, 1:50]		DRW415	£14.28
<b>308 Engine Divided Scale Rule, Triangular</b> [metric scales 1:15, 1:20, 1:25, 1:50, 1:75, 1:100]		DRW308	£24.15

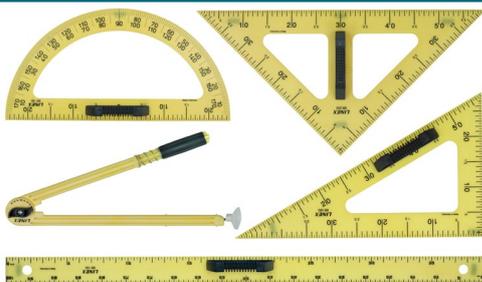


**Adjustable Set Square**

Clear acrylic with a bevel edge. A Linex quality product, chosen for its practical use on the theatre drawing board. If the person who drew the first drawing board got it wrong, what would he/she go back to?

Linex Set Square		code	price
200 x 250 mm		DRWA11208B	£18.65

## GIANT DRAWING INSTRUMENTS



**Giant Drawing Tools** Very useful for marking out scenery prior to painting. To protect your work, the compass is held steady by a rubber tip. The other leg ends in a chalk holder. To give you an idea of scale the ruler at the bottom is 1 m long.

Linex Blackboard Drawing Tools	code	list	price
Ruler, 1 m, metric divisions	DRWB100N	£13.47	£9.98
Set Square, 45°, 90°	DRWB245N	£6.49	£4.80
Set Square, 30°, 60°	DRWB260N	£6.49	£4.80
Protractor, 180° with 340 mm Ø	DRWB180N	£10.80	£8.00
Compass, length 420 mm	DRWB300N	£20.89	£15.48
Blackboard Drawing Set [contains all items listed above]	DRWBBSN	£38.93	£29.50

See also Großmann giant drawing instruments on pages 79 and 80. For marking out treads and raked stages take a look at the Roll-up Straight Edge and Roll-up T-Square [page 294].

## STRAIGHT EDGES



**Aluminium Straight Edge 8 ft** Long hollow aluminium straight edge with one feather edge. Ideal for marking out large pieces of scenery and sheets of plywood. Tubular handles [not included - see page 252] can be self-tapped onto the back to provide an easier grip for working on paint frames.

Faithfull Straight Edge	LxDxH	code	list	price
	2,438 x 93 x 25 mm	TOLFAIFE8	£62.93	£56.65



**Carbon Steel Straight Edge** Surface ground all over with an accurately finished bevel edge. Ideal for modelmaking and propwork.

Carbon Steel Straight Edge	code	list	Tradeline
1 m	MAUI7001	£64.24	£56.55



**Safety Rule** With a unique M profile which keeps the fingers well away from any knife edge when used for cutting or scoring card etc. The rule is stainless steel to give a long corrosion-free life. Metric and imperial scales. Weight: 117 g.

Safety Rule	length	code	price
	300 mm [12"]	MAUI773012	£2.57

## NOT STRAIGHT EDGES



**Flexible Curve** Containing a flexible lead core surrounded by vinyl. Raised edged for ink ruling or pencil lines. Suitable for drawing curves as small as 15 mm. Metric markings both sides.

Flexible Curve	length	code	price
	600 mm	DRWFC60N	£12.35



**Circle Template** College Circle Template offers great value. It contains circles from 1 - 35 mm diameter. I suppose you do everything on Auto-Cad nowadays and these will languish on our shelves until they get put in the local museum.

College Circle Template	code	price
	DRWT16	£8.29

## CUTTING TOOLS



**ACM Box Set** Made by Swann-Morton, one of the world's leading surgical blade manufacturers to the same high standards surgeons demand and for which the company is renowned. The comprehensive set includes 13 precision ground carbon steel blades, together with 3 handles. With easy blade changing, the 10 blade shapes offer cutting edge versatility all from one set.

☐ Supplied in plastic case with: 3 handles, two No.2, three No.11, one each of No's. 7, 10, 16, 17, 18, 22, 24 & 28 blades.

Craft Knife Set	code	price
	TOL9101ACM	£33.28



**Olfa Rotary Circle Cutter With Ratchet System** Rotary Circle Cutter with Ratchet System adjusts to cut circle diameters from 4cm to 22cm. Great for model makers and

cutting rounded corners on fabric. Sharp needle point secures the centre of the circle/curve and you make your cut with the ratcheting arm. To prevent marking on delicate surfaces there is a cap for the needle included. Made in Japan

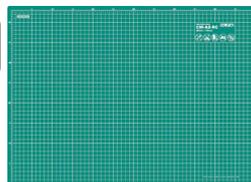
Specification: Blade Diameter: 18mm

Olfa Rotary Circle Cutter	code	price
	TOLCMP3	£18.05



**Olfa Blade For Rotary Cutters 18mm, Pack of 2** Spare 18mm Blades for Ratchet Rotary Cutter. Made in Japan. 2 Blades Per Pack

Olfa Blade For Rotary Cutters	code	price
	TOLRB182	£5.55



**Olfa Self-Healing Double-Sided Cutting Mat A2** High Quality A2 double sided cutting matt from Olfa. Made in Japan

Olfa Self-Healing Double-Sided Cutting Mat	code	price
	TOLCMA2RC	£29.35

**STENCIL PAPER**



**Oiled Manila Stencil Paper**

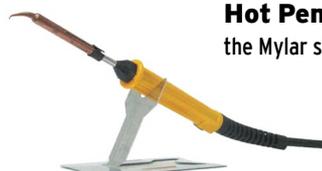
We tried something different, it didn't go down well, so we are back to this traditional orangey-brown stencil paper with the wonderful smell. 275 gsm. See page 312 for Scalpels and Cutting Mats. See also page 204 for Tarred Marlin which has no relation to stencil paper but it smells good, too.

Oiled Manila	L x D	code	list	price
Stencil Paper	762 x 508 mm [30 x 20"]	PAT692	£6.29	£5.50



**Mylar Stencil Paper** is a tough transparent polyester film which can be cut with a scalpel or a hot knife. It has the advantage of allowing the artist to see the design work whilst working on the stencil.

Mylar Stencil Paper	L x D	thk	code	price
Sheet	450 x 600 mm	125 microns	PAT695	£1.25
Roll	10 m x 600 mm		PAT695R	£29.98



**Hot Pen** Quickly cuts complex stencils in the Mylar stencil paper.

Hot Pen	code	price
To cut Mylar Stencils	PAT698	£29.98
Spare pen stylus	PAT699	£7.58



**Stencils** Non-interlocking zinc stencils available in numbers or letters. Also available in other sizes.

Stencils	size	code	price
Letter	1 1/2"	DRWSTNL112	£16.74
Number	1 1/2"	DRWSTNF112	£6.23
Letter	2 1/2"	DRWSTNL212	£23.77
Number	2 1/2"	DRWSTNF212	£8.66

**PAPER & CARD**



**Tracing Paper** Weight: 90 g.

Tracing paper	L x D	code	price
Roll	25 m x 841 mm	PAT693	£25.60



**Black Foam Board** This board is ideal for making model boxes. It is easy to cut, ultra lightweight and makes strong and rigid constructions. Corners can be temporarily fixed with pins so large models can be taken apart for transport. Unfortunately, we are only able to sell single sheets from our shop because of the risk of damage by our couriers. Pack quantities can be delivered.

Black Foam Board	L x D x thk	code	price	20 +
	594 x 420 x 5 mm	PROWF7002	£3.07	£2.77



**Brown Kraft Paper** Strong paper made by the Kraft process. Paper weight: 90 gsm. Roll weight: 18.5 kg.

Brown Kraft Paper	L x D	code	price
Roll	200 m [+/- 10%] x 900 mm	PAT694	£45.50



**Bogus Paper** Bogus paper is a recycled versatile multipurpose economical grey paper that provides great absorbency. It has a slightly rough but soft finish. Since it absorbs so much moisture it is a fantastic product for covering paint floors prior to laying out cloths.

- ✓ Avoids water pooling up under gauzes and helps to prevent stains caused by flame retarding chemicals
- ✓ Protects your paint floor from textures and stains
- ✓ Aids drying time of cloths
- ✓ Lays out flatter than polythene sheeting [page 363]
- ✓ Extra wide size 1,524 mm [60"] and heaviest weight available!

Bogus Paper	length	area	code	price
Per cut metre	1 m	16.4 sq ft [1.5 m <sup>2</sup> ]	SAFBOGUS60	£0.59
Full Roll	515 ft [157 m]	2,575 sq ft [235.5 m <sup>2</sup> ]	SAFBOGUS60D	£65.00

**SKETCH BOOKS**



**Black Sketch Books** This strong hardback Daler Rowney book has 62 acid-free cartridge paper leaves. It makes an excellent book for taking production notes or making sketches, or making sketches when you should be taking production notes.

Sketch Book 150 g/m <sup>2</sup>	code	price
A4	DRW701	£10.42
A5	DRW702	£8.29

**SPECIALIST CALCULATORS**



**Construction Master Pro V3.1**

Not just an ordinary calculator! This immensely useful machine is an advanced feet-inch-fraction calculator with instant metric conversion. If you are working from imperial drawings you can instantly find out how many square metres in a 16' 313/16" Ø revolve. The perfect calculator for production managers, scenic carpenters and engineers, draughtsmen and women, scenic artists, stage managers and anyone who works backstage. Highly recommended with proven hard service.

- ✓ Instantly converts imperial/metric including fractions up to 1/64"
- ✓ Includes cubic/cylinder/revolve/stair conversions and calculations
- ☐ Supplied in a rugged hard case for protection with: easy to use field guide plus full instruction booklet.

Construction Master Pro v3.1	code	price
Model 4065 v3.1	DRWCMPRO	£49.00



**Project Calculator**

This straightforward calculator will work out how much paint you will need to buy from us – saving you money and doing us no favours at all. Just enter the area and it will say how many litres, tiles, bricks, rolls of wallpaper etc. are needed. Great for quoting.

Project Calculator	code	price
	DRW8528	£18.00

# EXPANDING FOAMS

## Expanding Foams

Flints stocks four types of expanding foam to suit most purposes. Some foams purchased from builder's merchants are open cell foams which absorb water like a sponge. Our rigid foams are either closed cell or predominately closed cell with very low moisture absorption. The Single Component Foam is designed as a gap filler is flame retardant. It can be used to glue large blocks of polystyrene where gap filling is needed. The Two-Part Pouring Foam can be poured into moulds or used for filling buoyancy tanks. Froth-Pak has the advantage of being spray applied so it can be used to thicken up tree armatures, insulate steel containers or hulls, or provide stiffness to vacuum-formed panels. The Flex Foam remains soft and can be used for costume props. With all the foams read the instructions carefully and pay particular attention to the temperature of the material which may take time to warm through.

## SINGLE-COMPONENT POLYURETHANE FOAM



moisture curing polyurethane foam which seals, fills, fixes, bonds and insulates most construction materials. Once cured it becomes a semi-rigid water-resistant rotproof foam which can be sawn, cut, moulded, painted or plastered over. It can be used to bond and fill blocks of polystyrene but it is not suitable on thin sheets. It is tack-free in 9 minutes and cuttable after one hour. Full foam setting time is 12 hours. Yields approximately 38 litres free expanded. The foam has been tested to flame retardment using the general principles of BS 476:1987 Part 20 on specimens of floor and wall mounted linear gap sealing systems. A flame retardment of 300 minutes was achieved for some gap dimensions with incorporation of a mineral fibre core. Completely water resistant. Pink colour. Acoustic rated to W=db59.

Acoustic FR Straw Foam	code	750 ml
Straw assembly	ADH057	£13.04

## TWO-COMPONENT POLYURETHANE FOAM



### Two-Part Polyurethane Foam Flame Retardant Formula [BS 4735:1974]

Flints supplies the latest HCFC-free system. The mix ratio is 1:1 by volume but the ISO component should be added to the RES component. The best way to mix is with a Paint Mixer on a drill [page

86] for 20 sec. The foam will start to rise after 30 - 40 seconds and should be poured immediately. Foam thicknesses should be limited to 150 mm for each pour. If being used in a mould, use a soft wax Release Agent [page 123] and ensure adequate vents to allow excess air or material to escape. Failure to do this could be dangerous. Rise time: 180 sec. The system is slightly more temperature sensitive than the old foams and they will cure best in temperatures up to 30° but temperatures below 18° could lead to a poor cure. We recommend that the liquids are stored in a warm area for several hours prior to use to warm right through.

Therefore for best results: warm through, accurately measure and mechanically mix. 1 kg expands to approximately 1 cubic foot.

Two-Part Polyurethane Foam	code	1 kg	code	5 kg	code	Tradeline
Part A	PAT840	£14.48	PAT842	£66.88	PAT8421	£176.68
Part B	PAT841	£14.48	PAT843	£66.88	PAT8431	£176.68

**You might need Calibrated Mixing Beakers [page 124] and Mixing Tools for power drills [page 86].**

## SPRAY POLYURETHANE FOAM



**Froth-Pak™** A two-part spray-applied polyurethane foam system. Being spray applied, the foam can be used where pouring foam would be uncontrollable. Flints is a distributor of this excellent product and offer it at very competitive prices. Froth-Pak™ is perfect as a sculpting medium for carving. Use it to quickly create rock faces or spray it onto tree armatures. Froth Pak™ will add structural strength to your constructions. It can be used as

an insulation material to cut condensation, reduce sound and hold heat. Ideal for insulation of steel hulls and cooling boxes.

SPECIFICATION: Density: 30 kg/m<sup>3</sup>. Rise time: 30 seconds. Weight: FP180 Kit/11.88 kg, FP600 Tank A /20.5 kg, FP600 Tank B /19.9 kg.

- ✓ No harmful HCFCs
- ✓ New B2 flame retardment rating
- ✓ Quick Rise version
- ✓ Full instructions and everything you need is in the kit including spare nozzles

Tip: Spray a small test amount into the empty box first. It should be tack-free within 60 seconds. Note the colour. If, when you're spraying, it lightens or darkens it could indicate a blockage in one of the tubes or nozzles.

NB: Ruthlessly ensure temperature conditions are met. The tank contents must be at least 24°C. A temperature indicator is fitted to one tank [180 kits only]. Ambient temperatures can be lower but the contents must be warm.

NB: Slow rise version not available in UK

### New HFC-free version coming soon...

Froth-Pak™	expanded size		code	Tradeline
	imperial	metric		
FP180 Complete kit	17 ft <sup>3</sup>	0.40 m <sup>3</sup>	PROFP180K	£369.00
FP600 Complete kit	50 ft <sup>3</sup>	1.40 m <sup>3</sup>	PROFP600K	£666.40
FP600 Tank A [Red] only			PRO158102	£305.04
FP600 Tank B [Blue] only			PRO158104	£305.04
GHA15 Gun hose assembly only for FP600			PRO158457	£131.18
FP180 without gun			PRO6001122	£282.78
GHA9 Gun hose assembly only for FP180			PRO6000102	£114.83
Spare standard nozzles [each]			PRO158382	£2.20
Caulking nozzle yellow			PRO158385	£2.20
Fan spray nozzle blue			PRO158387	£2.20
Pouring nozzle black			PRO158390	£2.20

For large quantities [12 kits +] please phone for a special quote.

## TWO-COMPONENT SOFT FOAM



**FlexFoam-IT! X** A two-part soft foam with a very fine cell structure ideally suited for soft costume props. Simply mix part A and part B in equal quantities by volume and pour into the lowest point in your mould. The mould should have been treated with a non-silicone Release Agent [page 123]. It will expand to approximately 6 times the

original volume and is tack-free in 30 minutes. Demould in 2 hours. Pot life is 50 seconds. Supplied complete with full instructions.

FlexFoam IT! X	size	code	Tradeline
	880 g	PRO800	£26.25
	7.08 kg	PRO801	£166.98

# JESMONITE

Flints stocks a wide range of glass fibre products for use in the theatre and display industries. Jesmonite are the leading manufacturers of water-based glass fibre systems with many years of experience in the field. For solvent-based systems see page 119.

## WATER-BASED GLASS FIBRE SYSTEM

# JESMONITE<sup>®</sup>

MADE FROM



### Jesmonite Water-based Glass Fibre System

Jesmonite is a water-based system with no harmful solvents. You can wash your brushes in water. It can even be applied directly to polystyrene. If using moulds, the lack of solvents means your moulds will last virtually indefinitely. Jesmonite AC100, AC300 and AC730 have BS 476 Part 6 and Part 7 Class 0 fire certificates so they are ideal for use in theatres and for theming applications. AC100 and AC300 both hold B-s1-d0 EN 13501-1 Fire Classification, and AC730 has an A2-s1-d0 EN 13501-1 Fire Classification. Work can be carried out almost anywhere as there are no requirements for expensive fume extraction systems. It has very little odour so staff and public can continue with little disruption. The products are supplied as a liquid and powder which are mixed together using a high shear mixing blade in an electric drill at around 1,000 rpm for about 45 seconds. The resulting mix can be poured into a mould or it can be used to form a strong laminate. The mix can be stiffened for vertical surfaces with the addition of a little Thixotrope or retarded by adding Retarder [page 117]. The products are supplied with full instructions.

**Safety Data** Jesmonite Acrylic Composites are classified as low hazard products with little or no toxicity. First time users should ask for safety data sheets or download them from flints.co.uk. Operatives should be provided with:

- Eye protection – goggles or glasses [page 341]
- Dust respirators [page 342]
- Hand protection – rubber gloves [page 343]

### How much will I need?

To estimate coverage, a 5 mm thick laminated panel in Jesmonite will weigh about 8.725 kg per m<sup>2</sup> when wet and 8.25 kg per m<sup>2</sup> when dry. Therefore, a 70 kg kit will cover about 8 m<sup>2</sup>.

For accurate measuring why not buy some scales? [page 124]



## JESMONITE AC100



Harder, stronger and better weather resistance



**AC100** is harder and has a higher impact strength than AC300; it is better suited to larger structural pieces. Jesmonite do not recommend it for exterior use, but you can make it splash proof by sealing it with the Jesmonite Acrylic Sealer [page 118]. It is fire resistant, having achieved a

Class 0 fire rating under UK Building Regulations BS 476 Part 6 and Part 7, and B-s1-d0 EN 13501-1. Normal casting and laminating requires a mix ratio of 2.5 parts Jesmonite Powder to Resin by weight but a mix ratio of 3:1 is often used for covering directly onto polystyrene. Starter kit available - see website for details.

AC100	powder	resin	kit size	code	price
Starter Kit	250 g	600 g	4 coasters	JESSK1	£31.95
Small kit	1 x 12.5 kg	1 x 5 kg	17.5 kg	JESAC100175K	£79.55
Large kit	2 x 25 kg	1 x 20 kg	70 kg	JESAC10070K	£232.15
Powder only	2.5 kg			JESACPOW250	£12.75
Powder only	12.5 kg			JESACPOW125	£34.41
Powder only	25 kg			JESACPOW25	£47.13
Resin only		1 kg		JESAC1001	£14.09
Resin only		5 kg		JESAC1005	£48.55
Resin only		20 kg		JESAC10020R	£182.87

AC100 Bulk	powder	resin	kit size	code	Tradeline
Bulk kit	12 x 25 kg*	1 x 120 kg	420 kg	JESAC100420K	£1,235.36
Resin only*	120 kg			JESAC100120	£839.45

\* Powder is supplied in bags. Resin is supplied in a 120 kg drum. Bulk quantities are sent direct to your workshop on a pallet, please allow 2-3 days. Price includes UK mainland delivery.

## JESMONITE AC300



Great value for general use



**AC300** A good value product which is fire resistant, having achieved a Class 0 fire rating under UK Building Regulations BS 476 Part 6 and Part 7, and B-s1-d0 EN 13501-1. Perfect for all indoor casting and laminating applications and for short-term use out-of-doors [see AC100 above for external use]. Normal casting and

laminating requires a mix ratio of 2.5 parts Jesmonite Powder to Resin by weight but a mix ratio of 3:1 is often used for covering directly onto polystyrene.

AC300	powder	resin	kit size	code	price
Small kit	1 x 25 kg	1 x 10 kg	35 kg	JESAC30035K	£107.79
Large kit	2 x 25 kg	1 x 20 kg	70 kg	JESAC30070K	£200.38
Powder only	2.5 kg			JESACPOW250	£12.75
Powder only	12.5 kg			JESACPOW125	£34.41
Powder only	25 kg			JESACPOW25	£47.13
Resin only		1 kg		JESAC3001	£12.98
Resin only		10 kg		JESAC30010	£73.02
Resin only		20 kg		JESAC30020	£127.35

**Bulk Orders** For large projects we can supply a 420 kg kit of AC300 delivered on a pallet direct to your workshop. The powder on these bulk deliveries is supplied in 12 x 25 kg bags and should be used within three months. The resin is supplied in a 120 kg drum. Our price includes UK mainland delivery. Allow 2-3 days.

AC300 Bulk	powder	resin	kit size	code	Tradeline
Bulk kit	12 x 25 kg	120 kg	420 kg	JESAC300420K	£836.58

## JESMONITE AC730 STONE FINISHES



The 30 kg Kit consists of 25 kg Powder and 5 kg Resin. The 6 kg Kit consists of 5 kg Powder and 1 kg Resin.



**Jesmonite AC730 Stone Finishes** Jesmonite AC730 is a fast setting acrylic-modified cement-based composite. The system is designed for glass-reinforced decorative structures, and can also be used for small castings. It is chemically compensated against shrinkage and is of low permeability. AC730 is durable in all conditions of external weathering including water features. The compound has virtually no free-lime content, and has low alkalinity, leading to major reductions in efflorescence in comparison with ordinary Portland cement systems. The material contains a fine decorative aggregate and powder pigments, carefully controlled to give a consistent decorative surface finish after treatment with a proprietary Brick Cleaner, Acid Etch [page 118], or vinegar for a more eco friendly option. AC730 is available in eight stone finishes [sample boxes available online] and has BS 476 Part 6 and Part 7 Class 0 fire certificates as well as A2-s1-d0 EN 13501-1 Fire Classification.

AC730 Stone Finishes Kits	code	6 kg kit	code	30 kg kit
Yellow Sandstone	JESFIL136K	£30.86	JESFIL130K	£108.72
White Marble	JESFIL236K	£30.86	JESFIL230K	£108.72
Silver/Grey Granite	JESFIL336K	£30.86	JESFIL330K	£108.72
Portland Stone	JESFIL436K	£30.86	JESFIL430K	£108.72
Bath Stone	JESFIL536K	£30.86	JESFIL530K	£108.72
Natural Stone	JESFIL636K	£30.86	JESFIL630K	£108.72
Old Terracotta	JESFIL736K	£30.86	JESFIL730K	£108.72
Black Charcoal	JESFIL936K	£30.86	JESFIL930K	£108.72

We've had lots of requests to buy the powders and resin separately for this system, so we have decided to let you pick and choose. For bulk quantities please call us for a quote.

AC730 Stone Powders	code	5 kg	code	25 kg
Yellow Sandstone	JESFIL1305	£17.20	JESFIL1325	£55.00
White Marble	JESFIL2305	£17.21	JESFIL2325	£55.01
Silver/Grey Granite	JESFIL3305	£17.21	JESFIL3325	£55.01
Portland Stone	JESFIL4305	£17.21	JESFIL4325	£55.01
Bath Stone	JESFIL5305	£17.21	JESFIL5325	£55.01
Natural Stone	JESFIL6305	£17.21	JESFIL6325	£55.01
Old Terracotta	JESFIL7305	£17.21	JESFIL7325	£55.01
Black Charcoal	JESFIL9305	£17.21	JESFIL9325	£55.01

AC730 Resin	code	price
1 kg	JESFILRES1	£11.49
5 kg	JESFILRES5	£49.55

**Jesmonite AC730 Flex Resin** When working with especially large moulds, makers sometimes prefer having a little more flex in their gel coat. This Flex version of the resin is offered to achieve this, but should not be used for the bulk of the casting.

AC730 Flex Resin	code	price
1 kg	JESRESFLEX1	£9.93
5 kg	JESRESFLEX5	£52.90

## JESMONITE FLEX METAL GEL COATS



Brass Bronze Copper



### Jesmonite Flex Metal Gel Coats

Jesmonite Flex Metal Gel Coats are the latest development in Jesmonite materials. They are supplied as kits in four finishes: Bronze, Silver Bronze, Copper, and Brass. They are designed to create a metal gel coat that can be applied into moulds, or onto coated substrates such as polystyrene foam, pre-coated with AC730. This is an extremely economical way of achieving beautiful metal finishes at a fraction of the cost. The Flex Metal Gel Coat can be reinforced using any of the AC730 Stone Finishes and quadraxial fabric. To achieve the best results the Flex Metal Gel Coats should be polished once removed from the mould. Please note, if you cannot brush the gel coat into a mould, but instead need to pour, you would need to use the Metal Fillers in combination with the AC100 or AC300 systems. See next page. Sample boxes available online. Larger, more economic, quantities available to order - please call us for details.

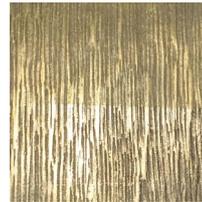
Sample Boxes with tiles of either stone or flex metal finished effects can be purchased online

Flex Metal Gel Coat	code	650 g	code	3.25 kg
Bronze	JESFMBR06	£31.23	JESFMBR03	£110.12
Copper	JESFMCOP6	£31.23	JESFMCOP3	£110.12
Brass	JESFMBRA6	£31.23	JESFMBRA3	£110.12



### Bosch GP014 CE 240 V Professional Polisher

We decided we had to stock a decent polisher to bring out the best of these Flex-Metal finishes. When combined with the tapered thread and wire brush below this certainly does the trick! See page 281 for full details and specifications.



The bottom part of this tile has been polished using this polisher and the wire brush below

☐ Supplied in a carton with: auxiliary handle and D-handle.

Bosch GP014 CE	code	list	price
Bosch GP014 CE	POWGP014CE	£155.25	£149.00



### Wire Brush Wheel and Tapered Cone Adapter

The cone bites into the wooden core of the wheel allowing it to be attached to the polisher above - much faster than hand polishing with wire wool!  
Wire brush wheel wood core Ø 50 mm

Accessories	code	price
Tapered cone adapter [M14 internal thread]	POWM14TC	£35.58
Wire brush wheel [120 mm Ø x 15 mm, 0.1 mm steel wire]	ABR120ST	£23.55

## JESMONITE CONTROL AGENTS



**Jesmonite Retarder** The pot life of the mixed Jesmonite at 15 - 18° C is from 8 - 15 minutes. This can be extended up to 30 minutes by adding 2 - 8 g of retarder per kg prior to adding the powder. However, a small test is recommended, as the precise timing is dependent on both temperature and mix size.

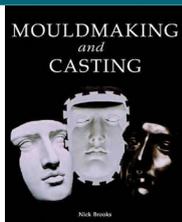
Jesmonite Retarder	size	code	price
AC100 and AC300	1 kg	JESIR	£7.95
AC100 and AC300	5 kg	JES5R	£30.12
AC730	1 kg	JESIR730	£8.83
AC730	5 kg	JES5R730	£30.12



**Jesmonite Thixotrope** Used in the preparation of AC100 and AC300 gel coats to control viscosity so that the material will not slump or drape on vertical surfaces. Thixotrope can also be used to make the material into a paste, which can be used as a filler for repair, or a jointing paste for bonding two laminates together. Add drop by drop until the desired consistency is achieved - typically 2 - 6 g per kilo of mix. [Not to be used with the AC730 Stone Finishes].

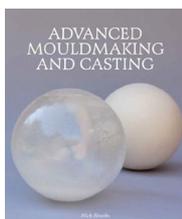
Jesmonite Thixotrope	size	code	price
	1 kg	JESITN	£16.75
	5 kg	JES5TH	£71.14

## BOOKS ON MOULDMAKING AND CASTING



**Mouldmaking and Casting** [Nick Brooks] A technical manual with step-by-step illustrations explaining the materials required and the processes involved for a wide range of mouldmaking techniques. Especially useful on silicone moulds and casting techniques. For propmakers, model makers, and sculptors.

Mouldmaking and Casting	code	price
	BKSMC	£19.95



**Advanced Mouldmaking and Casting** [Nick Brooks] Aimed equally at the student and the professional wishing to further their skill base, this book provides an invaluable learning and reference tool for the studio or workshop of any artist, model maker, or designer.

Advanced Mouldmaking and Casting	code	price
	BKS262	£19.95

For more books, see page 374.

## JESMONITE COMPOSITE PIGMENTS



Red Oxide



Yellow Oxide



Blue



Terracotta



Bright Red



Green



Bright Yellow

### Jesmonite Composite Pigments

Add up to 20 g per kilo of the total mix. We stock a 200 g pot size for smaller jobs. As Jesmonite is water-based it is tempting to tint it with water-based scenic paints. However, this is not to be advised as they can be detrimental to the curing chemistry.

Jesmonite Composite Pigments	code	200 g	code	1 kg
White	JES1WHT2	£7.07	JES1WHT	£15.79
Black	JES1BLK2	£7.07	JES1BLK	£15.36
Red Oxide	JES1RO2	£8.00	JES1RO	£19.22
Yellow Oxide	JES1WYO2	£7.79	JES1WYO	£19.22
Terracotta	JES1T2N	£7.89	JES1TN	£20.15
Bright Red	JES1BR2	£13.06	JES1BR	£29.41
Blue	JES1B2	£10.71	JES1B	£24.38
Bright Yellow	JES1BY2	£13.06	JES1BY	£29.41
Green	JES1G2	£13.06	JES1G	£29.41

## JESMONITE METAL FILLERS



Copper



Bronze



Brass



**Metallic Fillers** For addition to the AC100 and AC300 ranges, to give a decorative metal finish. If you wish to have a cleaner metal finish we would recommend going for a Flex Metal Gel Coat [previous page] however, if you are unable to brush into your mould and instead need to pour, these metal fillers give you that option with the AC100 or AC300 systems. They can be added to either just the gel coats, or to the whole composite.

Add to a mix with an adjusted ratio to optimise the filler loading level. Jesmonite recommend the following ratio:

Liquids 300 g : Base 600 g : Metal Filler 700 - 1000 g

Once objects are de-moulded and dried, the surface can be burnished with 000 Wire Wool (see abrasives page 292) to bring out the metallic finish, alternatively you can machine polish [see previous page]. It's then recommended to seal with a wax polish or sealer [see next page].

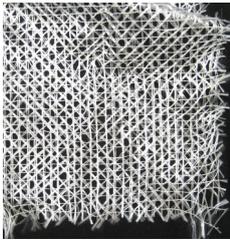
Metal Fillers	code	1 kg	code	5 kg
Bronze	JESMFBR01	£35.10	JESMFBR05	£170.26
Copper	JESMFCOP1	£40.85	JESMFCOP5	£184.99
Brass	JESMFBRA1	£37.54	JESMFBRA5	£167.35



Like a demonstration?

Flints can organise a demonstration for interested groups.

**JESMONITE REINFORCEMENTS**



**Quadraxial Stitched Glass Fabric** Conventional glass matt fabrics are held together with a weak adhesive. The strong solvents in conventional resin systems will break down the adhesive so the fabric becomes pliable and is easy to use. As Jesmonite contains no solvents, the fabric would remain stiff and unworkable.

Quadraxial fabric has been specially developed with no adhesives for use with Jesmonite. It can be easily moulded into complex shapes and will resist high impacts. The open weave of the fabric makes it very easy to wet through. Generally two layers are required for a laminate 5 - 6 mm thick. The composite between each layer can be mixed with 6 mm chopped glass strands to form a thick paste which will separate the two layers of quadraxial fabric creating a rigid truss effect.

Quadraxial Stitched Fabric 220 g/m <sup>2</sup>			code	price
roll width	roll length	area		
1.25 m	20 m	25 m <sup>2</sup>	JES25QGF	£98.18
1.25 m	100 m	125 m <sup>2</sup>	JES125QGFR	£467.49
1.25 m	per linear m		JES1QGF	£6.88



**Chopped Glass Strands** These can be mixed with the composite [2.5% by weight] to act as reinforcement between the two layers of glass cloth when laminating. 1% by weight can be added to reinforce castings. May also be used with solvent-based systems.

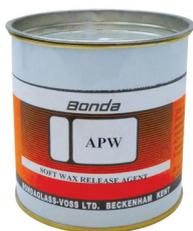
Chopped Strands	size	code	price
6 mm	1 kg	JESCS6	£11.44
12 mm	1 kg	JESCS13	£11.44



**PVA Fibres** PVA fibres are added to Jesmonite AC730 [page 116] as an alternative to glass fibres in all cast products such as garden ornaments and cast decorative panels. They are characterised by good adhesion and dispersion in Jesmonite composites, and by their high tensile strength and low elongation. PVA fibres will lead to improved flexural strength, and will help resist cracking and surface crazing in cast products. Typical addition rates are 1% - 2% of total mix weight.

PVA Fibres	size	code	price
	1 kg	JESPVA1	£33.02
	10 kg	JESPVA10	£279.02

**MOULD RELEASE AGENT**



**APW Mould Release** This is a universal release wax that will offer excellent release from a wide range of rigid mould compounds including plaster, Jesmonite, GRP, metal, wood, and glass. It can also be used on production equipment such as scales and casting tables to assist in cleaning. Silicone rubber-lined moulds require no release agent. NB: Some porous surfaces such as plaster and timber may need to be sealed before release wax is applied, and trials should be carried out to ensure that the product is suitable.

APW Mould Release	size	code	price
	500 g	JESRW	£20.63

**SURFACE TREATMENTS**



**Jesmonite Flexiguard** Sprayed on as a fine mist, Flexiguard chemically bonds with the surface of the AC730 stone finishes [and other Jesmonite cement-based composites] using nanotechnology after which water just beads up and rolls off. We were impressed! Effectively permanent due to the chemical bond, it is UV-stable, prevents soiling and mould and fungal growth. It protects against frost, oxide corrosion by acid rainwater and salty coastal and marine conditions. Slightly cloudy but invisible when applied. Almost odourless.

Jesmonite Flexiguard	size	code	price
	1 kg	JESFS1	£36.79
	5 kg	JESFS5	£163.20



**Jesmonite Acid Etch** Used to expose the fine decorative aggregate in AC730. The acid removes the cement rich film from the surface of objects moulded in AC730 to produce a stone finish. When diluted with water it can also be used as a cleaner for removing marks from AC730. Please refer to the AC730 user guide for further technical information – downloadable at flints.co.uk.

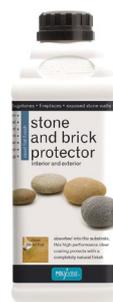
Jesmonite Acid Etch	size	code	price
	5 kg	JESAE5	£22.31



**Jesmonite Acrylic Sealer** This is a general purpose clear matt acrylic sealer for AC100. It provides prolonged external surface durability while retaining the key attribute of flexibility. It can be diluted, and Jesmonite composite pigments [see previous page] can be added to create colour washes to add patina or to age casts. It has a predicted external maintenance schedule of 6 - 10 years depending on the severity of exposure. Also works with AC300 but will not provide the same level of external protection.

**Jesmonite Penetrating Sealer** This is specifically used when the sealing effect must be invisible [i.e. not a coating] but where good water, oil and stain resistance is required. It is particularly suitable for the Flex Metal surfaces [page 116 ] providing excellent protection whilst not affecting the metallic surface. It is also compatible with AC730 and will offer high resistance to all effects of external weathering.

Jesmonite Sealers	size	code	price
Acrylic Sealer	1 kg	JESICTCN	£21.08
Penetrating Sealer	1 kg	JESPS1	£45.41
Penetrating Sealer	5 kg	JESPS5	£185.61



**Polyvine Stone and Brick Protector 1 L** Water based dead flat penetrating sealer for porous surfaces that leaves surfaces looking like there's no sealer on it! Great on stone and plaster, we've also found it to be a good sealer for Jesmonite AC730. Micro porous & water-repellent. Can be brushed, sprayed or rolled.

Specification: Coverage: 15 - 20 m<sup>2</sup> per litre (depends on porosity of surface) Drying Time: 15 min - 1 hour. For interior or exterior use

Polyvine Stone and Brick Protector	size	code	price
	1 L	POL2601	£19.57
	4 L	POL2604	£70.26

# SOLVENT-BASED GLASS FIBRE

## LAY UP RESINS



Also see laminating rollers [page 124]

### Lay Up Resin - Resin 'A'

A pre-accelerated low viscosity polyester resin with rapid hardening characteristics. It combines fast impregnation of reinforcements and fillers with a very short mould release time. Suitable for hand lay or spray applications. It is filled and has a matt finish. Also suitable for hand props and scenic work but it is not flame retardant. Add 2 ml of catalyst to 100 g of resin. Previously Crystic 471PALV.

SPECIFICATION: UN 1866. Pot life at 20°C/12 min. Pot life at 25°C/8 min. Max pigment paste: 10%. Appearance: cloudy mauvish. Barcol hardness: 47. Water absorption: 24 hours at 23°C/18 mg. Tensile strength of resin: 68 MPa. Tensile modulus of resin: MPa 3700. Elongation at break: 2.5%. Specific gravity at 25°C: 1.22. Catalyst: UN 3105.

Lay Up Resin Crystic 471PALV	code		5 kg	
	PRO401			£44.10
Catalyst M	code	100 g	code	1 kg
	PRO422	£5.98	PRO425	£14.05



### Firestop Flame Retardant Resin S 810 & VNature Gelcoat

A pre-accelerated low viscosity polyester resin recommended for the production of opaque flame retardant laminates. Michael Whiteley kindly tested this for us and was very happy - he found the slightly thicker than normal gelcoat combined with the slightly thinner resin make the combo particularly suitable for building larger pieces of scenery and mouldings. UN1866

SPECIFICATION Resin: UN1866 Gel time: 20-30 min. Pot life at 20°C/20-30 min. Barcol hardness: 25. Tensile strength: 26.96 MPa. Elongation at break: 2.67%. Specific gravity at 25°C: 1.58 g/ml. Catalyst: UN 3105 [max. 1 ml per 100 g of resin].

SPECIFICATION Gelcoat: UN1866 Gel time: 10-15 min. Pot life at 20°C/14-21 min. Max pigment paste: 10%. Barcol hardness: soft gelcoat. Tensile strength: 52 MPa. Elongation at break: 8.2%. Specific gravity at 25°C: 1.3 g/ml. Catalyst: UN 3105 [max. 2 ml per 100 g of resin].

FireStop	size	code		price
Resin	22 kg	PROS810		£231.50
Gelcoat	22 kg	PROF5000		£239.00
Catalyst M	code	100 g	code	1 kg
	PRO422	£5.98	PRO425	£14.05



**Marine Grade Resin - Crystic 2.406PA** This is a low styrene resin with good wet out properties. The gel time is approximately 16 minutes. A colour change mechanism is incorporated when the catalyst is added. The colour changes from pale blue to green eventually clearing as the resin cures. Lloyds approved. Catalyst should be added at 1 or 2%.

SPECIFICATION: UN 1866. Pot life at 20°C: 22 min at 1% or 16 min at 2%. Pot life at 25°C: 16 min at 1% or 11 min at 2%. Max pigment paste - certain pigments affect this resin please seek advice. Appearance: pale blue. Barcol hardness: 45. Water absorption 24 hours at 23°C/14 mg. Tensile strength of resin: 54 MPa. Tensile modulus of resin: MPa 3,700. Elongation at break: 1.7%. Specific gravity at 25°C: 1.20. Catalyst: UN 3105.

Crystic 2.8500PA	code		25 kg	
	PRO2406PA			£158.37
Catalyst M	code	100 g	code	1 kg
	PRO422	£5.98	PRO425	£14.05

## GELCOATS



**Gelcoat - Crystic 65PA** This brush-applied gelcoat has excellent weather- and water-resistance with low taint. Moulders choose it over competitively priced products because of its exceptional handling properties in production, good flexibility, good gloss and ease of repair. This gelcoat is also widely used in the marine industry. Add 2 ml of catalyst per 100 g of resin. Lloyds approved.

SPECIFICATION: UN 1866. Pot life at 20°C: 15 min. Pot life at 25°C: 9 min. Available to order in various colours. Adding pigment paste may effect the water- and weather-resistance. Appearance: cloudy mauvish. Barcol hardness: 42. Water absorption 24 hours at 23°C/18 mg. Tensile strength of resin: 75 MPa. Tensile modulus of resin: MPa 3,500. Elongation at break: 3%. Specific gravity at 25°C: 1.11. Catalyst: UN 3105.

Crystic 65PA	code	5 kg	code	25 kg
	PRO403	£56.86	PRO412	£212.60
Catalyst M	code	100 g	code	1 kg
	PRO422	£5.98	PRO425	£14.05

## CASTING RESIN



**Smooth Cast [Bright White]** Virtually bubble-free and ultra-low viscosity resin, ideal for capturing detail. When cured Smooth-Cast castings are bright white, tough and durable. They can be painted and resist moisture, mild solvents, moderate heat and dilute acids. Likewise, they can withstand being machined, primed and bonded to other surfaces. Comes in a two part kit to be mixed in a 1:1 volume ratio to activate. We stock two types of Smooth-Cast; Smooth-Cast 300 is fast setting whilst Smooth-Cast 305 is medium setting.

SPECIFICATION: Colour: White, Mix 1A:1B by volume or 100A : 90B by weight. Tensile strength: 3,000 psi, Mixed Viscosity: 80 cps, Specific Gravity: 105 g/cc, Specific Volume: 26.4 in³/lb, Heat Deflection Temp: 50°C, Shore D hardness: 70. Smooth Cast 300: 3 min pot life at 23°C, 7-10 min cure time at 23°C, Elongation at break: 5%, Flexural Strength: 4,510 psi, Compressive Strength: 4,000 psi, Shrinkage: 0.01 inch/inch. Smooth Cast 305: 7 min pot life at 23°C 30-40 mins cure time at 23°C, Elongation at break: 7.5%, Flexural Strength: 4,000 psi, Compressive Strength: 3,800 psi, Shrinkage: 0.0065 inch/inch.

Smooth Cast	cure time	kit size	code	price
300 (fast)	7-10 min	0.86 kg	PRO47641	£25.30
300 (fast)	7-10 min	6.98 kg	PRO47661	£155.75
305 (medium)	30-40 mins	0.86 kg	PRO47441	£27.73
305 (medium)	30-40 mins	6.98 kg	PRO47461	£155.98



### Embedding Resin [Clear Casting]

This embedding resin can be used for making small props and costume jewellery. Items can be embedded in the resin. Moulds can be made from glass [with a release agent] or polythene-lined containers but flexible rubber is not suitable. Add 2 ml of Catalyst M to 100 g of resin.

Embedding Resin [clear casting]	code	1 kg	code	5 kg
	PRO404	£24.25	PRO405	£71.55
Catalyst M	code	100g	code	1 kg
	PRO422	£5.98	PRO425	£14.05

**REINFORCING RESIN FOR POLYSTYRENE**



**Resin 999 Coating & Adhesive for Polystyrene**

This new addition to the catalogue was requested by many customers. Designed specifically for adhesion to expanded polystyrene foam, we were really impressed with both its adhesion, and finished coating effect. We tested it on our expanded polystyrene balls [page 101]. Tests showed a good clear coat

was achieved when applied with a reinforced surfacing tissue, and alone. The resin didn't melt the polystyrene at all, and gave a really good clarity. Perfect for sealing and glueing larger scale projects, or where durability is key. Catalyst should be added at 1 - 2% subject to conditions and requirements.

SPECIFICATION: UN 1866. Pot life at 20°C: 40-45 mins Pot life at 25°C: 30 mins Appearance: pinkish opaque.. Water absorption: 0.63% in 72 hours at 25°C. Specific gravity at 25°C:1.13 g/ml Catalyst: UN 3105.

Resin R999	code	5 kg	code	25 kg
	PROR99905	£49.95	PROR99925	£237.15
Catalyst M	code	100 g	code	1 kg
	PRO422	£5.98	PRO425	£14.05

**EPOXY RESINS**



**Ampro Multi-Purpose Epoxy System**

This is a simple to use, all-purpose epoxy which can be used for:

- ✓ Gluing ✓ Laminating ✓ Filling

With its range of hardeners and easy 3:1 mix ratio by volume, Ampro provides a quick and convenient way of using one epoxy system for a very wide range of tasks – a re-engineered version of the popular SP 106. Widely used in many woodworking applications from cabinet making, to wooden boat repair, to the manufacture of large wooden moulds. By using Glass Bubbles or Micro Fibres [see next page], an Ampro resin and hardener mix can be turned into a very effective filling compound or gap filling adhesive. We can supply larger sizes to order. For user instructions visit [flints.co.uk/downloads](http://flints.co.uk/downloads).

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Ampro Multi-Purpose Epoxy	resin/hardener	code	price
1.33 kg pack + fast hardener	1 kg / 333 g	ADHF530025	£43.15
1.33 kg pack + slow hardener	1 kg / 333 g	ADHF530027	£43.15
4.2 kg pack + fast hardener	3 kg / 1.2 kg	ADHF530026	£109.09
4.2 kg pack + slow hardener	3 kg / 1.2 kg	ADHF530028	£109.09
10 kg resin only		ADHF530080	£165.53
3 kg fast hardener [for 10kg]		ADHF530013	£115.90
3 kg slow hardener [for 10kg]		ADHF530017	£115.90



**Ampro Handipack** This convenient little pack is perfect for small props and general repairs. It consists of resin, hardener and dispensing pumps. simply pump 3 pumps of resin to 1 pump of hardener for the perfect ratio to mix. Complete with instructions, this high clarity, and low-temperature curing pack will prove invaluable in any props workshop.

Ampro Handipack	resin/hardener	code	price
	290 g / 85 g	ADHF530071S	£31.58

**RESIN ADDITIVES**



Golden Yellow



White



Black



Bright Blue



Yacht Green



Cream



Light Teak



Tangerine



Post Office Red



Aircraft Grey

**Crystic Pigment Pastes** The above resins can be tinted using these pigments. Do not add more than the recommended amount [see the Technical Data of each product].

A huge range of colours are available to order, but these are also intermixable which is a big plus!

Crystic Pigment Pastes code	500 g	colour	code	500 g	
Golden Yellow	PROPIG20	£20.92	Yacht Green	PROPIG21	£14.77
Light Teak	PROPIG22	£12.41	Tangerine	PROPIG23	£23.19
Post Office Red	PROPIG24	£18.60	White	PROPIG25	£12.40
Black	PROPIG26	£12.40	Bight Blue	PROPIG27	£15.48
Cream	PROPIG28	£14.69	Aircraft Grey	PROPIG29	£14.78



Aluminium



Brass



Bronze



Copper



Graphite

**Metallic Powders** For metallic-looking castings make up a mix of resin and metallic

powder allowing 2 ml of catalyst M per 100 g of resin. The dull casting will need buffing with wire wool and metal polish to bring out the realistic effect [check out the polisher on page 281]. An aged effect can be obtained by adding one part of graphite powder per ten parts of metallic powder. Flints also sell metallic "powders" for making paint but they are not suitable for this application [page 35].

Metallic Powders	size	code	price	
max powder resin ratio				
Aluminium	1:1	500 g	PRO453	£19.87
Aluminium	1:1	5 kg	PRO452	£112.24
Brass	5:1	500 g	PRO455	£24.00
Brass	5:1	5 kg	PRO454	£194.62
Bronze	7:1	500 g	PRO451	£26.84
Bronze	7:1	5 kg	PRO450	£273.55
Copper	3:1	500 g	PRO457	£25.70
Copper	3:1	5 kg	PRO456	£215.95
Graphite	see text	200 g	PATGP0200	£5.95
Graphite	see text	2 kg	PATGP2400	£57.14

## REINFORCEMENTS

**Chopped Strand Mat 450 g/m<sup>2</sup> [type CT6]**

This is the most popular weight of chopped strand mat [CSM] suitable for most laminating. Using a fin roller or paddle roller [page 124] will greatly aid effective wetting out, essential for strong long-lasting laminates. The mat is 965 mm wide and is available by the metre. Also available as a box containing a roll of approx 56 metres which weighs 33 kg. Not suitable for use with Jesmonite because the mat requires solvents to make it pliable.

Chopped Strand Mat	width	code	per m	56 m+
	965 mm	PRO430	£3.55	£2.61

Also see Chopped Strands [page 118].



**Surfacing Tissue [ACM1]** The application of surfacing tissue will provide a smoother finish to laminating work.

Surfacing Tissue [ACM1]	width	code	per m	250 m+
	1 m	PRO433	£2.65	£2.13

**Woven Roving 600 g/m<sup>2</sup>**

Woven roving is used to obtain a higher strength weight ratio than is possible with chopped strand mat [CSM]. Available by the metre or in a roll of approximately 60 metres. Weight of 60 m is 40 kg.

Woven Roving 600 g/m <sup>2</sup>	width	code	per m	60 m+
	1 m	PRO436	£3.70	£3.00



**Glass Tape** Reinforces plywood joints when used with Ampro Epoxy Resin [see previous page ◀ ].

Glass Tape [50 m]	width	code	per 50 m
	50 mm	PROME0020C	£12.90



**Paper Rope** To stiffen large areas of glass reinforced fibre. Paper rope can also be used to act as formers for laminated ribs on the rear of the structure. 1" diameter though other sizes of paper rope are available [page 95].

Paper Rope	code	per m	code	100 m coil
25.5 mm diameter	PRO123	£1.54	PRO123D	£117.25

## FILLER POWDERS



**Glass Bubbles** These hollow spheres serve to increase the volume and decrease the density of any resin system. They are used in adhesives and to make easily sanded filling and fairing compounds. In the theatre industry, they are often added to textures such as Idenden to reduce the weight. Suitable for use below the waterline.

Glass Bubbles	approx volume	code	price
0.3 kg	3 L	FILA230001	£17.34
5 kg	50 L	FILA230003	£163.93

**Fillite** Fillite is a glass hard, inert, hollow silicate sphere. Fillite is primarily used to reduce the weight of resins and moulding materials. The spherical nature of the material ensures the lowest quantity of binder is needed to wet out the material.

SPECIFICATION: Average particle density: 600 - 850 g/L. Average bulk density: 350 - 450 g/L. Packing factor: 60% - 65%. Appearance: Grey powder. Hardness: Mohs scale 5. Average wall thickness: 5% - 10%. Melting temperature: 1200° - 1350°C. Thermal conductivity: 0.11 Wm-1K-1. Loss on ignition: 2% maximum. Surface moisture: 0.3% maximum. Crush strength: 105 - 210 kg/cm<sup>2</sup> [1,500 - 3,000 psi].

- ✓ Lightweight - reduces the weight of your material
- ✓ Spherical - free-flowing
- ✓ Inert

Fillite	approx volume	code	price
20 kg	50 L	PRO500SG	£69.49



**SP Micro Fibres** These are very fine wood cellulose fibres commonly used to create structural adhesives for bonding both wood and GRP. Because any low viscosity resin system is readily absorbed into a porous surface such as wood, an unfilled adhesive

may tend to give a "dry joint". With their absorbent properties, micro fibres can retain a significant quantity of adhesive within a joint and limit resin absorption into the surrounding surface, thus ensuring an adequate resin supply for adhesion. Where the strongest bond is required e.g. timber scarf joints, microfibrils should always be used in preference to hollow sphere types of filler. For bonding parallel to the grain with lower density, lower strength timbers, such as cedar or obeche, a micro-balloon mix is often adequate, and is of lower density.

**Product Details**

Composition:	Milled bleached cellulose wood pulp
Appearance:	White 'fluffy' fibrous consistency
Particle Size:	200 - 300 microns
Particle Density:	Particles absorb resin
Bulk Density:	100 g/litre approx

SP Micro Fibres	size	code	price
Tub	500 g	ADHA215003	£10.58

## FLOW MODIFIER

**Flow Modifier - Colloidal Silica**

When added to resin with other filler powders, the colloidal silica will act as a thickening agent to prevent sagging on vertical surfaces. A typical mix would be 445 ml of resin, 145 ml of glass bubbles and 11 ml of colloidal silica.

Colloidal Silica	approx volume	code	price
250 g	5 L	FILA220003	£13.29

# MOULDMAKING

## PVC



**Remeltable PVC Compound** This material is used in similar situations to Silicone Rubber [see below ↓]. It provides a lower cost, but less durable option. Remeltable PVC can be poured over a master to form a flexible mould. Good tensile strength and flexibility will allow castings with deep undercuts to be removed from a one-piece mould, without damage. The material does not require a release agent and when the mould is worn, the product can be remelted [at 130 - 135°C] and used again – a fully recyclable product! We offer the product in two grades, Flexible [Beige] and Semi-Flexible [Blue]. Choose the Semi-Flexible for large moulds and the Flexible for more detail. The melting pot gives a thermostatically controlled temperature range of between 50°C and 200°C and will prevent scorching. Be aware that the product will not reach sufficient heat to melt on a water jacket double boiler. Jesmonite do not recommend using this in conjunction with their products, but instead to use a high grade silicone moulding compound.

Remeltable PVC Compound	code	1 kg	code	Tradeline 25 kg
Flexible [beige]	PRO1011482	£11.30	PRO1011505	£171.68
Semi-Flexible [blue]	PRO1011512	£11.98	PRO1011536	£171.68

Melting Pot	volume	code	Tradeline
Melting Pot	2.5 L	PRODPS25	£489.50

## SILICONE



**Silicone Rubber** An excellent general purpose silicone rubber used for mould making where minute surface detail needs to be reproduced and deep undercuts are present. Silicone rubber has virtually no shrinkage and therefore will accurately reproduce dimensions and is an extremely durable material. All packs include a curing agent. To thicken silicone rubber and enable it to be "buttered up" onto vertical surfaces to create a mould add thixotrope agent. Also see Body Double and Alginate [page 97].

Silicone Rubber	size	code	price
Includes curing agent	500 g	PRO1011352	£22.82
Includes curing agent	2 kg	PRO1011369	£77.28

Thixotrope	size	code	price
For 500 g silicone rubber	15 g	PRO1011437	£4.46
For 2 kg silicone rubber	60 g	PRO1011444	£11.36



**Need a moisture barrier for your mouldmaking? You'll be looking for Bond's G4 Damp Seal. Head over to primers on page 11.**

## LATEX & CASTING EMULSIONS



**Flints Slush Latex** A popular latex generally used for cast moulding where the latex is poured into a plaster mould. The latex is sensitised to give a speedy build up on the plaster. Thorough drying takes place over 24 hours. The latex should be detacked with talc before removing from the mould.

See website [www.flints.co.uk/downloads](http://www.flints.co.uk/downloads) for full data sheets.

Slush Latex	size	code	price	Tradeline 4 +
	5 L	PAT848	£94.87	£82.08



Also check out Hato@Vit below ↓

**Flints Dipping Latex** Latex is a natural air drying liquid rubber used to make thin elastic self-releasing moulds. It is ideal for making small moulds without too much detail. It is the simplest of the mould materials as the object is simply dipped into the latex repeatedly until a thickness has built up. Allow to dry for 24 hours before removing using talc to de-tack [page 25]. Great value.

Dipping Latex	code	20 L
5L	FHSDP05	£41.14
20 L	FHSDP25	£111.82
Latex thickener [100 g]	PAT844	£3.50



**HATO@Vit K50** The HATO@Vit K50 is a filling emulsion for sculptures, relief, props, candelabras, and masks. It's a great material for prop making because it's unbreakable, keeps its shape, can be nailed, and glued. Perfect for making terracotta-style pots and vases that won't smash! Fresh mouldings will show sharp contours and require no reworking. Ready to use straight from the pot; there is no loss of material in preparation, but will shrink 5 - 10%, so make mouldings correspondingly oversized. Can be used as a mould but only cast into it with plaster of paris. Easily over-coated with standard scenic acrylic paints when dry, or the materia can be tinted with HATO@Tex Paint [available to order], max 5% addition.

HATO@Vit K 50	1 kg	price	5 kg	Tradeline
	PAT105001	£15.90	PAT105005	£55.47



Nose in natural colour, and pink piece coloured with HATO@Tex.

**Rubber Milk** A stabilised form of natural rubber; the resulting casts are highly flexible and naturally have a slightly yellowish-milky colour. See also Liquid Latex page 108. Can be tinted by adding up to 5% of HATO@Tex Paint [available to order]. Only cast into plaster moulds that are thoroughly dry. Shrinkage: 5-10%. Rubber Milk is quite thin already and easy to pour but if it needs to be

diluted, please use a 10% Ammonia Solution. Pour into the mould, and leave for about 15-20 minutes, until the desired wall thickness has been reached. Demould after 1½-2 hours. Full cure after 3-12 hours depending on temperature. Higher temperatures can reduce the cure time, but temperatures should not exceed 45°C when in the mould, and 80°C once demoulded.

Rubber Milk	code	price
1 kg	PAT1062	£22.92

## CLAY



**Newclay** An off-white clay reinforced with nylon so it is not brittle. It can be fired in a kiln at between 1,000 - 1,250°C or can be hardened with one of the two available hardeners. Hardener H1 is brushed onto the model once dry and hardener H2 is mixed with the clay immediately prior to use. Soon to be replaced - keep an eye out.

Newclay	size	code	price
Off-white	1 kg	PR0461	£4.50
Off-white	4.5 kg	PR0463	£11.89
Off-white	12.5 kg	PR0464	£20.40
Hardener H1	113 g	PR0461HH1	£5.44
Hardener H2	225 g	PR0461HH2	£7.50



**Standard Grey Clay** Standard grey clay good for all round, general purpose jobs such as modelling, throwing, casting and romance. Cures to a pale buff colour with smooth texture. Fires at 1120° to 1280°C. Supplied in 20 kg plastic wrapped blocks.

Grey Clay	code	price
20 kg	PROSGC25	£10.40

## PLASTER



**Fine Casting Plaster Plus** This is a very fine plaster intended for casting. Plaster moulds are normally only used once and are referred to as waste moulds. The addition of a little PVA will strengthen the mould. The original is generally modelled in clay. It must be treated with a release agent before use. To seal moulds prior to using resin-based systems

see G4 on page 11. Available in a 2.5 kg tub or a 25 kg sack.

Fine Casting Plaster Plus	code	2.5 kg	code	25 kg
	PR04622	£9.85	PR04621	£17.02



**Prestia Classic Casting Plaster** A very consistent casting plaster, widely used for ornamental plaster moulding both for reverse moulds and castings. Excellent for sculpting, giving very fine detail. Available in a 5 kg tub or a 25 kg sack.

Classic Casting Plaster	code	5 kg	code	25 kg
	PROPCP5	£10.91	PROPCP25	£19.50



**Prestia SH Alpha Plaster** A high quality hard casting plaster. With significantly less expansion than similar plasters, and a slower setting time, this plaster will set very hard. Popular for use with acrylic resins for casting. 25 kg bag.

SH Alpha Plaster	code	price
	PROSHA25	£26.95



**Plaster of Paris** Very fine plaster which is quick setting, easy to prepare and easy to sand. Ideal for plastering, bedding or moulding. Thickness up to 150 mm depth. Working time for moulding 10 - 15 minutes. Available in a 4 kg sack.

Plaster of Paris	code	price
4 kg	PROPP4	£10.19

## RELEASE AGENTS AND MOLD SEALS



**Smooth-On Universal Mold Release** Universal Mold Release Agent is formulated especially for mould-making and casting and works well with most liquid rubber and liquid plastic products. Will release mould rubbers such as polyurethanes and poly-sulfides as well as sealing wood, plaster, concrete and water or sulphur based clays. Easy to use spray can - shake well, and spray from a distance of 12".

Smooth-on Universal Mold Release	code	price
12 oz [0.34 kg] spray can	PRO70010	£15.69



**Soft Wax Mixture Paste** Ideal for sealing the pores on a mould. Used to release hard polyurethane foams and casting materials from GRP, wood and silicone. Covers 50 g per m<sup>2</sup>. Dries clear after use.

Soft Wax Mixture Paste	code	price
500 g	JESRW	£20.63



**Silicone Spray Release Agent - Formula 6** Multi-purpose medium duty release agent. Ideal for all thermoplastics and many kinds of rubber. Can be used with Jesmonite.

Formula 6	code	price
400 ml	PROF6	£14.42



**Smooth-On SuperSeal** A fast drying, economical sealing agent for porous surfaces such as wood concrete or gypsum plasters. Effectively seals surfaces without compromising the detail. SuperSeal can easily be removed by rinsing with warm water.

Smooth-on Super Seal	code	price
0.36 kg	PR084540A	£23.51

## SUPPORTS



**Mod Roc and Plaster Bandages** An impregnated bandage which is activated by immersion in water. Used largely for life casts. The bandaging sets within 5 minutes and is hard in 30 minutes. Available as bandage or cut in pieces known as Mod Roc. Also see Varaform [page 99] and Wonderflex [page 99].

Plaster Bandage	LxW	code	price
4 rolls	3 m x 50 mm	PR04650	£4.95
2 rolls	3 m x 80 mm	PR04675	£3.12
Mod Roc	size	code	price
Cut pieces	6.5 kg	PR0460	£43.85
1 roll	170 g	PROMR275	£2.65

# TOOLS & EQUIPMENT

## MEASURING TOOLS



### Calibrated Measuring Beakers

A strong clear polypropylene graduated pot for accurate measuring of two-part mixtures. Ratios covered: 1:1 to 11:1. Also has accurate measurements from 100 - 1150 ml in 25 ml increments, and 3 - 40 US fl. oz in 1 US Fl. Oz. increments. Max. capacity 1400 ml

Calibrated Beakers	size	code	price
Clear calibrated pot & lid	1400 ml	PROCUPI400NK	£1.31



**Syringes** Useful for catalysts. Graduated in 1 ml sections.

Syringes	qty	code	price
10 ml version	pack of 10	PRO623	£4.32
50 ml version	each	SAF300866	£2.33



### Catalyst Dispenser - The Swedtool Dosimeter

Slide the pipe until the hole lines up with the desired level then just squeeze the bottle to transfer the correct amount of catalyst into the measuring head. Fitted with a lid to prevent splashes.

Swedtool Dosimeter	capacity	code	750 ml version
	750 ml	PRO622	£17.85



**Plastic Scoops** For handling loose powders. The large scoop is 360 x 150 mm with a pan of 235 x 90 mm deep. The small one is 250 x 105 mm with a pan of 150 x 60 mm deep.

Plastic Scoops	size	pan	code	price
Small	250 x 105 mm	150 x 60 mm	PRO624	£2.81
Large	360 x 150 mm	235 x 90 mm	PRO625	£6.00

Ideal for weighing Jesmonite.



### Digital Scales

These portable scales can be battery or mains operated. We sell them in two sizes: up to 6 kg

in 1 g increments [ideal for weighing pigments] and a bigger version which will weigh up to 45 kg in 20 g increments [ideal for weighing Jesmonite].

Digital Scales	capacity	code	price
	up to 45 kg	PRODS100	£126.95
	up to 6 kg	PRODS405	£129.95

## PLASTERER'S TOOLS



### Plasterer's Small Tools

Used to mix, spread and smooth plaster.

Leaf and Square	code	price
1/2"	PROV40	£8.95
5/8"	PROV41	£8.95

Trowel and Square	code	price
1/2"	PROV42	£8.95
5/8"	PROV43	£8.95

## LAMINATING

### F



### Laminating Brushes

These Chinese brushes have unpainted wooden handles which are ideal for working with resin. See also laminating rollers below. For large quantities please ask for a tailored quotation.

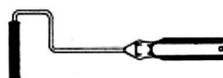
Laminating Brushes	code	price	12+
1/2"	PBR159W	£0.54	£0.49
1"	PBR160W	£0.63	£0.57
1 1/2"	PBR161W	£0.82	£0.73
2"	PBR162W	£0.89	£0.80
3"	PBR163W	£1.33	£1.19
4"	PBR164W	£1.62	£1.46
6"	PBR165W	£2.75	£2.48
1/2", 1", 2", 3" and 4"	PBRBBWSETK	£4.50	£4.00



### Swedtool Fin Roller

A convenient 70 x 30 mm diameter roller for laminating. The fin rollers are less likely to splash than paddle rollers.

Swedtool Fin Roller	size	code	price
	70 x 30 mm Ø	PRO620	£17.50



### Swedtool Paddle Roller

A handy and economical roller which is 70 mm wide x 21 mm diameter.

Swedtool Paddle Roller	size	code	price
	70 mm x 21 mm Ø	PRO621	£6.68

NEW TYPE



### Olfa Deluxe Ergonomic Rotary Cutter

This rotary cutter is designed to be comfortable to use and safe. The blade

of the rotary cutter is revealed by squeezing the handle and can be locked in an open or closed position. Ergonomic and ambidextrous, the increased grip means you can have more control and exert more pressure safely to your cutting. Made in Japan. Lifetime Guarantee.

Specifications: Blade Diameter 45m. Supplied with blade

Olfa Cutter	qty	code	price
Olfa Rotary Cutter	1	TOLRTY2DX	£17.90
Olfa Spare Blade 45m	1	TOLRB451	£6.75



### Mixing Blades

Essential for effective mixing of Jesmonite composites. The design of these high shear blades creates a vortex which does not introduce bubbles into the mix. See page 86 for more mixing blades and tools.

Mixing Blades	blade x shank	mixes	code	price
Large	100 x 12 mm	5 - 20 kg	JESLMB	£35.93
Small	65 x 8 mm	1 - 5 kg	JESLDMB	£11.96
Mini	35 x 6 mm	0 - 1 kg	JESXSMB	£11.96

NEW TYPE

# ADHESIVE FINDER

## Find your perfect adhesive quickly!

Choose the materials and features you require here ➡

.....and find the stuff here ⬅

Wood to wood indoors	Wood to wood water resistant	Marine grade	Laminates to wood	Canvas to wood [edge of flats]	Canvas to plywood larger areas	Canvas to walls - removable	Muslin to polystyrene scrimming	Polystyrene sheet to poly.	Polystyrene to poly. gap filling	Flexible foams / PVC / infatables	Wood to steel	Perspex to perspex	Glass, ceramics, stone	Costumes & Embellishments	Dance floor to plywood	Aluminium to aluminium or wood	Steel to steel	Structural adhesive	Poster to wall	Balsa to balsa or motelfoam	Wallpaper to wall	Wallpaper - frequent removal	Small jobs multi use	Fire retardant grade	Mastic-type needing gun	Spray applied	Super fast
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General Purpose Adhesive			✓					✓			✓				✓													
Polystyrene Contact Adhesive			✓					✓			✓				✓													
Evo-stik 528 and 528 TX	✓		✓	✓	✓																							
Evo-stik Impact	✓		✓								✓		✓								✓				✓			
Bostik 3206	✓		✓	✓	✓						✓	✓					✓	✓										
Treadfast 108																✓	✓											
Flints Cyclorama Glue					✓	✓	✓	✓								✓					✓							
FlintsBond	✓				✓		✓	✓													✓	✓						
Sheppy M289	✓				✓		✓	✓													✓	✓						
Clam 2				✓	✓		✓	✓													✓							
Evobond	✓				✓		✓	✓													✓	✓						
Rosco Flexbond					✓		✓	✓			✓			✓							✓	✓						
Flints...dex / Copydex					✓		✓	✓			✓			✓							✓							
Great Stuff Pro Expand. Foam [pg 114]									✓		✓		✓												✓		✓	
Granular Size	✓				✓	✓		✓																				
Pearl Glue	✓				✓	✓		✓																				
Rabbit Skin Glue					✓	✓		✓																				
Scotch Glue	✓				✓																							
Evo-stik Resin W	✓	✓		✓																		✓						
Flints PVA Wood Glue	✓			✓																		✓						
Polyten	✓	✓		✓																		✓						✓
Polyproof	✓	✓	✓	✓				✓												✓								
Collano Semparoc	✓	✓	✓											✓					✓									
Ampro Epoxy	✓	✓	✓								✓		✓				✓	✓	✓						✓			
Araldite 2015 / Araldite Standard	✓	✓									✓		✓				✓	✓	✓							✓		
Hot Melt Glue Sticks	✓										✓		✓				✓	✓			✓				✓		✓	✓
Tuskbond XPRO	✓	✓		✓							✓														✓		✓	✓
3M Spraymount																					✓	✓				✓	✓	✓
3M Displaymount									✓												✓	✓				✓	✓	✓
Ambersil NC500						✓					✓	✓									✓	✓			✓		✓	✓
Idenden Multi Purpose						✓					✓	✓									✓	✓			✓		✓	✓
UHU Power Spray																					✓	✓				✓	✓	✓
Polycell Wallpaper Adhesive																						✓						
Peel [plus above]																							✓					
Stixall, Stixall Black	✓	✓									✓	✓	✓				✓	✓			✓				✓		✓	
Gripfill	✓	✓		✓							✓	✓	✓				✓	✓			✓			✓		✓	✓	
Pinkgrip	✓	✓		✓							✓	✓	✓				✓	✓			✓			✓		✓	✓	
Sabatack	✓	✓	✓								✓	✓	✓				✓	✓			✓			✓		✓	✓	
Tremsil 600													✓	✓											✓		✓	
Zap-a-Gap and Super Glues	✓										✓	✓	✓				✓	✓			✓			✓			✓	
JB Weld	✓										✓	✓	✓				✓	✓						✓			✓	
Bostik All Purpose / UHU	✓			✓							✓	✓	✓				✓	✓			✓			✓		✓		
Gorilla Glue	✓	✓	✓								✓	✓	✓				✓	✓			✓			✓		✓		
E 6000+							✓				✓	✓	✓							✓	✓	✓		✓		✓		

✓ = recommend for this application  
 ✓ = usable, but not recommended for this application.

## 2: ADHESIVE FINDER

# ADHESIVES

## CONTACT ADHESIVES

### Contact Adhesives

When using contact adhesives please follow the health and safety instructions carefully. Pay particular attention to ensure that there are no naked flames and, as the fumes are heavy, beware of low level pilot lights. When using these glues on polystyrene ensure that the glue has completely dried before joining sheets as trapped solvent can cause damage even with recommended adhesives. See also Resin 999 on page 120.

✓ = suitable on polystyrene X = NOT suitable on polystyrene



Very easy to spread!

**Evo-stik TX 528** [polystyrene X] Just like the Evo-stick 528, a synthetic rubber resin contact adhesive but with a thixotropic agent which makes it much easier to apply. This jelly-like adhesive spreads like soft butter rather than hot gruyère. Ideal for use on large and vertical surfaces as well as intricate work. It is easier to control and less likely to stray onto clean areas. Particularly suitable for bonding decorative laminate sheets and rigid plastic sheets of PVC or ABS. Adhesive: UN 1133. Cleaner: UN 1993.

Evo-stik TX 528	size	code	list	price
Evo-stik TX 528	1 L	ADH079	£44.63	£22.89
Evo-stik TX 528	5 L	ADH0792	£129.50	£97.11
Evo-stik 191 Cleaner	5 L	ADH083		£63.50



**General Purpose Adhesive** [polystyrene ✓] This is a very popular brush-grade general purpose contact adhesive. It will work on painted or unpainted steel. This adhesive has a strong wet tack for fibrous materials and excellent adhesion. When working with polystyrene only use it as a contact adhesive allowing each side to thoroughly dry before bringing the surfaces together. It rapidly dries in 15 minutes and when dry conforms with BS 476 Part 6 and Part 7 Class 1 fire rating suitable for stage use behind the iron. Toluene-free. UN 1133. Covers 4 m<sup>2</sup> per litre.

Class 1 fire rating when dry

General Purpose Adhesive	code	5 L	Tradeline 5+
	ADH1088	£46.89	£40.15



**Polystyrene Contact Adhesive** [polystyrene ✓] Previously called Tretobond 375, this is a synthetic rubber-resin contact adhesive based in a blend of solvents. Used for the bonding of expanded polystyrene to itself, and to other smooth surfaces. Both surfaces require a thin uniform coat; the adhesive spreads easily. The surfaces must be completely dry [otherwise the trapped solvents can have a deleterious effect on polystyrene] before they are brought together preferably under pressure. Health and Safety information should be strictly followed. Do not mix the cleaner into the glue.

Polystyrene Contact Adhesive	code	5 L	5+
	ADH063	£62.93	£59.50
AW 421 Industrial Cleaner	ADH068	£30.96	-



**Evo-stik 528** [polystyrene X] A synthetic rubber resin contact adhesive based in a blend of solvents. The most popular general purpose contact adhesive particularly suitable for bonding decorative laminate sheets and rigid plastic sheets of PVC or ABS. New faster drying formula. Adhesive: UN 1133. Cleaner: UN 1993.

Evo-stik 528	size	code	list	price
Evo-stik 528	1 L	ADH081	£41.87	£21.32
Evo-stik 528	5 L	ADH082	£123.85	£92.10
Evo-stik 191 Cleaner	5 L	ADH083		£63.50

See also Bostik Inflatable Adhesive on page 130.



**Evo-stik Impact** [polystyrene X] Similar to the 528, this contact adhesive bonds decorative laminates, wood, chipboard, hardboard, rigid PVC, ABS plastics, leather, cork, stone, china and earthenware. Sold in small sizes for convenient storage in the touring prop skip.

Evo-stik Impact	size	code	price	Tradeline 12+
Small tube	30 g	ADH0862	£4.48	-
Large tube	65 g	ADH0861	£7.75	-
Small pot	250 ml	ADH086	£9.50	-
Large pot	500 ml	ADH087	£18.04	£15.55

## WATER-BASED CONTACT ADHESIVES



**Treadfast SF 108** A pressure sensitive adhesive for vinyl floor and wall coverings. It is solvent-free non-flammable and has low toxicity. Treadfast 108 will give a strong permanent bond. Use a notched trowel to apply and immediately roll with a paint roller wetted with the adhesive. Allow to dry [goes clear] then position and roll with 68 kg roller. Covers 6 - 8 m<sup>2</sup> per litre.

Treadfast SF 108	size	code	Tradeline
	5 L	ADH1085	£56.54
	15 L	ADH10815	£152.30
Notched Trowel		ADHTAS007	£15.80

**CLOTH ADHESIVES**



**Copydex Adhesive** Natural rubber latex solvent-free non-flammable adhesive used widely for bonding canvas, serge, velour as well as paper, card, cork, plastic, etc... When using with serge or velour the adhesive will show through if too much pressure is applied. It can be used as a contact or wet bond glue.

Copydex	size	code	price
	125 ml	ADH092	£6.02
	500 ml	ADH097	£16.93

**What happened to Copydex!**

What a strange thing! We used to sell pallet loads of Copydex in 5 L pots but the manufacturers decided, in their infinite wisdom, to only do silly little pots. We pleaded on your behalf but to no avail. We don't particularly want to have adhesives especially made for us but we had our hand forced. So if you want large quantities of Copydex why not try Flints...dex 📦.



**F**



**Flints...dex** A quick grab latex adhesive for use on paper, card, wood, plastic, metal, cork, fabric, carpet, leather, canvas and many more materials. If making cut cloths be sure to dust any excess glue with French Chalk [page 25] before rolling up to prevent accidental dry contact gluing.

- ✓ Safe and easy to use
- ✓ Solvent-free
- ✓ Economically priced
- ✓ Water-based
- ✓ Free flowing – apply by brush or spreader
- ✓ Can be used to coat the back of floor cloths for a non-slip finish

Flints' alternative to Copydex!

Flints...dex	size	code	price	10+
	5 L	ADH089	£59.00	£50.75



**Clam 2 Brummer Latex Adhesive**

A rubber latex solvent-free non-flammable adhesive which provides an exceptionally strong bond with a good open time for working on large areas. Thixotropic, it can be applied by brush or roller and is generally used for fixing canvas to open framed flats – see below 📦.

Clam 2 can also be used for bonding leather, cork, card, etc.

- ✓ Tenacious strength

Clam 2	size	code	price
	1 L	ADH094N	£15.32
	5 L	ADH095N	£59.98

**Canvassing open frame flats with Clam 2**

Firstly, staple your scenic canvas 6 mm in from the inside edge of the frame along the long edge, flap back the canvas revealing the frame, brush on the Clam, fold back the canvas and rub with a piece of timber with the arris removed to force the glue into the material. Once the long edge has set [just a few minutes] staple the canvas around the rest of the frame [ensuring it is kept square] and repeat using the same technique. The Clam 2 is strong enough to stop the canvas puckering up behind the staples. Once the whole flat is glued down, take a "Stanley" knife with a sharp blade and trim off the excess canvas about 4 mm in from the flat's outer edge using your thumb as a guide. Trim a little bit off the corners at 45° and that's it. Allow overnight before priming.



**F**



Great for Polystyrene too!

**Flints Cyclorama Glue**

This best-selling environmentally friendly glue is water-based and safe to use. We highly recommend it for sticking large canvas murals and cycloramas but it has many other uses including bonding vinyl dance floor to plywood or hardboard. Many of our clients use it to consolidate texturing compounds such as rubber crumbs. It makes a great polystyrene adhesive too! It can be used as a dry bond, wet bond or contact adhesive.

Its unique advantages when used as a **dry bond** are:

- ✓ **No bleed through** The glue will not damage the artwork. As the glue is only applied to the wall and the cloth is positioned when the glue is dry it cannot bleed through.
- ✓ **Repositionable** If you get a wrinkle in your cloth or it goes out of alignment just gently peel back and try again.
- ✓ **Removable** It is not permanent. You can actually remove the artwork from the wall when you have finished and no glue sticks to the canvas. Just roll the canvas up and transport to the next venue. It saves having to slit cloths down scenery joins after the first venue of a tour and allows expensive scenic artwork to travel separately from its heavy backings.
- ✓ **Paint off site** Murals can be painted in the artist's studio rather than having to close down public areas of museums etc. while the painting is taking place.
- ✓ **Water-based** It is water-based and is safe to use in areas where other contact adhesives could not be risked. The virtual lack of odour makes it a good choice when venues need to be re-opened quickly, reducing down time.
- ✓ **Multi-Purpose** The glue can also be used as a wet lay or double bond for more permanent applications. It is suitable for bonding vinyl and rubber as well as natural cloths.
- ✓ **Easy and clean to use** The adhesive comes with simple instructions and your tools just clean in water. Application is best using a notched trowel with 2 mm notches every 5 mm [see page 131] and then rolling with a pre-wetted short pile roller to provide a completely smooth surface.

Covers approximately 4.5 - 5 m<sup>2</sup> per litre. Also in 15 L pails.

**The Three Methods**

**Dry Bond** Apply the adhesive to the wall and allow to dry. Gently position the cloth on the wall, adjust as necessary, then press down firmly. The cloth can be removed at a later date by peeling off.

**The Double Bond** Flints Cyclorama Adhesive performs well as a water-based contact adhesive. Apply adhesive to both the wall and the cloth. Allow to dry. Press the cloth onto the wall for a permanent bond. This method will provide a strong bond for many surfaces including dance floors.

**Wet Bond** Use as a conventional glue. Apply the cloth to the wet adhesive and allow to dry for a permanent bond. Use it to consolidate texturing compounds such as foam crumbs.

Flints Cyclorama Glue	size	code	price	Tradeline
	5 L	ADH130	£58.25	-
	15 L	ADH131		£156.89
	Notched Trowel	ADHTAS007	£15.80	



**FlintsBond** A waterborne PVA emulsion which is easy to spread. Suitable for use as a primer or for gluing cloths such as light canvas, calico or muslin to flats or for scrimming polystyrene. It can also be used as a concrete dust sealer by diluting 50% with water and applying with airless spray, brush or roller. It dries clear. Covers 3 - 5 m<sup>2</sup> per litre.

FlintsBond	size	code	price
	5 kg	ADH141N	£24.00
	25 kg	ADH142N	£98.00



**Sheppy PVA M289** A replacement for the popular M155 - this is a medium viscosity compounded emulsion glue. It has good running characteristics and dries to a strong flexible film. Excellent for gluing large areas of canvas and very popular with the big workshops. Also suitable for conservation work as the dried adhesive film will de-laminate in the presence of water.

✓ Easy spreading for large areas

Sheppy PVA	size	code	price	Tradeline 10+
	12.5 kg	ADHM289	£89.75	£80.65



**Evo-bond** A universal adhesive, sealer and primer. Improves adhesion when used as a primer and will effectively bond many light sheet materials and cloths. Excellent value.

Evo-bond	code	price
5 L	ADH025	£34.45



**Rosco Flexbond Adhesive** Clear flexible scenic glue which bonds many porous and non-porous scenic materials. Dries to a clear hard but pliable coating that does not remain "tacky" as other flexible coatings do. The adhesive bond does not crack and break when flexed. Recommended for bonding textures such as micafil and rubber granules. This adhesive also works well on polystyrene. Flexbond is water-based and safe to use.

✓ Clear and very flexible

Rosco Flexbond	size	code	price
	3.79 L	ROS60753	£74.00
	18.95 L	ROS60750019	£339.25

**Canvassing with hot size**

Size is best used on open frame flats as it is too difficult to maintain a hot fluid glue on ply clad flats [use Sheppy M155 for ply clad flats]. For open frame flats, staple your scenic canvas 6 mm in from the inside edge of the frame along the long edge, flap back the canvas revealing the frame, brush on the hot size to the timber with a glue brush. While the glue is still warm, fold the canvas down and swab through with a warm damp cloth until a soap appears on the surface of the canvas. Ideally, this is done with two people, one gluing and the other swabbing. Keeps you lovely and warm, although you won't smell great. Repeat on the other three sides once the long edge has set up. Trim 4 mm in with a sharp "Stanley" knife.



**Granular Size** The most popular traditional glue for sticking canvas to timber flats and also used in the preparation of traditional primers and scenic paints [page 24]. To prepare size as a glue, mix 1 part of size with 1.5 parts of water whilst agitating. Leave to soak for one hour. Then dissolve by warming in a double bucket [water jacket] diluting further to a working consistency. Do not exceed 55°C.

Granular Size	code	1 kg	code	25 kg
	PAT852	£11.38	PAT852B	£226.65

For glue brushes see page 74.



**Pearl Glue** Like granular size but supplied in a pearl form. Traditionally used for sticking canvas to flat frames. Add 1 part of glue to 1.5 parts of water whilst agitating. Leave to soak for one hour and then dissolve by warming in a double bucket. It can be diluted further with water. Do not exceed 55°C. Use while warm.

Pearl Glue	size	code	price	Tradeline 25+
	1 kg	ADH096	£20.75	£18.68



**Rabbit Skin Glue** The preferred glue of non-vegetarian fine artists for sizing canvas and making gesso.

Rabbit Skin Glue	code	price
500 g	ADH098500	£21.71

**WOODWORKING ADHESIVES**



**Scotch Glue** A high quality jelly bone glue, manufactured from selected raw materials. It has a breaking strain far in excess of BS 745. It is recommended for antique restoration, chair frames, veneering, and any trade where a first class, long-lasting joint is necessary. Preservatives in this formulation keep the glue free from mould and bacteria for a long time in the glue pot. Its slower setting characteristics enable the glue to penetrate hard woods and provides a longer open time for intricate assembly work and veneering operations. To use: Warm gently until it reaches the consistency of paint, never so hot that it shows steam.

Scotch Glue	size	code	price
	1 kg	ADH0071	£12.56



**Evo-stik Resin W** A one-part synthetic resin emulsion adhesive for bonding hard and soft woods. Widely used for framework assembly, bonds wood veneers and laminated plastics to wood and chipboard. Complies with BS 4071:1966.

Evo-stik Resin W	size	code	price
	250 ml	ADH0841	£5.82
	500 ml	ADH0842	£9.21
	1 L	ADH084	£17.76
	5 L	ADH085	£73.61



**Flints PVA Wood Glue 5 kg** own-label replacement for Evo-Stik's popular Resin 168. We hope this will become the go-to PVA for scenic workshops for many years. It is a quality, cost-effective PVA for the frequent user with strong adhesion just 20 minutes after application. Edd Smith, the Workshop Manager at Scottish Opera, fed back "we will be moving to the new Flints product straight away". It is suitable for bonding wood to wood and Formica to wood. It is not designed to be used in a wet environment. We supply it in 5 L containers and also in handy 25 L plastic drums with a tap for easy dispensing. Covers approximately 7.5 m<sup>2</sup> per litre.

Flints PVA Wood Glue	size	code	price
	5 kg	ADH305	£37.00
	25 kg	ADH325K	£145.00



**Polyproof** A completely water resistant resorcinol glue suitable for boatbuilding with continuous immersion in water [even boiling water!]. Used for the construction of laminated roof beams and bridge arches. Glues polystyrene, Formica and difficult timbers like teak. Superior to epoxy in terms of proven longevity, ideal for mast making. Consists of a liquid resin with a powder hardener.

**SPECIFICATION:** Flame resistant to Class 0. Approved by NTI Norway, Otto Graf Institut [FMPA] Germany, SKH/KOMO [DHBC No 32389] Holland for the production of load bearing timbers. Fulfils the requirements of EN 301 [for glue types 1 and 11, service classes 1,2,3], EN391, EN392 and DIN 68141.

Polyproof	size	code	price
	670 g	ADHAPP670	£34.47



**Polyten** Extra water resistant wood adhesive, with a new ten minute fast grab formulation that can be handled within 30 minutes. Suitable for all woods, interior and exterior use. It is not suitable for continuous immersion in water. It dries clear and can be applied by brush, roller or straight from the bottle.

Polyten	size	code	price
	1 L	ADHAPT1	£8.48
	5 L	ADHAPT5	£34.39



**Collano Semparoc** One-component PUR adhesives with high bond strengths and a choice of open time. Suitable for waterproof [EN 12765] and weather resistant bonding of all timber materials, stone, cement-based boards, cork etc. They are suitable for assembly work and for use with hardwoods, softwoods and non-flammable building boards. This glue effectively replaces Balcoton and has the advantage that it tends to foam up less. **Semparoc 60** gives approximately 1 hour working time.

**SPECIFICATION:** Viscosity at 20°C: » 8,500 mPa [4/20], density 1.25 g/ml., Solids content: 100%. Waterproof resistance: C4 in accordance with EN 12765. Flame resistance: EN 13501 to F120 [with corresponding materials and construction]. Heat resistance: to +120°C. Shelf life: 9 months. Spread rate: 100 - 300 g/m<sup>2</sup>.

Semparoc	working time	code	800 g
Semparoc 60	60 min	PATCS60	£27.45

## STRUCTURAL ADHESIVES



**Araldite 2015 Structural Adhesive** With the legendary strength of epoxy. Excellent bonding of aluminium, mild steel, stainless steel, copper, zinc and galvanised steel. Good bonding of rubber, glass, ceramics; and moderate bonding of polycarbonate, PVC, ABS and polystyrene. Perfect for use with Aerolam lightweight honeycomb panels. Dispensed with handgun via a self-mixing nozzle.

Two-part Araldite Epoxy	size	code	price
	200 ml	ADH20151	£31.50
	Skeleton Gun [shown]	ADHVB200	£38.96

## EPOXY



**Ampro Multi-Purpose Epoxy System** This is a simple to use, all-purpose epoxy which can be used for:

- ✓ Gluing
- ✓ Laminating
- ✓ Filling

With its range of hardeners and easy 3:1 mix ratio by volume, Ampro provides a quick and convenient way of using one

epoxy system for a very wide range of tasks – a re-engineered version of the popular SP 106. Widely used in many woodworking applications from cabinet making, to wooden boat repair, to the manufacture of large wooden moulds. By using Glass Bubbles or Micro Fibres [page 121], an Ampro resin and hardener mix can be turned into a very effective filling compound or gap filling adhesive. We can supply larger sizes to order. For user instructions visit [flints.co.uk/downloads](http://flints.co.uk/downloads).

Ampro Multi-Purpose Epoxy	resin/hardener	code	price
1.33 kg pack + fast hardener	1 kg / 333 g	ADHF530025	£43.15
1.33 kg pack + slow hardener	1 kg / 333 g	ADHF530027	£43.15
4.2 kg pack + fast hardener	3 kg / 1.2 kg	ADHF530026	£109.09
4.2 kg pack + slow hardener	3 kg / 1.2 kg	ADHF530028	£109.09
10 kg resin only		ADHF530080	£165.53
3 kg fast hardener [for 10kg]		ADHF530013	£115.90
3 kg slow hardener [for 10kg]		ADHF530017	£115.90



**Ampro Handipack** This convenient little pack is perfect for small props and general repairs. It consists of resin, hardener and dispensing pumps. simply pump 3 pumps of resin to 1 pump of hardener for the perfect ratio to mix. Complete with instructions, this high clarity, and low-temperature curing pack will prove invaluable in any props workshop.

Ampro Handipack	resin/hardener	code	price
	290 g / 85 g	ADHF530071S	£31.58

**GLUE STICKS**



**All Purpose Glue Sticks**  
These quality glue sticks represent very good value.

SPECIFICATION: Ø: 11.75 mm. Length: 300 mm.  
Colour: None. Opacity: Transparent. Melt Temp: 86°C.

All Purpose Glue Sticks	size	code	list	Tradeline
	5 kg	ADH220	£61.20	<b>£56.77</b>



**Rapid Brand Glue Sticks** For polystyrene, flowers and delicate materials. SPECIFICATION: Ø: 12 mm. Length: 190 mm. Colour: None. Opacity: Transparent. Melt Temp: 200°C.

Rapid Brand Glue Sticks	size	code	list	price
	1 kg	ADH40302799	£28.75	£25.25



**Low Temperature Glue Sticks** Suitable for bonding materials that may be affected by high temperatures. SPECIFICATION: Ø: 12 mm. Length: 190 mm. Colour: None. Opacity: Transparent. Melt Temp: 130-150°C.

Rapid Low Temp Glue Sticks	size	code	list	price
	1 kg	ADH221	£33.90	£27.38



**Black Glue Sticks** High-quality coloured hot melt adhesive. For bonding a variety of materials.

SPECIFICATION: Ø: 12 mm. Length: 200 mm. Colour: Black. Opacity: Opaque. Melt Temp: 240°C

Black Glue Sticks	qty	code	price	qty	code	price
	8 sticks	ADHBGS8	£8.50	1 kg	ADHBGS1	£29.85

Other coloured and glittered glue sticks can also be ordered in [subject to minimum quantities]. Please call and ask for prices.

**GLUE GUNS**



**Steinel 5000 Cordless Glue Gun** This is a cordless glue gun for real versatility yet the cord can also be plugged directly to the gun for continuous output.

SPECIFICATION: Glue Output: 22 g per minute. Heat time: 3-5 mins. Weight: 330 g. Operating Temperature: 210 -220°C. Stick Ø: 11 mm. Power: Mid-Operation: 500 W; Standby: 20 W

Steinel 5000 Cordless Glue Gun	code	list	price
	POW332716	£76.45	£65.74



**Steinel Glue Gun Spare Nozzle 2.8 mm**

Steinel Nozzle 2.8 mm	code	price
	POW075965	£6.60



**Bosch PKP18E** A good quality, very popular general purpose gun. Ideal for prop shops and display work.

SPECIFICATION: Glue output: 20 g per minute. Heat time: 7 mins. Weight: 350 g. Operating temperature: 200°C. Stick Ø: 11 mm. Power: Mid-Operation: 200 W; Standby: 16 W.

Bosch PKP18E	code	price
	POW090	£24.50



**Rapid Cordless Glue Gun BGX300** New heater, bi-injected handle, innovative trigger system and Li-ion technology provide full flexibility, freedom and comfort to bond all kinds of material.

SPECIFICATION: Battery: Li-ion 7.2 V 2.6 Ah. Heating time: 4 min. Glue output: 350 g/h. Stick Ø 12 mm. Power: 30 W. Weight 900 g.

Rapid Cordless Glue Gun	code	list	Tradeline
Glue Gun	STPBGX300	£113.05	<b>£81.85</b>
Spare Battery	STP40303077	£61.15	£52.68



**Rapid Professional Glue Gun EG340** A high output glue gun that will reach working temperature very quickly and provides a choice of constant working temperatures. Features include an integrated thermostat, replaceable nozzle and long 2.5 m cord.

SPECIFICATION: Glue Output: 23.3 g per minute. Heat time: 2 mins. Weight: 0.93 kg. Adjustable temperature: 120°C - 220°C. Stick Ø: 12 mm. Exchangeable Nozzle Ø: 3 mm. Power: 220 W

Rapid Professional Glue Gun EG340	code	list	price
	POWEG340	£226.15	£155.70
Extended Nozzle for EG340	POW5000200	£39.95	£38.77
Wide Spread Nozzle for EG340	POW5000201	£39.95	£38.77

**Sticky Fingers?**  
Why not order a pack of Biodegradable Wipes [page 364]. They remove paints and adhesives from your hands and gently condition the skin.

**ADHESIVES FOR INFLATABLES**



**Bostik 3206** A polyurethane-based contact adhesive specifically formulated for bonding both plasticised and unplasticised PVC to a wide range of substrates. Typically used to make inflatables. This adhesive has less initial grab than conventional contact adhesives and requires a little more pressure, however the ultimate bond is very powerful.



Bostik 3206	size	code	price
	1 L	ADH3206	£42.19

**Struggling to find what you need?**  
Why not give us a call, or pop into our trade counter?

**Our team are always happy to help you get exactly what you need. If we don't stock something the fits the bill, we will always do our best to source it for you.**

**WALLPAPER ADHESIVES**



**Polycell Max Strength Wallpaper Adhesive** Each box will hang up to 20 rolls. My goodness what a long code!

Polycellcode	price
ADHPLCMSWPA20R	£8.63



**Peel** A revolutionary product which allows wall coverings to be removed from a wall without soaking or scraping. Coat the walls with Peel before you hang your paper and when you redecorate the old paper pulls off in complete lengths. Ideal for TV, theatrical and display applications where frequent decoration is necessary. Also see also Peelable Paint [page 64] and Mask It [page 275].

Peel	size	code	price
	5 L	ADH112	£69.98

**ADHESIVE TROWELS**



**Notched Adhesive Trowel** For rapid and even application of most contact adhesives over large areas. The large trowel has B1 notching [2 mm deep x 2.4 mm wide, every 5 mm]. The small one is much finer with 1.5 mm deep notches about 1.66 mm apart.

Adhesive Trowel	serrations	code	price
Large with handle	2 mm every 5 mm	ADHTAS007	£15.80
Spare blade for above	2 mm every 5 mm	ADHTAS007B1	£5.23
Small	2 every 1.66 mm	ADHT850	£5.29

**SPRAY APPLIED ADHESIVES**



Fast and Class 1 flame resistance

**TuskBond XPRO** Rising prices are affecting us all and the same is true within the realm of contact adhesives. So we have made a decision to drop the popular TensorGrip L17 Adhesive and replace it with TuskBond XPRO. A brand new product, TuskBond XPRO uses the latest solvent technology to make an adhesive that rivals Tensorgrip in

terms of performance but is lower toxicity and non - chlorinated, a win-win. For use with Spray Gun and Hose. Also available in 500 ml aerosol

- ✓ Great for covering large areas.
- ✓ Great for permanent bonds with high initial bond.
- ✓ Fast Drying
- ✓ Web Spray Pattern

Suitable for: ✓ Wood ✓ Metals ✓ Rubber ✓ Fabric ✓ Cardboard  
 ✓ Polythene ✓ Concrete ✓ Laminates ✓ Most Plastics.

X Not for use with Vinyls containing large amounts of plasticiser as it can migrate over time.

Specification Coverage: 100 m<sup>2</sup> per tank Meets specification of BS 476: Part 7: 1997 Class 1 Fire Rating SAFT Heat Tested 100 °C

TuskBondXPRO	size	code	Tradeline
Adhesive	22 L	ADHTUSKT	£169.00
Gun		ADHTUSKG	£65.35
Hose	4 m	ADHTUSKH	£73.85

**AEROSOL ADHESIVES**



**TuskBond XPRO Aerosol** Aerosol version of the TuskBond Pro listed in the previous column. Replacement for the popular Tensorgrip L17. More convenient size, all the same features.

TuskBond XPRO Aerosol	size	code	price
	500 ml	ADHTUSKA	£6.85



Now cheaper!

**3M Spray Mount** Provides an instant repositionable adhesive for most surfaces. The controlled spray pattern reduces adhesive mist. Ideally suited for mounting light materials where the fine texture of the adhesive is unlikely to cause disturbance to the face surface. For heavier materials try Display Mount. UN 1950

3M Spray Mount	size	code	price	Tradeline
	400 ml	ADH120	£17.35	12+ £16.50



**3M Display Mount** The ideal choice for mounting exhibition lettering in foam, card, plastic or fabric. Can be used on polystyrene if applied thinly to prevent any solvent entrapment. UN 1950.

Now cheaper!

3M Display Mount	size	code	price	Tradeline
	400 ml	ADH121	£14.98	12+ £14.05



**Ambersil NC500** Suitable for paper, rubber, plastics, fabrics, foam, wood, metals, hessian, cork, felt, upholstery, carpets and flooring. A slightly coarser spray pattern than the 3M sprays but great value for a large 500 ml can. UN 1950

Ambersil NC500	size	code	price	Tradeline
	500 ml	ADH139	£9.07	12+ £7.37



**Bostik Sprayable Adhesive** [polystyrene X] Replacement for the popular Idenden Spray Adhesive. We've tested it and can't tell the difference! A seriously economical spray adhesive that is perfect for bonding polyurethane foam, felt, cork and most plastics to wood and steel. There is a variable spray nozzle enabling large or small areas to be coated without overspray. Glue wastage is eliminated and it is a quick, clean and efficient means of bonding. Contains no Methylene Chloride. UN 1950

Bostik Sprayable Adhesive	size	code	price	Tradeline
	500 ml	ADH140N	£8.98	12+ £7.82



**UHU Power Spray** A basic spray adhesive similar to Display Mount, with a very fine spray pattern, and we found there was no bleed through when testing on paper and card.

UHU Power Spray	size	code	price
	200 ml	UHU362938	£8.95

For Expanded Foam Aerosols see page 114.

**MASTIC ADHESIVES**



**Sabatack 750 XL** This is our replacement product for Sikaflex 291. It is an MS Polymer that adheres superbly to metals and plastics. Its principle use would be to make gap filling high tensile bonds of fittings to ships and trucks etc. It can be used anywhere where dissimilar materials need bonding, with the mastic also forming a waterproof seal all in one process. May be used for bonding teak decking down to substrates.

- ✓ Fully UV stable
- ✓ Long shelf life
- ✓ Contains no solvents or isocyanates
- ✓ Can be easily overpainted
- ✗ Rather slow drying in cold weather

SPECIFICATION: Hardness: shore A 55. Skin time: 15 minutes. Open time: 30 minutes. Viscosity: medium. Green strength: low. Cure rate: 3mm/24 hr. Tensile strength: 2.6N/mm<sup>2</sup>. Shear strength: 1.7N/mm<sup>2</sup>. Elongation at break: 330%. Temperature resistance: -40°C to +120°C. Shelf life: 18 months.

Sabatack 750 XL	cartridge	code	price
Black	290 ml	SAB750XL	£13.77



Available in Black!

**Stixall – Extreme Power**  
Bonds and Seals VIRTUALLY EVERYTHING!

Stixall, based upon new hybrid PMS polymer technology, is the ultimate combined building adhesive and sealant, with the power to bond and seal virtually everything to anything. Stixall offers almost limitless benefits as a permanently flexible adhesive and sealant, removing the application barriers associated with conventional products.

- ✓ Stops mould growth
- ✓ Solvent-free, no odour
- ✓ High bond strength
- ✓ Resistant to chemicals
- ✓ Resistant to temperature extremes
- ✓ Incredible initial grab, no slip, gap filling
- ✓ Can be applied to wet surfaces
- ✓ Sticks glass, granite, brick, ceramics, fibreglass, mirrors, all hard plastics, timber, roof tiles, marble, stone, all metals and much more!
- ✓ Clear version is crystal clear
- ✓ Overpaintable
- ✓ Exterior or interior use
- ✓ Totally waterproof

**40-Year Lifetime Guarantee!**

Stixall Extreme Power	cartridge	code	list	price
Clear Type	300 ml	ADHSTXC	£9.98	£7.05
Black Type	300 ml	ADHSTXCB	£8.88	£5.95



**Gripfill** [polystyrene X] A market leading high strength gap filling mastic adhesive suitable for bonding wood, laminated plastic, metal, stone, ceramics, GRP and aluminium. One cartridge will provide a 6 mm bead approximately 10.25 m long.

Gripfill	cartridge	code	price	Tradeline 12+
	350 ml	ADH077G	£3.25	£2.90



**Pinkgrip** Richard Black just insisted that we stock this product which has an instant strong grip with no drooping. Battens can just be stuck to a wall where they will remain without additional fixings even while the glue sets. He raves about its qualities as if he owns shares. Richard claims to have built entire sets just using Pinkgrip, let's just hope he doesn't get into aeronautics. The Solvent-free version is brilliant for using with acrylic mirror.

Pinkgrip	cartridge	code	list	price	Tradeline 12+
Standard	350 ml	ADHPG	£3.49	£3.15	£2.95
Solvent-Free	350 ml	ADHPGSF	£4.92	£4.45	£4.25

**MASTIC SEALANTS**



**FA600 (Tremsil)** A medium modulus neutral silicone sealant. Good for general purpose sealing and caulking. It is ideal for bedding in glass. Conforms to BS 5889 [1989] Type A. These silicone sealants do not make high tensile bonds so products bedded with them can normally be removed without too much disruption to the substrate.

FA600 (Tremsil)	cartridge	code	price	Tradeline 20+
Black	310 ml	ADH600	£9.98	£9.48
White	310 ml	ADH600W	£9.98	£9.48
Translucent	310 ml	ADH600T	£9.98	£9.48

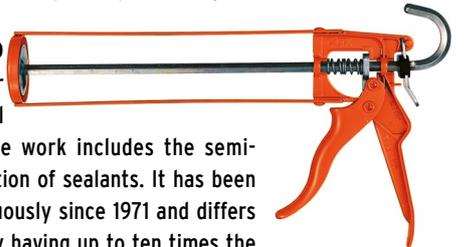
**MASTIC GUNS**

Flints only stocks top quality Cox mastic guns which will not crumple up when you are halfway through a Sunday fit-up. UK manufacture.



**Easiflow HD**

A low cost gun for the professional tradesman whose work includes the semi-frequent application of sealants. It has been produced continuously since 1971 and differs from imitators by having up to ten times the working life of some models. It has a 7:1 ratio trigger and a patented pressure release device which virtually eliminates sealant "flow-on". The drive rod is bent to provide a handy hook.

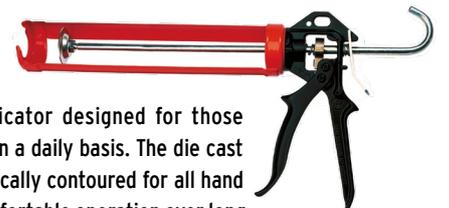


Easiflow HD Sealant Gun	code	price
400 mm [to suit up to 400 ml tubes]	ADH303	£7.76



**Powerflow Cartridge**

An advanced applicator designed for those who use sealants on a daily basis. The die cast trigger is ergonomically contoured for all hand sizes providing comfortable operation over long periods. The 12:1 ratio permits very smooth sealant flow for a high quality finish. A good choice for deck caulking.



Powerflow Cartridge	code	price
400 mm [to suit up to 400ml tubes]	ADH304	£21.37

For Twin Cartridge Guns see page 129.

**PROP SKIP ADHESIVES**



**UHU® and UHU® Gel** Strong crystal clear adhesives suitable for virtually everything except expanded polystyrene. The UHU gel is a non-drip version which many find cleaner and easier to use.

UHU®	size	code	price
UHU® All purpose	35 ml	UHU042862	£2.76
UHU® Extra Gel	31 ml	UHU043437	£2.76

See also, the UHU Power Spray on page 131



**Araldite® Standard** Supplied in a syringe, this is a strong solvent-free adhesive suitable for all materials and ideal for durable bonding and repairs. Perfect for complicated jobs which require adjustment thanks to a long working time. It will bond metals, wood, pottery, glass, and most hard plastics.



**Araldite® Rapid** A rapid fixing two-part epoxy adhesive. Supplied in an easy to use syringe dispenser.

Araldite®	size	code	price	Tradeline 12+
Standard Syringe	24 ml	ADH154	£6.37	£5.75
Rapid Syringe	24 ml	ADH153	£6.37	£5.75



**Zap-a-Gap** Fills Gaps, allows 7 - 10 seconds for positioning and cures in 20 seconds. Bonds most materials including metal, wood, rubber, pottery, and most plastics. The cure can be speeded up by using the aerosol Kicker accelerator.

Zap-a-Gap	size	code	price
Adhesive	1 oz	ADHPT02	£7.08
Adhesive	4 oz	ADHPT05	£24.13
Accelerator	2 oz	ADHPT15	£6.55



**Loctite Super Glue** A high performance instant cyanoacrylate glue. Not suitable for glass, polypropylene, polyethylene, and other waxy surfaces.

Loctite Super Glue	size	code	price
	5 g	ADH100	£4.36



**JB Weld** One of the world's strongest adhesives! You can drill it, grind it and machine it! Always handy for those unexpected breakages. Bonds steel, aluminium, wood, copper, ceramics etc.

JB Weld	pack contains	code	list	price
JB Weld Industrial	2 x 28.5 g tubes	ADHJB8270		£7.50
JB Weld Industrial	2 x 142 g tubes	ADHJB8273	£24.99	£19.50
JB Kwik Weld	2 x 28.5 g tubes	ADHJB8276		£7.50



**Gorilla Glue** This incredibly strong polyurethane glue can bond pretty much anything including wood, stone, metal, ceramics, glass and foam. It is waterproof and temperature resistant, which means it is ideal for indoor and outdoor projects and repairs. For Gorilla Tape see page 272.

Gorilla Glue	size	code	price
	60 ml	ADHGPG0060	£6.71



**Everbuild Thread Lock** Handy-sized thread sealant for (surprise surprise) locking threads on most nuts, bolts, and screws. Gap filling to 0.25 mm. Can be used on "as recieved" greasy nuts + bolts.

Everbuild Thread Lock	size	code	price
	10 g	ADHETL10	£3.56



**Bostik All Purpose** Sticks card, fabric, wood, metal, pottery, and most plastics. Not suitable for polystyrene, polypropylene, rayon or acetate.

Bostik All Purpose	size	code	price
Handy size	20 ml	ADHT14	£2.16



**Everbuild High Viscosity Super Glue** This higher viscosity super glue is easier to apply than standard super glue which can be a little runny. Suitable for use on most surfaces including non-porous surfaces like glass, metals, and PVCu. Sets in 10-30 seconds.

Everbuild High Viscosity Super Glue	code	price
	50 g ADHEVBHV50	£4.38

**SPECIALIST COSTUME ADHESIVES**



**E6000+ & E6000+ Spray** We first heard about this adhesive through the rather excellent Costume Networking group on Facebook [if you work in costume or wardrobe, we highly recommend you check it out - it's a mine of information!] and we quickly realised we needed to try it out for ourselves. Gary tested it out for us, and found it to be just the ticket - easy to use, didn't run on a vertical surface, adhered well to hard plastics, glass, metal, expanded polystyrene, fabrics (and remains flexible), can be put through a washer or dryer. The spray worked really well on wallpaper, and a hem! We can see this

could be extremely useful for model-makers too, as can be applied to painted surfaces without having nasty solvents dissolve the paints. How did we live without it? Odourless too. Popular for sticking gems onto costumes. We only stock this clear version as both a tube with nozzle applicator and a spray bottle.

E6000+	size	code	price
Tube	56.1 ml	ADHECL679	£8.50
Spray	236.5 ml	ADHECL023	£7.99

# SCENIC & DISPLAY FABRICS

## A note on our range of fabrics

Flints' range of fabrics covers the most popular materials used backstage. There are special prices for the purchase of whole rolls. We have included a page for Made-Up Cloths [page 136]. The following abbreviations are commonly used to denote the fire ratings:

**NDFR** = Non-durably flame retardant; These fabrics will need retreating if they get wet or are washed.

**DFR** = Durably flame retardant; These fabrics will withstand several cleanings.

**Not FR** = Not fire retardant; These fabrics have not been treated.

## CANVAS AND CALICO



**Super Scenic Flax 360 g/m<sup>2</sup>** NDFR. Bleached white. This is the standard material for covering open framed timber flats prior to painting. Recommended glues include warm size and Clam 2 or use Sheppy M155 if gluing large areas to plywood. Sold per metre.

Super Scenic Flax 360 g/m <sup>2</sup>	code	Tradeline
Width 2.44 m [approx 8']	PRO509	per m
		£17.35



**Cotton Scene Canvas 300 g/m<sup>2</sup>** NDFR. Natural colour. A wider but lighter weight canvas ideal for covering plywood. It can be subjected to more wear and abuse than calico could withstand. Recommended glues include Sheppy M155, FlintsBond and Clam 2.

Cotton Scene Canvas 300 g/m <sup>2</sup>	code	per m	per roll approx 50 m
Width 2.66 m [approx 9']	PRO520	£12.95	metre price less 10%



**Calico 195 g/m<sup>2</sup>** NDFR. Natural colour. A good economical lightweight material suitable for covering plywood clad flats. Calico, being rather lightweight, will not disguise poor joints between ply sheets which may need filling [see pages 49-50 for suitable fillers]. If the surface is very poor, cotton canvas may be a better choice. Recommended glues include FlintsBond, Sheppy M155 and Clam 2.

Calico 195 g/m <sup>2</sup>	code	per m	per roll approx 50 m
Width 3.2 m [approx 10'6"]	PRO540N	£13.35	metre price less 10%



**Calico 190-200 g/m<sup>2</sup>** Not FR. Natural colour. As Fire Retardant Calico has become prohibitively expensive, we've decided to offer this NonFR version. Very easy to self-retard, just visit our Flame Retardants page 70.

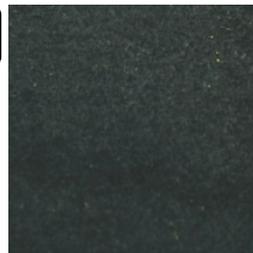
Calico 190 - 200 g/m <sup>2</sup>	code	per m	per roll approx 50 m
Width 2.48 m [approx 8']	PRO550	£5.05	metre price less 10%

## BLACK MATERIALS



**Black Casement** NDFR. Black. Lightweight, good value. Its main use is exhibition ceilings but can be attached to lightweight flats with staples and used to hide unsightly messes. If you need to glue try FlintsBond and Sheppy M155 but beware of bleed through. New wider version now available for easier wrapping of flats and stapling behind.

Black Casement	code	per m	50 m+
Width 153 cm (59" wide)	PRO530N	£3.40	£3.06



**Super Wool Serge 500-525 g/m<sup>2</sup>** DFR. Black. Wool serge provides the best material for masking. This heavyweight fabric is durably fire retardant and has less sheen than velour. Perfect for covering masking legs and borders or for making tabs. Serge is not normally glued to flats but

just folded back on itself and stapled. If glue is needed around profiled edges we recommend Flints Cyclorama Glue used dry with a little PVA or Copydex on the edges. If wing flats are being used to mask lanterns it may be necessary to double cover in Bolton and then serge to avoid light leaks.

Super Wool Serge 500-525 g/m <sup>2</sup>	code	per m	per bolt approx 50 m
Width 1.5 m [approx 5']	PRO508	£12.38	metre price less 10%



**Bolton Twill 265 g/m<sup>2</sup>** NDFR. Black. A more economical masking material than serge. Also useful as a protective black backing to increase the density of serged masking flats which may otherwise bleed light from nearby lamps.

Bolton Twill 265 g/m <sup>2</sup>	code	per m	per roll approx 50 m
Width 1.22 m [approx 4']	PRO500	£4.75	metre price less 10%



**For Black Car Carpet for your wing spaces, off-stage rostra or get-offs go to page 141**

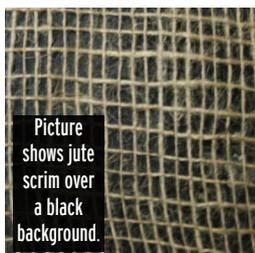
See also Black Fosshape [page 99], Black Plastazote [page 99], and Black Display Felt [page 135]

**SCRIMS AND HESSIAN**



**Muslin 50 g/m<sup>2</sup>** NDFR. White. A very light material typically used for scrimming over polystyrene carvings. Recommended glues include FlintsBond and Sheppy M155.

Muslin 50 g/m <sup>2</sup>	code	per m	per roll approx 100 m
Width 1.22 m [approx 4']	PR0504	£3.20	metre price less 10%



Picture shows jute scrim over a black background.

**Jute Scrim 85 g/m<sup>2</sup>** Not FR. Natural colour. An open weave jute scrim normally used to reinforce plaster waste moulds but could be used to reinforce and add texture to large scale polystyrene carvings. Recommended glues include FlintsBond and Sheppy M155.

Jute Scrim 85 g/m <sup>2</sup>	code	per m	per roll approx 200 m
Width 910 mm [approx 3']	PR0510	£0.98	metre price less 10%



For Hessian bags, see page 96

**Hessian 256 g/m<sup>2</sup>** NDFR. Natural colour. A fire retardant hessian which can be used for its decorative effect or as a tough economical scrim. It is occasionally used as a backing material to protect black serge flats. Recommended glues include FlintsBond and Sheppy M155.

Hessian 256 g/m <sup>2</sup>	code	per m	per roll approx 50 m
Width 1.73 m [approx 5'7"]	PR0501	£5.45	metre price less 10%

**FOAM LINING**



**Foam Lining 2 mm thick** grey foam lining which can be used under display felt and display PVC to provide a super smooth surface. It covers minor discrepancies in ply claddings and it gently rounds off edges.

Foam Lining	code	per m	50+
Width 1.22 m [approx 4']	PRODF06	£2.80	£2.35

**FROST FILM**



**Frost Film [Purfrost]** Self-adhesive clear frosted films for obscuring windows. To apply, wet the adhesive side with soapy water, apply to the window, and squeegee [see page 141 or 362 for squeegees] out any bubbles from the centre outwards.

Purfrost	code	price
2 m x 1 m LxW [in box]	PROPURL21	£21.58

See also Frost Spray [page 69] and Frost Varnish [page 57].

**EXHIBITION DISPLAY FELT**



Black PRODFS76

**Display Felt 135 g/m<sup>2</sup>** NDFR. Although lightweight, these display felts are actually 1 mm thick. Display felt is flame retardant and so ideal for display and exhibition purposes. It is also a good choice for notice boards. It is not as durable as Serge or Bolton so it is not often used in theatre scenery. Achieves BS5867 Fire rating standard. 30% wool, 70% synthetic. 1 mm thick. \*Roll lengths vary between 30 m and 57 m. Please phone to check.

Display Felt 135 g/m <sup>2</sup>	code	per m	Tradeline roll price per m*
Width 1,829 mm [approx 6']	PRODFS76	£13.59	£12.95 x roll length

**SELF-ADHESIVE VINYL**



White Semi-Matt PRO101005



Black Semi-Matt PRO101000



Red Gloss PRO101325

**Patifix [Fablon replacement]** Patifix is a high quality heavy-duty self-adhesive decorative vinyl made using non-toxic material and a special glue. Patifix is greatly versatile and is ideal for set dressing, covering table tops and display work.

Patifix colour	roll	width	weight	code	price
White	15 m	450 mm	2 kg	PRO101005	£31.45
Black	15 m	450 mm	2 kg	PRO101000	£31.45
Red Gloss	15 m	450 mm	2 kg	PRO101325	£31.45



We no longer stock Display PVC. Why not take a glance at our Designer Products, page 139, for a cost-effective way to change surface appearance?

See also our propmaking materials on pages 95-102.

# MADE-UP CLOTHS

Top quality theatrical drapes made to your own dimensions. When ordering special sizes our sales staff will ask you to email through a confirmation to avoid any mistakes. Please allow 10 - 14 days for delivery. The cloths are specially made for you and so cannot be returned. Regretably we can no longer offer indicative pricing as there was too much variation between orders.

All the cloths can be made to your exact dimensions

## Jargon Buster

In this section the following terms are used:

**Legs** Tall vertical cloths used typically to form the sides of a soft proscenium arch and for masking off wing space.

**Borders** Wide horizontal cloths used to form the top of a soft proscenium arch and to mask off lanterns.

**Half tabs** Half of a curtain which meets in the centre.

**Full tabs** A full width cloth either flown in or tracked all from one side.

**Fullness** Extra cloth is sewn into the header tape to form a fuller drape appearance.

**Flat cloth** A cloth with no extra fullness to form a modern plain flat effect.

**Conduit pocket** A base pocket to slide conduit [not supplied] into to form a very neat bottom edge on flat cloths.

**Chain pocket** A base pocket containing a chain for use on cloths with fullness or cloths on tab tracks.

**Web tape top/hem sides [wtt/hs]** A strong webbing with cloth is sewn into the top of the cloth to connect to a tab track or flying bar [available for sale see ]. The sides are hemmed.



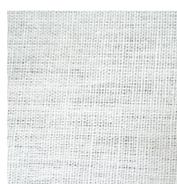
**Black Serge Drapes [wtt/hs]** Best quality durably flame retardant wool serge is used to construct these long-lasting deep black drapes.

Style	base	fullness	width x drop [imperial / metric]	code	price
Leg	conduit	flat	4'6" x 12' / 1.37 x 3.65 m	PROS124	P.O.A.
Leg	conduit	flat	7'6" x 20' / 2.28 x 6.09 m	PROS206	P.O.A.
Leg	chain	50%	5' x 12' / 1.52 x 3.65 m	PROS124C	P.O.A.
Leg	chain	50%	6' x 20' / 1.83 x 6.09 m	PROS206C	P.O.A.
Border	conduit	flat	30' x 4' / 9.14 x 1.22 m	PROS430	P.O.A.
Border	conduit	flat	40' x 6' / 12.19 x 1.83 m	PROS640	P.O.A.
Border	chain	50%	30' x 4' / 9.14 x 1.22 m	PROS430C	P.O.A.
Border	chain	50%	40' x 6' / 12.19 x 1.83 m	PROS640C	P.O.A.
Full tab	conduit	flat	30' x 16' / 9.14 x 4.87 m	PROS1630	P.O.A.
Full tab	conduit	flat	40' x 20' / 12.19 x 6.09 m	PROS2040	P.O.A.
Full tab	chain	50%	30' x 16' / 9.14 x 4.87 m	PROS1630C	P.O.A.
Full tab	chain	50%	40' x 20' / 12.19 x 6.09 m	PROS2040C	P.O.A.
Half tab	conduit	flat	17' x 16' / 5.18 x 4.87 m	PROS1616	P.O.A.
Half tab	conduit	flat	20' x 20' / 6.09 x 6.09 m	PROS2020	P.O.A.
Half tab	chain	50%	16' x 16' / 4.87 x 4.87 m	PROS1616C	P.O.A.
Half tab	chain	50%	20' x 20' / 6.09 x 6.09 m	PROS2020C	P.O.A.

Also see Conduit [page 233] and Tab Tracks [page 224 - 231].

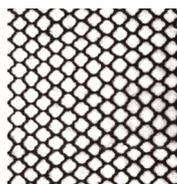


**Black Serge Tape is a dead duck.** See the Dense Black Textile Tape [page 272] instead.



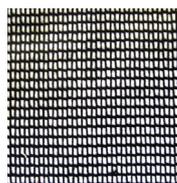
**Scenic Flax Backcloths [wtt/hs]** NDFR. Scenic flax cloths made-up with horizontal seams and a conduit base pocket. Before painting these cloths carefully tack them out onto a wooden floor or paint frame to avoid shrinkage and hold them square.

Scenic Flax Backcloths	code	price
width x drop [imperial / metric]		
20' x 11'6" / 6.09 x 3.5 m	PROBC2012	P.O.A.
24' x 15'6" / 7.31 x 4.72 m	PROBC2416	P.O.A.
30' x 19'6" / 9.14 x 5.94 m	PROBC3020	P.O.A.
40' x 23'6" / 12.19 x 7.16 m	PROBC4024	P.O.A.



**Scenic Gauze Cloths [wtt/hs]** NDFR. Seamless scenic gauze cloths made-up with a conduit base pocket. Scenic gauze is a very fine gauze which virtually disappears to the eye when the gauze is unlit while the scenery behind is lit. Available in white and black.

Scenic Gauze	code	price	code	price
width x drop [imperial / metric]	white	white	black	black
20' x 12' / 6.09 x 3.65 m	PROBG2012W	P.O.A.	PROBG2012B	P.O.A.
24' x 16' / 7.31 x 4.87 m	PROBG2416W	P.O.A.	PROBG2416B	P.O.A.
30' x 20' / 9.14 x 6.09 m	PROBG3020W	P.O.A.	PROBG3020B	P.O.A.
40' x 24' / 12.19 x 7.31 m	PROBG4024W	P.O.A.	PROBG4024B	P.O.A.



**Sharkstooth Gauze Cloths [wtt/hs]** NDFR. Seamless sharkstooth gauze cloths made up with a conduit base pocket. Sharkstooth gauze is a heavier gauze which can take dyes and paints to form a more solid effect when front lit. Available in white and black.

Sharkstooth Gauze	code	price	code	price
width x drop [imperial / metric]	white	white	black	black
20' x 12' / 6.09 x 3.65 m	PROBSG2012W	P.O.A.	PROBSG2012B	P.O.A.
24' x 16' / 7.31 x 4.87 m	PROBSG2416W	P.O.A.	PROBSG2416B	P.O.A.
30' x 20' / 9.14 x 6.09 m	PROBSG3020W	P.O.A.	PROBSG3020B	P.O.A.
40' x 24' / 12.19 x 7.31 m	PROBSG4024W	P.O.A.	PROBSG4024B	P.O.A.

## CLOTH STORAGE BAGS



**Cloth Storage Bag** Tough PVC bags to store your cloths safely and protected them from dust and damp.

PVC Bag	code	price
width x drop [imperial / metric]		
3' x 5' / 914 x 1,525 mm	PROPVC	£39.00

## HEADER TAPE AND TIES



**Sewn Ties** Ready to make your own cloths? In black or white with a matching header.

SPECIFICATION: Tie length [ex header]: 390 mm. Tie width: 25 mm. Header width: 50 mm. Gap between ties: 275 mm approx.

Sewn Ties	code	per m	50+
Black	PROWTBN	£2.10	£1.90
White	PROWTWN	£2.10	£1.90

**Loose Ties** Flame retardant webbing on a 100 m roll suitable for making tabs for cloths. Ideal for repairs. Available in black or white.

Loose Ties [100 m x 25 mm]	code	price
Black	PROWTBTIESN	£66.50
White	PROWTWTIESN	£66.50



# FABRIC SUNDRIES

## EYELETS



**Hipkiss Eyelet Kits** Ideal for the small job. These easy to use kits include the punch and die as well as the eyelets and rings. Very good value.

qty	Ø	size	code	price
25	7.94 mm	PP22	GEN161	£9.83
25	9.53 mm	PP24	GEN162	£10.63
15	12.70 mm	PP28	GEN168	£19.98



### Loose Eyelets

These loose eyelets are supplied as eye and ring in bags of 100. They are available in cleaned brass, nickel-plated, and epoxy black. Solid stainless eyelets can be ordered, please phone for details. Larger sizes are also available to order.

### Loose Eyelets [eye and ring] 1,000

size	internal Ø	brass code	per 100	nickel code	per 100	black code	per 100	10+ x 100
20	6.7 mm	GEN158	£8.00	GEN158N	£8.00	-	-	£7.20
22	7.94 mm	GEN165	£8.32	GEN165N	£8.32	GEN165B	£8.32	£7.59
25	10.31 mm	GEN167	£10.35	GEN167N	£10.35	GEN167B	£10.35	£9.32
27	11.9 mm	GEN169	£19.08	GEN169N	£19.08	GEN169B	£19.08	£17.17
30	15.87 mm	GEN160	£23.97	GEN160N	£23.95	GEN160B	£23.97	£21.57
32	19.05 mm	GEN159	£39.95	GEN159N	£39.95	GEN159B	£39.95	£35.95



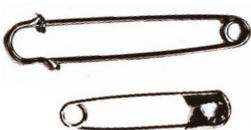
**Hand-Closing Tools** The hand-closing tool consists of a punch and die.

Hand-Closing Tools	code	price
for size:		
20	GEN158HCT	£19.98
22	GEN165HCT	£21.49
25	GEN167HCT	£23.94
27	GEN169HCT	£26.79
30	GEN160HCT	£33.84
32	GEN159HCT	£38.63

**Wad Punches** The wad punch is for cutting the hole through the material. NB: When using non-malleable heavy-duty stable materials such as vinyl tarpaulin we find you need to wad punch one size bigger.

Wad Punches	diameter	code	price
for size:			
20	1/4" 6 mm	GEN158WP	£10.55
22	5/16" 8 mm	GEN165WP	£10.72
25	3/8" 9 mm	GEN167WP	£12.33
27	7/16" 11 mm	GEN169WP	£12.24
30	9/16" 14 mm	GEN160WP	£15.36
32	3/4" 19 mm	GEN159WP	£16.59

## PINS



**Kilt Pin** A giant safety pin ideally suited to shortening black serge drapes.

**Safety Pins** A choice between the bog standard safety pin or the useful black version.

Safety Pins	length	qty	code	price
Kilt Pin	76 mm	each	GEN090	£0.70
Bog Standard Pin	34 mm	pack of 72	GEN096P	£4.95
Black Safety Pin	34 mm	pack of 72	GEN095B	£5.85

## TAG GUNS



**Tach-it 2® Tag Gun** A versatile tag gun engineered for operator comfort. The Tach-it guns are built to last with a maintenance-free internal mechanism. They are used widely in warehouses, shops and factories throughout the world. The blue triggers denote the use of a standard needle.

Tach-it 2®	qty	code	price
Gun		STPG203S	£23.85
Spare Needles	pack of 3	STPNS	£14.65
Tags for Tach-it 2®	length	code	per 10,000
Heavy-duty Black Nylon	15 mm	STP1015B	£20.35
Heavy-duty Natural Nylon	15 mm	STP1015N	£20.05



### Avery Dennison Mk11 Tag Gun

A good value gun using a conventional needle incorporating a cutting blade.



Tags come in boxes for easy storage.

Mk11 Tag Gun	qty	code	price
Tag Gun		STP201	£11.78
Spare needles	pack of 5	STP221	£18.75
Tags for Mk11 Tag Gun	length	code	per 5,000
Black Nylon	15 mm	STP211	£14.85
Natural Nylon	15 mm	STP212	£13.25
Natural Polypropylene	20 mm	STP213	£10.13



### Avery Dennison Super Heavy Duty Tag Gun

Another request from a customer, apparently the above guns just don't cut it! Jack from our trade counter tested these on all our scenic fabrics, and found that it handles thick materials really well (including 6mm plastazote), and the extra strong tags are perfect for joining materials together, such as wool-serge temporary hems! Jack also found the gun fired reliably regardless of which tags were used. Could also be used for tagging things to corrugated cardboard. The needles are really expensive, but they will last a long time. Each gun comes with one needle fitted.

Super Heavy Duty Tag Gun	qty	code	price
Tag Gun		STP10637	£69.55
Spare needles	pack of 4	STP10643	£88.95
Tags for Super Heavy Duty Tag Gun	length	code	per 5,000
T-end Nylon	19 mm	STP10575	£23.58
T-end Nylon	32 mm	STP10576	£23.58

## SPEEDY STITCHER



### Speedy Stitcher Sewing Awl

The Speedy Stitcher can be used to sew any heavy material such as leather or several layers of thick canvas. Use it to repair tents, awnings, cloths, sails, upholstery, shoes, floor cloths etc. So easy even a man can use it. Very popular.

Speedy Stitcher®	length	type	code	price
Speedy Stitcher			TOLSS	£18.52
Spare cord	180 yds	fine	TOLSS1507	£11.09
Spare cord	180 yds	coarse	TOLSS1506	£14.45

### GAUZE HANKS AND WIRE RUNNERS



**Gauze Hanks** A very useful clip for fixing gauzes to tension wires. The clip grips the cloth by means of a small screw. The clip is then offered up to the tension wire at right angles and twisted to lock in place. The gauze can then silently slide up and down the wires whilst remaining stretched. Only available in Black. Also see Pelican Hooks [page 190].

Gauze Hanks	code	price	50+
fits wire	black		
5 - 6 mm	HA244B	£1.22	£1.11
4 - 5 mm	HA144B	£0.66	£0.60



**Wire Runners** Occasionally, it is preferable to use pulleys to run along tensioning wires to stretch out large cloths. These quiet smooth running pulleys have removable clevis pins so they can be inserted onto captive wires. The clevis pin can then either go directly through an eyelet in the cloth or be used with Holdons and Spaniflexes [page 205] to make a system which has the ability to adjust the cloth tension. The weight of the pulleys helps the cloth fly in. Great value.

Showing the Wire Runner used with a Spaniflex and a Holdon.

Wire Runner	code	price	Tradeline 50+
	BARN99115	£5.58	£5.09

### PIPESNAPS



**Pipesnaps** A great product to radically speed up rigging and demounting drapes. The Pipesnap quickly clips onto any 50 mm Ø barrel. The weight of the cloth holds it securely in place. To release it, a cord can be attached to the hole on the rear of the clip. When the cord is pulled the clip cants back and releases from the bar. The clips can be linked with a cord so that fewer hauling cords are needed to release entire cloths.

Pipesnaps	code	price	50+
	PROPS	£5.26	£4.33

### OMEGA CLIPS



**Omega Clips** This fitting clips neatly over scaffold or truss tubes. It enables cloth to be neatly attached to the top of truss or a cross bar without the need for unsightly ties or eyelets.

Omega Clips	code	price	10+
	PRO7686B	£4.75	£4.25

### CYC CLAMPS



**Cyc Clamp** Heavy-duty cyclorama clamps ideally suited for stretching large backdrops to prevent unsightly creases. Why spoil a beautifully painted cloth for the sake of some strategic "Cyc Clamps"?

Cyc Clamp	code	price	50+
	PRO9280	£14.60	£12.00

### LEAD FREE DRAPERY WEIGHT TAPE



#### 1.5" Lead Free Drapery Tape

First brought in as a special for the Props and Costume departments of the National Theatre, this drapery tape is great for weighting down skirts, cloaks, and even drapes! Many workshops are working towards being lead free to protect their staff, so the steel weights in this tape help with that. The polyester sheath allows for it to be quickly sewn along a hem. Each weight [25 x 25 mm] is sealed at 45 mm increments to allow the quick and easy adjustment of length. Sold per metre, max length 22.86 m. Weighs 248 g / m

Lead Free Tape	width	code	price	22 m +
	1.5" [38 mm]	PROLF90	£5.50	£4.95

### HOLDONS



**Holdons®** These clever Swedish clips will grip any flexible material and provide a strong hanging point without the need for conventional eyelets. The more you pull, the more they grip. They provide the following advantages over eyelets:



- ✓ Banners can be rolled up totally flat without any eyelet damage
- ✓ Fixing points can be selected exactly where they are needed whilst on-site
- ✓ Excellent load capacity of 40 kg for the Mini Holdon and 100 kg for the Midi Holdon
- ✓ No tools needed just push to fit
- ✓ Completely reuseable and relocatable
- ✓ Ideal for stretching cycloramas

See Shock Cord Loops [page 205]

Holdon®	black code	price	white code	price	50+
Mini	HOLDMINB	£1.10	HOLDMINW	£1.10	£0.75
Midi	HOLDMIDB	£1.29	HOLDMIDIW	£1.29	£0.86

### TRUSS SLEEVE



**Truss Sleeve®** Bored with the "Truss Look" trade show stand? Then Truss Sleeve is the innovative product for you. Instead of being a technical necessity, trusses become a decorative element. When lit from the inside the light is nicely diffused due to the ribbed fabric structure. Truss Sleeve is inherently flame retardant and can be washed without losing its FR properties. The fabric is seamless and can be perforated allowing you to attach

Transforms your truss!

lights and hide cables. Truss Sleeve is available in black or white. The 270 mm size we stock will fit a 300 x 300 mm three chord truss loosely or 300 x 300 mm four chord and 400 x 400 mm three chord trusses tightly. Also available to order to fit larger trusses. Full roll lengths are approximately 50 m. To paint truss, see HATO@Truss on page 9.

TrussSleeves®	flat width	code	per m	10 m+
Black	270 mm	PROTS27B	£22.25	£20.02
White	270 mm	PROTS27W	£20.94	£18.85

# DESIGNER PRODUCTS

## Designer Products

Welcome to our range of designer films: a clean and cost effective way to add sparkle to your set, duplicate an industrial setting, or evoke a ghostly luminous glow. These films are vinyl and can be applied to flat and slightly curved surfaces. They are hot-embossed to produce deeper and more defined patterns. Intended for indoor use, with proper care and handling they offer an indefinite indoor life. Coated in a permanent pressure sensitive water-based clear acrylic adhesive they will adhere to a wide variety of substrates. They present a low-tack surface which allows for easy readjustment. Adhesion to steel: 2.8 N/10 mm. On more difficult surfaces we would recommend using Spray Mount [page 131] to supplement the adhesive. Spray the substrate, not the vinyl film, and allow to dry before positioning. The face film is 65 microns, with adhesive it is 90 microns. The release liner is one-side coated 143 g/m<sup>2</sup> kraft paper. Available by the metre or in a 45.7 m roll.

It is possible to print on these films using screen print, digital print and offset inks formulated for pressure sensitive vinyl films.

**Samples** If you would like a closer look at these products we have samples that we will happily send to you.

## METAL FLAKE



Metal Flake Silver DES0011



Metal Flake Gold DES0012



Metal Flake Galaxy DES0013



Metal Flake Red DES0014



Metal Flake Blue DES0015

**Metal Flake** These vinyl films will duplicate the sparkle effect you would get from 0.75 mm glitter "jewels" [page 40]. The Silver, Gold, Galaxy and Blue are multi-coloured and show "jewels" in blue, green, orange and yellow. The Red shows tones of red.

Metal Flake	width	code	per m	10+	45.7 m+
Metal Flake Silver	610 mm	DES0011	£7.60	£6.25	£4.75
Metal Flake Gold	610 mm	DES0012	£7.60	£6.25	£4.75
Metal Flake Galaxy	610 mm	DES0013	£7.60	£6.25	£4.75
Metal Flake Red	610 mm	DES0014	£7.60	£6.25	£4.75
Metal Flake Blue	610 mm	DES0015	£7.60	£6.25	£4.75

## GLOW IN THE DARK

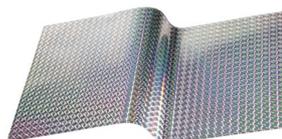


Glow Efx DES0005

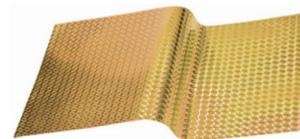
**Glow Efx** This vinyl film gives a soft green luminous glow which lasts for several minutes.

Glow Efx	width	code	per m	10+	45.7 m+
Glow Efx	610 mm	DES0005	£19.26	£16.81	£14.06

## MOSAICS



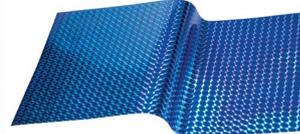
Mosaic Silver DES0022



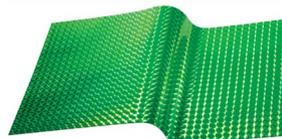
Mosaic Gold DES0023



Mosaic Red DES0024



Mosaic Blue DES0025

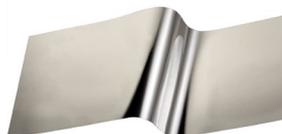


Mosaic Fluo Green DES0026

**Mosaics** The mosaics in these vinyl films measure 5 x 5 mm. These films have a coloured holographic effect especially in Silver, Gold, Blue and Fluo Green. The Red shows tones of red.

Mosaics	width	code	per m	10+	45.7 m+
Mosaic Silver	610 mm	DES0022	£7.60	£6.25	£4.75
Mosaic Gold	610 mm	DES0023	£7.60	£6.25	£4.75
Mosaic Red	610 mm	DES0024	£7.60	£6.25	£4.75
Mosaic Blue	610 mm	DES0025	£7.60	£6.25	£4.75
Mosaic Fluo Green	610 mm	DES0026	£7.60	£6.25	£4.75

## SMOOTHS



Smooth Silver DES0001



Smooth Gold DES0002



Smooth Red DES0003

**Smooth** There is a very slight ripple effect to the Smooth films duplicating a beaten metallic surface. Silver and Gold are sold in both 610 mm and 1.3 m widths.

Smooth	width	code	per m	10+	45.7 m+
Silver	610 mm	DES0001	£7.60	£6.25	£4.75
Gold	610 mm	DES0002	£7.60	£6.25	£4.75
Red	610 mm	DES0003	£7.60	£6.25	£4.75
Silver	1.37 m	DES0027	£17.37	£15.05	£12.30
Gold	1.37 m	DES0028	£17.37	£15.05	£12.30

## DIAMOND PLATE



Diamond Plate Silver DES0010

**Diamond Plate Silver** Just what you need if you want to evoke industrial metallic stairs or flooring.

Diamond Plate Silver	width	code	per m	10+	45.7 m+
Diamond Plate Silver	610 mm	DES0010	£7.60	£6.25	£4.75

TEXTURED METALLICS



Carbon Fibre Galaxy DES0004



Matte Silver DES0006



Florentine Leaf DES0007



Fine Brush Silver DES0009

**Textured Metallics**

Highly effective representations of metallic processes. The Matte Silver is a good match for an acid etched surface while the Florentine Leaf would evoke a surface that has been worked into with a fine tool. The Fine Brush and Carbon Fibre Galaxy have a more industrial feel. Matt Silver and Fine Brush are sold in both 610 mm and 1.37 m widths.

Textured Metallics	width	code	per m	10+	45.7 m+
Carbon Fibre Galaxy	610 mm	DES0004	£7.60	£6.25	£4.75
Matt Silver	610 mm	DES0006	£7.60	£6.25	£4.75
Florentine Leaf	610 mm	DES0007	£7.60	£6.25	£4.75
Fine Brush	610 mm	DES0009	£7.60	£6.25	£4.75
Matt Silver	1.37 m	DES0029	£17.37	£15.05	£12.30
Fine Brush	1.37 m	DES0030	£17.37	£15.05	£12.30

LENSES



Lens Silver DES0016



Lens Gold DES0017



Lens Galaxy DES0018



Lens Red DES0019



Lens Royal Blue DES0020



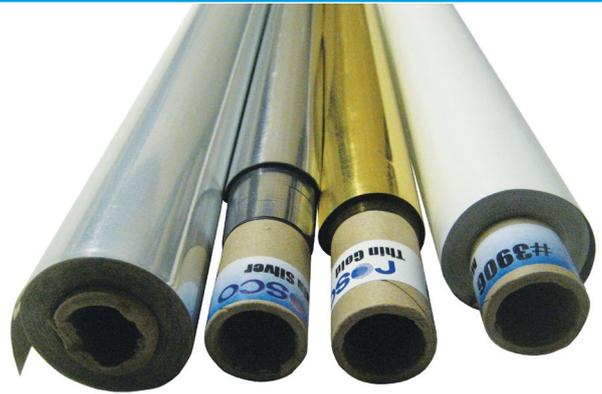
Lens Raspberry DES0021

**Lens** These vinyl films represent the 3D look of glass lenses in a highly reflective metallic finish. Each lens is 33 x 33 mm.

Lenses	width	code	per m	10+	45.7 m+
Lens Silver	610 mm	DES0016	£7.60	£6.25	£4.75
Lens Gold	610 mm	DES0017	£7.60	£6.25	£4.75
Lens Galaxy	610 mm	DES0018	£7.60	£6.25	£4.75
Lens Red	610 mm	DES0019	£7.60	£6.25	£4.75
Lens Royal Blue	610 mm	DES0020	£7.60	£6.25	£4.75
Lens Raspberry	610 mm	DES0021	£7.60	£6.25	£4.75

MIRRORS

ROSCO MIRRORS



**Mirrors** A variety of reflective surfaces in a metallised plastic format. Although the rigid mirror is certainly thicker than the thin mirror it is not exactly rigid - which is how we can sell it by the roll! We would recommend Display Mount to glue smaller areas and Flints Cyclorama Glue [page 127] for larger areas. Care must be taken to ensure that the Cyclorama glue surface is smooth before applying the mirror. Rolling the wet glue with a damp short hair roller will assist. Regrettably Rosco have discontinued almost all their mirrors, so we are selling the last of our stocks. The Thin Gold & Silver mirrors are not discontinued but now fall under their gels range, however for simplicity we list them here. Note the size and code change though!

Mirrors	roll size	code	price
Rigid Gold	1.35 m x 9.15 m	ROS393002	£130.00
Thin Gold	1.22 m x 7.62 m	ROS3814	£46.25
Thin Silver	1.22 m x 7.62 m	ROS3813	£58.00



Sadly the **Silver Shrink Mirror** is a dead duck! We are on the hunt for another supplier, and have been looking all over the world. If you know where we can source this wonderful stuff do let us know. We'd love to stock it again.

# FLOORING

## Flooring

Flints stocks a wide range of flooring and ancillary products to cover virtually any stage requirement. Our thick fire retardant underfelt can be used to deaden the underside of rostra tops or it can be cut up and textured to provide relief to the stage surface. Our comprehensive range of Dance Floors are suited to either touring or permanent installation. We also stock special paints for painting Dance Floors [see Hatocel on page 31] and the remarkable "Re-Use-It" [see page 276] to simplify floor laying. For exhibitions the Self-adhesive Vinyl provides stunning results and is quick and easy to lay. Please phone if you need any advice.

## UNDERFELT



**Underfelt BS 4790:1987** [Hot Metal Nut Method]. This new formulation of recycled jute and wool FR-grade underfelt offers improved compression and recovery rates. It is ideal for sound deadening the underside of rostra tops virtually eliminating any "drumming" effect. It is also very useful for adding relief to textured floors and stage landscapes. It can be covered in FlintsMud. Please check with your local fire authority regarding its suitability for your particular applications.

SPECIFICATION: Thickness 11 - 12 mm. Density: 2,034 gm<sup>2</sup>. Width: 1.37 m. Roll length: 12.5 m. Compression: 26.22%. Recovery: 73.78%.

Underfelt	width	code	price
Per linear metre	1.37 m [4'6"]	PRO507	£14.65
Per 12.5 m roll	1.37 m [4'6"]	PRO507D	£137.75

## BLACK CAR CARPET



**Black Car Carpet** A useful economical black carpet ideally suited for quietening down wing spaces, off-stage rostra and get-off treads. The carpet is needlepoint rib 100% polypropylene with a latex backing. The pile weight is 400 gm<sup>2</sup> and the total weight is 450 gm<sup>2</sup>. The carpet has been tested to BS 4790:1987 [Hot Metal Nut Method].

When fully adhered < 30 mm. To glue the carpet to large areas why not use Treadfast 108 . For small areas try Ambersil NC500 Spray Adhesive [page 131].

Black Car Carpet	width	code	price
Per 10 m roll	2 m	PROQSTBD10	£131.81
Per 30 m roll	2 m	PROQSTBD	£461.50

## SELF-ADHESIVE VINYL FLOORING

### To lay the floor you'll need three people!

- 1) Clean the floor thoroughly so it is dust-free and smooth.
- 2) Unroll the vinyl face down [adhesive up] and peel off the backing.
- 3) With one person at each end, turn the vinyl over. Hold it off the floor.
- 4) Let the middle of the length touch the floor. The third person uses the rubber squeegee from the centre and works outward to expel any air bubbles.
- 5) Overlap the next strip by 25 mm. Double up in high wear areas.

Easy!



### Self-Adhesive Floor Vinyl

1.22 m [4'] wide rolls of vinyl with a low tack removable adhesive for temporary floor covering. Available in standard thickness of 80 microns and also in a very easy-to-lay heavy-duty 175 micron thickness. 50 m rolls. Applying self-adhesive vinyl to dance floor will effect the co-efficient of friction. To lay the floor see .

Floor Vinyl [1.22 m wide]	thickness	code	Tradeline per roll
Black matt	80 microns	PRO105MB	£315.20
Black gloss	175 microns	PRO200GB	£366.23

Available in other colours and with permanent adhesive.



**Wooden Squeegees** Useful for laying vinyl floors.

Squeegees	width	code	each
	18" [457 mm]	SAFWT513	£5.42
	24" [610 mm]	SAFWT515	£6.56

## DANCE FLOOR GLUE



**Treadfast 108** A pressure sensitive adhesive ideal for vinyl dance floor or car carpet. It is solvent-free, non-flammable and has low toxicity. Treadfast 108 gives a strong permanent bond. Use a 1.5 mm x 5 mm notched trowel to apply and immediately roll with a short-haired paint roller dampened with the adhesive. Allow to dry [goes clear] then position and roll with 68 kg roller. Covers 6 - 8 m<sup>2</sup> per L.

Treadfast 108	size	code	price
	5 L	ADH1085	£56.54
	15 L	ADH10815	£152.30



**Adhesive Trowels** Handy for rapid and even application of Treadfast 108.

Adhesive Trowel	serrations	code	price
Large	1.5 mm every 5 mm	ADHTAS007	£15.80
Spare blade for above		ADHTAS007B1	£5.23

# DANCE FLOORS

## Dance Floor Instructions

These tips should help you get the best results from your new dance floor. **Acclimatisation** Dance floors are affected by the temperature, the harder floors suitable for tap and heavy scenery are more affected by cold weather than the softer floors such as Super Bravo. In very cold weather some floors can become brittle. If your floor is freezing cold then it should be left to acclimatise to the room temperature [13-27°C]. This could take 24 hours or longer.

**Laying the Floor** Check the floor is perfectly flat and free of nails etc. Once your dance floor is at ambient room temperature it should be rolled out and allowed to lay flat, ideally overnight, occasionally longer. In a theatre, bring up the lights so the floor achieves the maximum temperature it will achieve during the performance. There should be a 1 – 2 mm gap between the seams and a 12 mm gap around the edges if the floor is abutting walls. Only when completely flat can the seams and edges be top taped. Change the top tape every four months and Double-Sided Tape [page 277] every two years. If you prefer to tape to the floor using double-sided tape then it is vitally important the floor achieves the highest performance temperature. When the floor is fully acclimatised and completely flat, place a row of stage weights on a board along one end and gently roll the floor back onto its storage tube. Position the double-sided tape around the edges and down the middle leaving the protective paper on the top. Roll out the floor again to check positioning. If it is fine, roll it back up, remove the protective paper exposing the adhesive tape then roll out. Repeat for each roll.

**Laying Floors with ReUselt** The 1 m wide rolls should be laid at right angles to the direction of your dance floor. One person should walk back slowly with the roll while a second person, using a broom, smooths the ReUselt down onto the floor. Cover the entire floor. Roll out the dance floor across the ReUselt at right angles and allow 24 hours to acclimatise. Once perfectly flat roll back the floor onto its tube to the halfway mark. Remove the protective paper from the ReUselt and roll the flooring back being careful to maintain alignment. Do the other half and repeat for each roll. Once the floor is laid it should be rolled with a 34 kg to 45 kg roller. A floor laid with ReUselt can be rolled back up even after a year or so and the ReUselt pulled from the floor leaving virtually no residue [page 276].

**Cleaning the Floor** Protect your floor from street dirt by using appropriate mats near door entrances. Floors should be cleaned regularly with a recognised dance floor cleaner such as Stagesstep Proclean or Rosco All Purpose Floor Cleaner. Do not use vinegar, cola, alcohol, solvents or any product that says it will leave your floor shiny. Stubborn scuff marks and tape residue can be removed with Wipeout Plus.

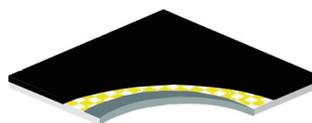
**Storing the Floor** It is important storage is carried out correctly to avoid your floor becoming mis-shapen. Before storing your floors check they are clean with no old tape left in place. All floors should be taped and rolled onto a tube of at least 100 mm diameter. They should be rolled evenly with the edges level and then taped tightly. Wrap them in brown paper or polythene to keep them clean. Long-term storage of Super Bravo, Rave, Rosco Adagio should be on end. The ends should be protected with a piece of plywood. During use or touring the floors may be hung on a Dance Floor Trolley [page 144]. Ensure the flooring is tightly rolled and taped so it doesn't hang down in loops. Do not stack on top of each other or leave stored lying on the floor. Store upright as soon as possible to avoid the floor getting a set. Rosco Dance Floor should not be stored upright but left hung on a Dance Floor Trolley. Never put weights on top of rolls of flooring. Avoid excessive heat or cold and direct sunlight. Instructions are supplied with each purchase or download at flints.co.uk

# STAGESTEP

www.stagesstep.com 800-523-0960

**Flints is the major UK stockist of Stagesstep dance floor materials. Stagesstep are one of America's leading suppliers of dance floor, understanding the needs of flooring for the Performing Arts based on 35 years of experience.**

## SUPER BRAVO



### Super Bravo Classic

A reversible, lightweight, portable flooring. Supplied in wide 2 m widths for fewer seams. Super Bravo

is supple to lay but retains heavy-duty wear surfaces. A fibreglass lining improves the stability and offers better lie-flat. Superior work surface for jazz, modern, ballet, and other movement activities. Not recommended for tap. For theatre use, the floor can be successfully painted with Hatoce! [page 31].

They are all 2 m wide!

- ✓ 2 m wide, 1.6 mm thick
- ✓ Fibreglass lining provides a stable floor which lies flat
- ✓ Two layers of 100% virgin PVC with fibreglass lining between
- ✓ No fillers
- ✓ Life expectancy up to 10 years
- ✓ Guaranteed 5 years against wear
- ✓ Normally used for semi-permanent touring applications although also suitable for permanent installation

SPECIFICATION: Fire rating: NFP 92-512 (M3), EN 13501 - 1 (Cf1 - S1). Static load: 85 lbs per sq inch. Supplied with instructions. Weight per linear metre: 3.97 kg.

Super Bravo	width	length	code	price
Black/Grey reversible	2 m	30 m	SSSBCBGR	P.O.A.

**Want to paint your dance floor?  
Why not use Hatoce! Plastic Sheet Paints?  
Quick drying, highly elastic, great adhesion!  
See page 31 for details.**

## RAVE



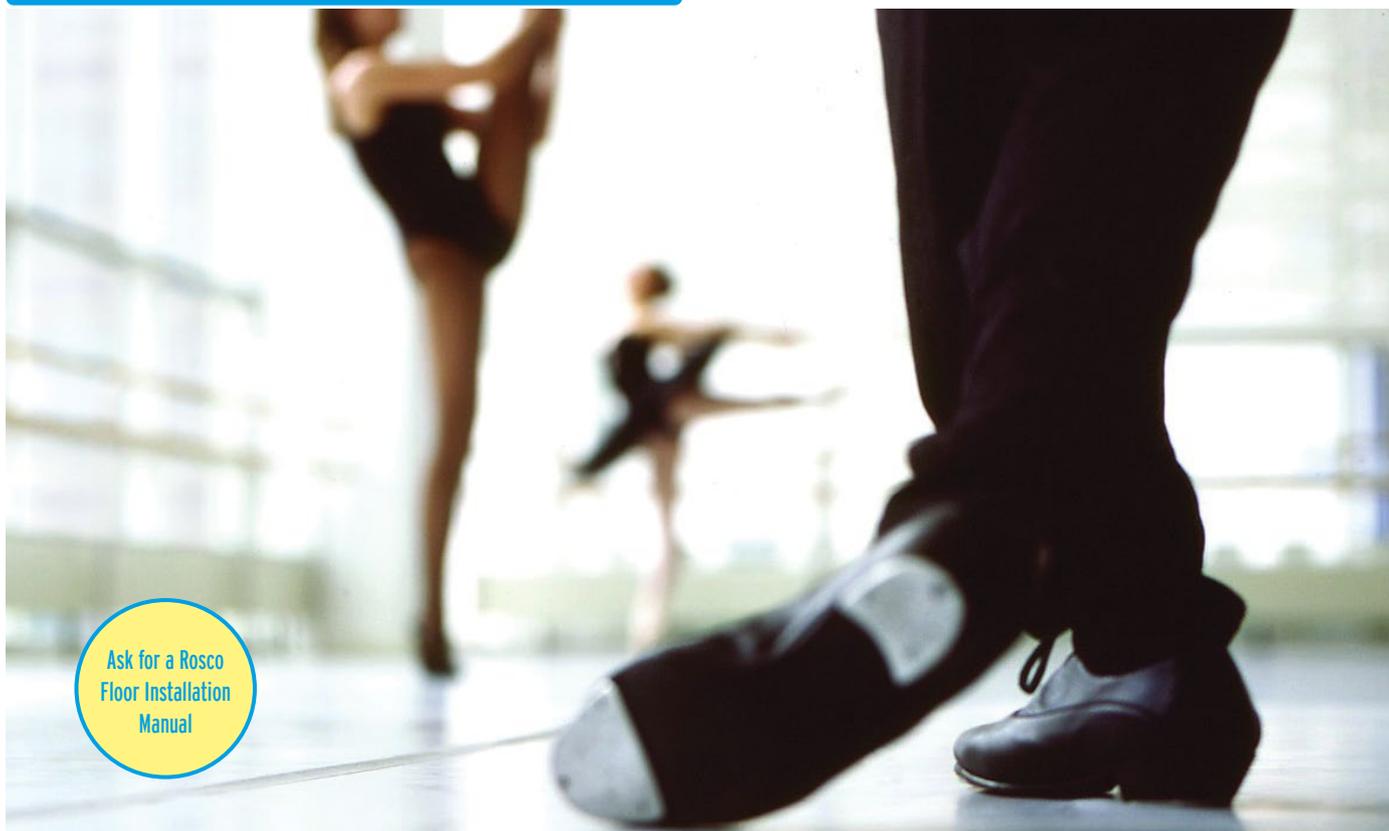
**Rave** A lightweight portable or permanent flooring with a fibreglass lining offering stability and great lie-flat. This floor has a 1.6 mm thick

PVC foam base giving a quiet cushioned feel. Ideal for all dance and theatrical activities, except tap. Recommended for ballet, jazz and contemporary dance.

- ✓ 2 m wide, 2 mm thick
- ✓ Fibreglass lining provides a stable floor which lies flat
- ✓ 1.6 mm thick foam PVC base layer
- ✓ Lightweight – just 1.74 kg per m<sup>2</sup>
- ✓ Life expectancy up to 10 years
- ✓ Guaranteed 5 years against wear
- ✓ Normally used for semi-permanent touring applications although also suitable for permanent installation

SPECIFICATION: Fire rating: DIN - EN 13501 - 1 (Cf1 - S1). Static load: N/A. 3.4 kg/m. Weight per linear metre: 3.47 kg.

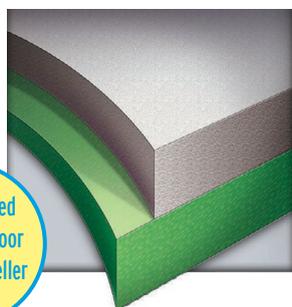
Rave [2 m wide]	width	length	code	price
Black	2 m	20 m	SSRAVEBR	P.O.A.



Ask for a Rosco Floor Installation Manual

Flints has stocked Rosco's famous dance floors for over 20 years, here are the most popular Rosco floors we sell. Contact us for samples and a full colour brochure.

## ROSCO DANCE FLOOR



The two-sided black/grey floor is our best-seller

### Rosco Dance Floor

The portable, durable floor for ballet, jazz and modern dance. Manufactured from 100% vinyl, Rosco floors won't crack, separate or fracture, and are self-sealing if punctured. The matt, non-skid finish is designed for the control required by dancers and the matt non-reflective finish helps prevent

distracting reflected light. Weighs only 1.78 kg per sq metre, ideal for touring dance companies. All Rosco floors are two-sided for equal wear on both surfaces and allowing you to chose the colour best suited to your design. The black/gry is available in 2 m widths too..

SPECIFICATION: 1.3 mm thick. 1.6 wide. Max roll length: 40 m.

Weight: 2.85 kg per linear metre. Use for: modern, jazz, ballet.

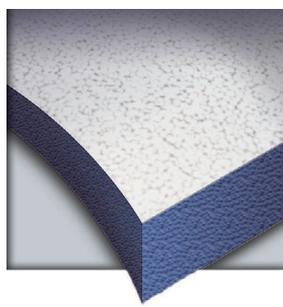
Rosco Dance Floor	width	code	per m
Black/Grey	1.6 m	ROS872019	£41.25
Black/White	1.6m	ROS872319	£41.25

### Cold Weather

Dance floors are sensitive to temperature and can become stiff and brittle in very cold conditions. Harder floors, like those used for tap, are more affected than softer floors such as Rave. Allow your dance floor to warm up to room temperature [13 - 26°C] before use. Once the flooring is rolled out it should be allowed to acclimatise to the highest temperature the room will reach during the performance before taping the seams.

Don't forget to buy some ReUseIt. See next page

## ROSCO ADAGIO



**Rosco Adagio** Adagio is a contract quality floor ideal for dance or general use. It is made of heavy-duty dimensionally stable slip resistant vinyl with a non-reflective surface. It is supple enough to lay semi-permanently. SPECIFICATION: 1.5 mm thick. 1.6 m wide. Max roll length: 31 m.

Weight: 3.65 kg per linear metre. Use for: tap, modern, jazz, ballet, ballroom.

Rosco Adagio [1.6 m wide]	code	per m
Black	ROS87862214	£48.25
Grey	ROS87863314	£48.25

## LE MARK HARMONY



### Le Mark Harmony High Gloss Black Vinyl Floor

100% pure vinyl. Recommended as a temporary or semi-permanent floor in studios, multi-purpose rooms and showrooms. The highly reflective surface would suit a soft shoe. Use for: events, commercials, fashion and car shows.

SPECIFICATION: 2 mm thick. 1.5 m wide. Weight: 1.3 kg per square metre. Roll length: 25 m.

Photo courtesy of Le Mark with the kind permission of The Blood Wedding Production - Dundee Rep Theatre.

Le Mark Harmony High Gloss	code	list	per 25 m roll
Black	PROHGVFBR	£925.68	£826.98

## RE-USE-IT



One of our favourite products!



**ReUselt** The revolutionary way to install flooring! Now you can install virtually any dance floor surface over any existing sub-floor\* without messy adhesives, or having to hire expensive flooring contractors. A semi-permanent installation with permanent performance and feel! The ReUselt system gives you all the benefits of a permanent installation with the ease of a semi-permanent installation without the use of top tape or the hassle of resetting your floor every two years. Yet when you need to remove the floor you simply peel it up and take it away. Simply purchase a new supply of ReUselt and install at your new location. Used ReUselt can be removed from the sub-floor and thrown away. You can install it yourself and it's idiot proof.

\*An exception is MDF which can be very dusty even when you think it is clean as because of the way it is made there are always particles in the pores. MDF is almost never used for any type of flooring but if it is used make sure it is sealed MDF so then bonding won't be an issue.

✓ Fast and foolproof method to lay dance floor

ReUselt	code	Tradeline
Full roll 1 m wide x 25 m	SSRU1000	£127.80

## DANCE FLOOR TROLLEY

**Dance Floor Trolleys**

These trolleys will hold 6 rolls of floor up to 2 m wide. Working load limit of 800 kg. Painted black. We will deliver free of charge to UK mainland addresses. Supplied flat packed.

SPECIFICATION: Height: 1 m. Width: 1 m, Length: 2.2 m. Pole lengths: 2.45 m.

Dance Floor Trolley	code	Tradeline
2.2 m x 1 m base area	DFTROLLEY	£1,295.00

After a high gloss finish? Why not use Hatocel Colourless Glaze? See page 31.

## MAINTENANCE



Eco friendly formulation

**Wipeout Plus** An improved formula which now removes tape adhesive too! Eco-friendly, easy to use Wipeout Plus is ideal for removing dye and scuff marks. Its improved formula penetrates, loosens, breaks down and dissolves many unwanted stains from all vinyl and non-porous surfaces. Wipeout Plus is not effective on aluminium compound tap residue. To avoid this please see Tap Shield below ↓ .

Wipeout	code	price
200 ml pump spray bottle	SAFWP	£33.86



**Tapemate** Who needs Tapemate now Wipeout Plus has been reformulated to remove tape residue as well as tough scuffs!



**Proclean** Super-concentrated industrial strength floor cleaner that will not harm your floor or floor finish. Three ounces cleans 1,000 square feet! Use on a regular basis, at least once a week, to keep your floor looking clean and hygienic. One pot will clean a 1,000 sq. ft. floor for a year.

Proclean	code	price
3.79 L	SAFPC	£34.85

**Rosco Heavy Duty Floor Cleaner**

For stripping and deep cleaning of Rosco Floors.

Heavy Duty Floor Cleaner	code	price
1 L	ROS1120034	£19.00
3.79 L	ROS1120128	£52.50

**Rosco All Purpose Floor Cleaner**

Designed for the routine, regular cleaning of all Rosco floors.

All Purpose Floor Cleaner	code	price
1 L	ROS1160034	£25.25
3.79 L	ROS1160128	£65.00

For Mops, Buckets, Scissor Dusting Mops and Brooms go to pages 361 - 362.

# LIFTING INTRODUCTION

We get so many questions around Rigging, we thought it was time to add in this editorial piece, brought to you by our Technical Sales Director and Head of Rigging - Barry Hudson.



“I have often been asked by people ‘What is a lifting accessory?’ or ‘What is a lifting operation?’.

According to the Lifting Operations and Lifting Equipment Regulations 1998 [LOLER], an “accessory for lifting” is work equipment for attaching loads to machinery for lifting.

To further simplify this statement, one of the instructors at the Lifting Equipment Engineers Association [LEEA] suggested that it can be looked at it in this way: If you have a crane – the lifting machine in this scenario – then anything used below the hook used to attach the load to it, is a lifting accessory. So examples are shackles, turnbuckles, round slings, chain slings and wire rope slings to name but a few. In most theatre settings the “hook” is a flying bar, so everything below it is a “lifting accessory” and everything above it is a component of the “lifting machine”.

A lifting operation is defined in the LOLER regulation as an operation concerned with the lifting or lowering of a load. It is therefore dynamic, as opposed to “suspension” which is static and outside the scope of LOLER.



Our special Hook Symbol

Within this catalogue we have added a hook symbol next to the products that can be used for lifting operations. These products will be supplied with instructions for use and either a Declaration of Conformity or a Report of Thorough Examination For New Products. Which certification is supplied is dependant on whether Flints hold the Technical File for the product. The Technical File contains the original specifications of the product and so we would typically only hold it for our own products.

There are many other products in the following sections of the catalogue that can be used for suspending loads that are not subject to dynamic movement. These products will show a minimum breaking load [MBL] or minimum recommended load [MRL], but do not require certification.

The LEEA Code of Practice for the Safe Use of Lifting Equipment [COPSULE] states that lifting accessories should be specified by [although not necessarily actually ordered by] the “competent person” in charge of the lifting operation, which is the term used to describe a person with the necessary practical and theoretical knowledge, experience, training, skill, and ability to perform the specific duty. There could be several competent persons with specific duties relating to lifting items.

With our experienced and knowledgeable staff, we search for quality products to suit your needs and budgets. We are continually monitoring new products that come onto the market, so you can have faith that we will be providing quality equipment suited to your requirements.

We also have a strong splicing team at Flints, and can help you with everything from 3 or 4 strand fibre rope, to braided ropes, or even modern ropes such as Dyneema Pro.”

If you come across a new product you think we should stock, do let us know! You can scan this qr code to visit our handy form to register any new ideas:



## A brief introduction to the new UKCA Marking



### What is it?

Following Brexit, any goods being placed on the market in Great Britain, that is England, Wales and Scotland, will need to be marked with the new UK Conformity Assessed [UKCA] mark. It covers most goods which previously required the Conformité Européenne [CE] marking. However goods placed on the Northern Ireland market will continue to require the CE marking, or the new UKNI marking which Flints will not be using.

The technical requirements that must be met [and the conformity assessment processes and standards that can be used to demonstrate conformity] are largely the same as they were for the CE marking.

The goods will require a UK Declaration of Conformity.

### When will we start seeing the UKCA marking?

The UKCA marking came into effect on 1st January 2021 but to allow businesses time to adjust to the new requirements, the CE mark may be used until 1st January 2022 in most cases.

The UKCA marking must be used from 1st January 2023.

### Future use of markings in the UK:

From January 1st 2022, the CE marking will not be recognised in Great Britain.

However a product bearing the CE marking would still be valid for sale in the UK so long as it is also UKCA marked and complied with the relevant UK rules.

### The EU:

Please note that the UKCA marking is not recognised on the EU market so products for the EU market will need the CE marking.

For products placed both in the EU and UK markets the product can bear both markings as long as they conform to the standards from both markets.

### What changes will I see to Lifting Products like the scenery fittings?

Very few, except that most of our fittings will soon be supplied stamped with both the CE and UKCA markings.

For the latest **UK Government Guidance** on UKCA marking please scan this qr code to be taken to the following UK government web page:



<https://www.gov.uk/guidance/using-the-ukca-marking>

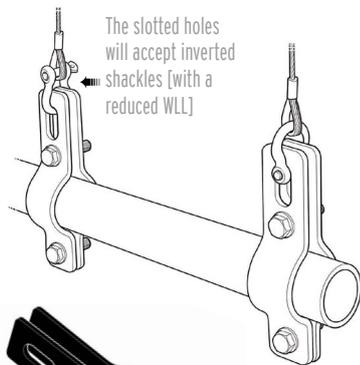
# SCENERY FITTINGS

## Scenery Fittings

Many of our scenery fittings are designed to be fixed to timber scenery. Often the weakest point will be the timber structure itself. Particular care should be paid to the joints supporting the bottom rails on flats. If in doubt, rails should be reinforced with stout plywood glued and screwed across the rail and stile. The scenery fittings which are suitable for lifting are shown with the "hook" symbol. We now state the loads as "Working Load Limits" rather than "Safe Working Loads". A WLL is the maximum permissible design load. Often it will be the same as the "Safe Working Load" but the SWL could be less if, for instance, a load was going to be applied at an angle, then the competent person may decide to state a SWL less than the WLL [but never higher]. The SWL should then be clearly displayed. The design calculations, which were carried out in accordance with British Standards, are being upgraded to the appropriate Eurocode References where necessary. These lifting fittings are CE marked, batch-tested, and they are marked with the Batch Identifier and the Working Load Limit. They are supplied with an EC Declaration of Conformity and instructions. We have introduced oval rings to our Hanging Clamps, Ring Plates and Ceiling Plates in accordance with BS 7906-1:2005. The Ring Plate with a round ring is still available for general use but we advise clients to use the oval ring version for lifting purposes. All the scenery fittings have been designed for use with traditionally built scenery in a typical indoor theatre environment. They must be fitted by a competent person in accordance with the instructions supplied. The instructions can also be downloaded from our website.

It is beyond the scope of this catalogue to cover every aspect of the safety of lifting equipment so it is important that the person specifying lifting equipment is competent to do so.

## SCENERY LIFTING FITTINGS



The slotted holes will accept inverted shackles [with a reduced WLL]

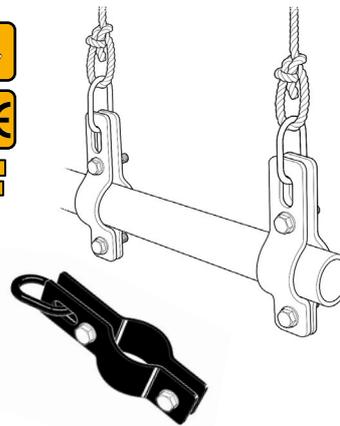
**Hanging Clamps with Slotted Holes** Used to secure flying wires or hemp lines to flying bars so that the lines cannot slide along the bar. They can also be used inverted as a fixing point on flying bars for small pulleys etc. Our hanging clamps have all the sharp corners

removed so they are less likely to catch on cloths and gauzes and the smart black appearance makes front of house rigs less unsightly. When touring, lines can be quickly refixed in the same place without needing unsightly tape marks. If flying heavy loads always use the hanging clamp with a certified shackle. The SWL may be affected by the rating of the shackle. The standard Hanging Clamp fits bars from 48 to 51 mm OD. The large version fits 60.3 mm OD gas barrel. The finish is black powder coated. The top hole is slotted so shackles can be used inverted but with a reduced WLL. The slot for the shackle is 13.5 mm wide and 30.5 mm long. They are designed to be used with 1.5 t Crosby or Green Pin Bow Shackles [pages 180 and 181]. Size: 180 x 40 x 65 mm. Fixings supplied: 2 off M10 x 40 HT bolts with Nyloks and washers [max torque 3.5 Nm]. For diverting flying wires along the bar see facing page 174. Weights: standard 648 g, large 672 g.

Now with slots for inverted shackles!

The direction of pull should be either in-line or diverted along the bar. If the bar does not rotate to the direction of the pull then the WLL would reduce to 47 kg. Supplied instructions must be adhered to including bolt tightening torques.

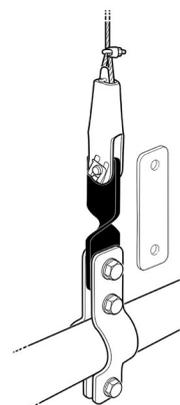
Working Load Limits			
<b>SAFETY</b>	FHS002HCS	with shackle pin in slot	550 kg
	FHS002LHCS	with shackle pin in slot	550 kg
	FHS002HCS	with shackle body in slot	50 kg
	FHS002LHCS	with shackle body in slot	50 kg



**Hanging Clamp with Oval Ring** These fittings are used to secure hemp lines directly to flying bars so that the line cannot slide along the bar. The old round ring has been replaced with an oval one in accordance with BS 7906-1:2005. Fits bars from 48 to 51 mm OD. Fixings supplied: 2 off M10 x 40 HT bolts with Nyloks and washers [max torque 3.5 Nm]. Weight: 770 g. Follow supplied instructions including tightening torques.

<b>SAFETY</b>	Working Load Limit	
	FHS002HCO	50 kg

Hanging Clamp with Oval Rings	code	price	Tradeline 50+
With oval ring for hemp line	FHS002HCO	£9.80	£8.50 each



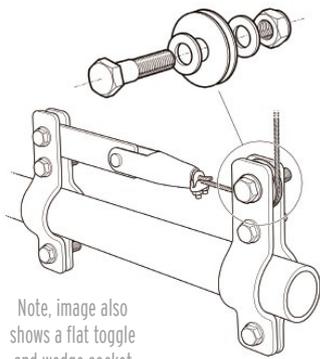
**Toggles for Hanging Clamps** These fittings can be used with the Hanging Clamps to allow the simple fitting of a wedge socket. The twisted toggle enables the wedge socket to align with the direction of pull when raising flats from lying on the stage. Supplied complete with a M12 x 40 HT bolt, two washers and a Nylok [to secure to the hanging clamp]. 8 mm thick with 13 mm Ø holes. Note: Not suitable for 2 - 3 mm wedge sockets.

<b>SAFETY</b>	Working Load Limits	
	FHS002T	550 kg
	FHS002TF	550 kg

Toggles for Hanging Clamps	weight	code	price
Twisted [shown black]	315 g	FHS002TK	£8.85
Flat [shown in outline]	315 g	FHS002TFK	£2.37

Hanging Clamps with Slotted Holes	code	price	Tradeline 50+
Standard with slot for shackle to suit 48-51 Ø	FHS002HCS	£7.75	£6.60
Large with slot for shackle to suit 60.3 Ø	FHS002LHCS	£7.75	£6.60

**Always use a torque wrench when securing hanging clamps [page 174].**



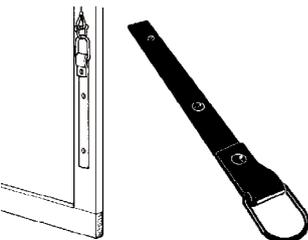
Note, image also shows a flat toggle and wedge socket

### SAFETY

Working Load Limit
550 kg

**Bar Divertors** To maximise flying heights, wire ropes can be diverted around these Nylon sheaves and along the flying bar. The bar can be levelled either by moving the anchor hanging-iron or by means of a rigging screw parallel to the bar. We now stock three sizes of bar divertors. They are all supplied complete with M12 x 40 mm high-tensile bolt, two Form A steel washers and a Nylok nut. The 8 mm version is only suitable for use with the Large Hanging Clamp on 60.3 mm Ø tube. The 5 and 6 mm versions are suitable for 50.8 mm Ø tube or they can be used with the supplied nylon spacers on 48.3 mm or 60.3 mm tubes. Weight: 92 g. \*when used with supplied nylon spacers.

Bar Divertors	suits bar Ø	Ø x tk	code	price
5 mm wire	48.3*, 50.8, 60.3*	40.58 x 6.4	FHS002ESK	£8.95
6 mm wire	48.3*, 50.8, 60.3*	42.33 x 6.4	FHS002SK	£8.95
8 mm wire	60.3	43 x 6.4	FHS002SLK	£8.95

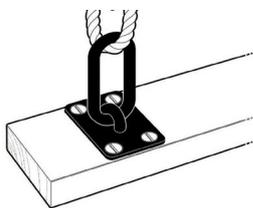


### SAFETY

Working Load Limits
FHS012 200 kg
FHS012L 200 kg

**Flying Irons** Used for flying heavy scenery when a hanging iron cannot be deployed. The ring is welded inside the fold for extra strength. This fitting must be bolted through the flat. To achieve WLL the timber should be 25 mm thick and at least 300 mm long. Size: 370 x 30 x 22 mm. Fixings needed: 3 off 6 mm csk machine screws and tee nuts. Black powder coated. A self-colour version is available for those preferring to weld the fitting in position.

Flying Irons	weight	code	price	20+
Unlipped	510 g	FHS012	£13.90	£12.80
Lipped	510 g	FHS012L	£14.20	£13.00
Unlipped self colour	510 g	FHS012SC	£12.95	£11.90

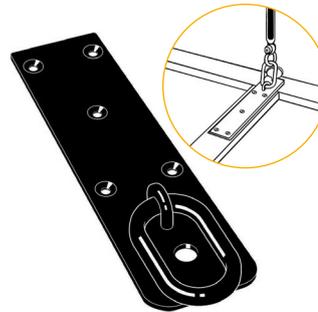


### SAFETY

Working Load Limit
50 kg

**Ring Plate with Oval Ring** This ring plate is fitted with a stronger oval ring [stronger than the round type] in accordance with BS 7906-1:2005. A useful multipurpose fitting suitable for flying lightweight items. Can also be used as a grummet when flying with hems attached directly to hanging irons [above]. Ring plates are often fixed to the top rail of large masking flats to enable a temporary rope from the fly floor to be attached to the top of the flat to assist walking the flats up. Designed to fit nominal 3" timber as shown. Black powder coated. Size: 68 x 45 x 75 mm depth from flat [with ring at right angles as shown]. Fixings needed: 4 off M5 csk machine screws and T-Nuts. See standard Ring Plates [next page].

Oval Ring Plate	weight	code	price	50+
	138 g	FHS017HD	£6.10	£5.40

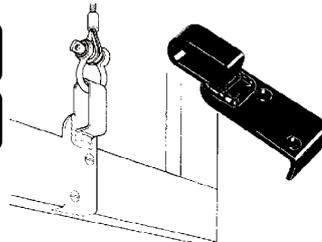


### SAFETY

Working Load Limit
FHS0090 50 kg

**Ceiling Plate [with Oval Ring]** Used to join the rails to the stiles on roll-up ceiling flats. The fitting should be machine screwed to the rail so that the 11 mm drilled hole falls on the centre line of the stile [as shown in the detail]. A boss plate should be routed in flush under the hole so the flat can be quickly assembled using M10 thumbscrews [page 264]. By using this method the cloth can be rolled around the stiles which will have no protruding obstructions to cause damage. Flats can be constructed in this manner far larger than Paul Mathew's biggest trailer. These fittings are fitted with oval rings in accordance with BS 7906-1:2005. Also available without rings. Black powder coated. Size: 230 x 60 x 75 mm [with oval ring at right angles]. Fixings needed: 5 off 5 mm csk machine screws and T-Nuts.

Ceiling Plates	weight	code	price	Tradeline 10+
With oval ring	380 g	FHS0090	£8.85	£7.80
Without ring	321 g	FHS009	£3.95	£3.05

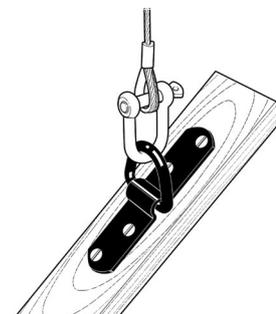


### SAFETY

Working Load Limits
FHS013 100 kg
FHS013R 100 kg

**Hanging Irons** This traditional fitting is used to secure lines to the bottom rail of flats. The rounded internal surface of the ring allows rope to be tied directly to the fitting, or wires can be secured with a 1.5 t bow shackle as shown [page 180]. This fitting must be bolted to the flat. The holes are designed to align with 75 x 25 mm nominal timber. It has a lip to hook under the rail and the eyes can face in or out. The finish is black powder coated. Size: 140 x 50 x 35 mm. Fixings needed: 2 off 5 mm csk machine screws and T-Nuts.

Hanging Irons	weight	code	price	Tradeline
Eye out [standard]	384 g	FHS013	£13.20	£13.20
Eye in	407 g	FHS013R	£13.20	£13.20

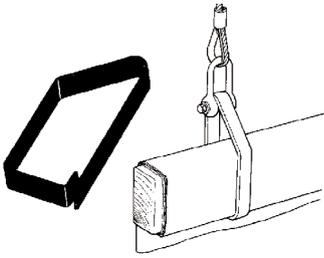


### SAFETY

Working Load Limits
FHS092K 75 kg

**D-Ring and Keeper** For flying lightweight scenery when the direction of pull can be variable. We now only sell the stamped keeper and d-ring as part of a kit, but an unmarked non-lifting version of the keeper is now available to be used as a heavy-duty grummet. Size: 120 x 28 mm. Fixings needed: 4 off 5 mm csk machine screws.

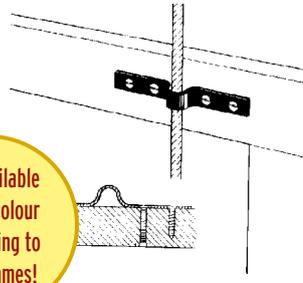
D-Ring and Keeper	weight	code	price	Tradeline qty price
D-Ring and Keeper	109 g	FHS092K	£5.95	50+ £5.35
Heavy Duty Grummet [non lifting]	80 g	FHS092G	£2.95	100+ £2.65



**Top Batten Clip** This clever fitting allows cloths to be rolled-up and shortened without resorting to the bad habit of cutting slots through the canvas for the flying wires [Arggh!]. An absolute must for touring companies and can be of help to painters needing to reduce the cloth size to fit paint frames. Black powder coat finish. Use one clip for every 2 m of batten. Size: 170 x 25 x 78 mm.

<b>SAFETY</b>	Working Load Limits	
	FHS001	25 kg

Top Batten Clip	weight	code	price	Tradeline
	426 g	FHS001	£6.30	20+ £5.67



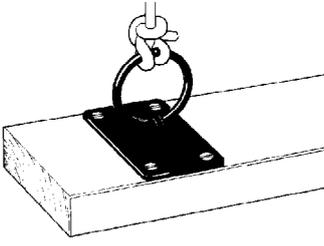
Now available as self-colour for welding to steel frames!

**Grummet** A conventional grummet for securing flying wires to the top of flats. This cheap strong fitting should always be fixed with two machine screws and two wood screws. The grummet can be subjected to significant loads during the initial raising of the flats. Once raised, virtually all the strain will be transferred to the bottom rail. The finish is black powder coated. Size: 95 x 16 x 15 mm. Fixings needed: 2 off No.8 or No.10 [4 or 5 mm] csk wood screws, 2 off 5 mm csk machine screws and tee nuts. As usual, during our testing we find the wood breaks well before the grummet is affected. Now available as self-colour for welding to steel frames.

<b>SAFETY</b>	Working Load Limits	
	FHS010	50 kg

95 x 16 x 15 mm. Fixings needed: 2 off No.8 or No.10 [4 or 5 mm] csk wood screws, 2 off 5 mm csk machine screws and tee nuts. As usual, during our testing we find the wood breaks well before the grummet is affected. Now available as self-colour for welding to steel frames.

**RING PLATES - NOT FOR LIFTING**

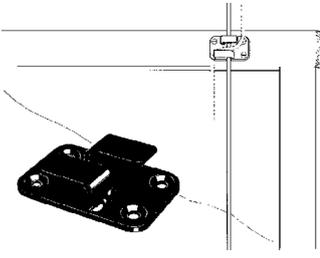


**Ring Plate** A very popular multipurpose fitting suitable for a wide variety of uses. For flying lightweight items We also have available a ring plate with a stronger oval ring in accordance with BS 7906-1:2005 [see previous

page] that is suitable for Lifting purposes. Ring plates are often fixed to the top rail of masking flats to enable a temporary rope from the fly floor to be attached to the top of the flat to assist walking the flats up. Designed to fit nominal 3" timber as shown. Black powder coated. Size: 68 x 45 x 60 mm depth from flat [with ring at right angles]. Fixings needed: 4 off M5 csk machine screws and T-Nuts.

Ring Plate	weight	code	price	100+
	102 g	FHS017	£2.40	£2.05

Grummet	weight	code	price	100+
Black Finish	36 g	FHS010	£1.45	£1.25
Self-colour	36 g	FHS010SC	£1.35	£1.25



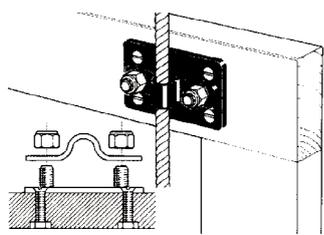
**Open Grummet** This fitting was designed by us to overcome the problem of flying wires becoming trapped behind grummetts on touring sets. The wire is simply twisted at right angles and pulled free.

The fitting uses our standard plate size [68 x 45 mm] and should be used in the intermediate positions on flown pieces with the stronger Two Part or Opera House Grummetts being used at the head of the flat. The finish is black powder coated. Fixings needed: 4 off 5 mm csk machine screws and T-Nuts.

**GRUMMETS**

**Grummetts**

Grummetts are only under significant load while flats are being initially raised into position. The Open Grummet is not designed to be used on the top rail of flats but purely as a wire guide on the intermediate shoe rails, therefore it should never be subjected to high loads. Grummetts should not be used for lifting. WLL's given are for guidance purposes only.



**Two-part Grummet** Designed by Flints with safety in mind. They are design-checked and batch-tested. The loose part is secured with two M8 Nyloks [supplied] to our standard backplate. Black powder coated. Design right applies. Size: 68 x 45 x 20 mm. Fixings needed: 4 off 5 mm csk machine screws and T-Nuts.

<b>SAFETY</b>	Working Load Limits	
	FHS041	100 kg

Two-Part Grummet	weight	code	price	Tradeline
	110 g	FHS041	£2.95	50+ £2.55



Now available as self-colour for welding to steel frames!

**Opera House Grummet** Flints makes these fittings for the Royal Opera House. They allow the ferrules on made-up wire ropes to pass through the 17 x 45 mm slot. They are quicker to use than the Two-part Grummet and considerably stronger than Open Grummetts. Black powder coated finish. Fixings needed: 4 off 5 mm csk machine screws and T-Nuts. Now available as self-colour for welding to steel frames.

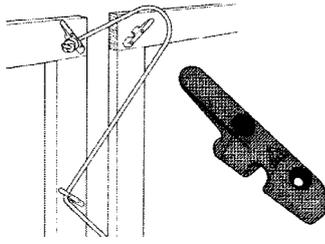
<b>SAFETY</b>	Working Load Limits	
	FHS010MP	100 kg

Opera House Grummet	weight	code	price	Tradeline
Black Finish	100 g	FHS010MP	£2.35	100+ £2.00
Self-colour	100 g	FHS010MPSC	£2.25	£2.05

**Ever thought of stocking 4.5 mm diameter Spax Screws [page 259]? They work well in countersinks designed for 4 mm or 5 mm.**

## THROW LINE AND CLEATING GEAR

**F**



**Clummet®** This popular cast-alloy fitting was designed by Flints to replace the old throw line cleat. Its smooth shape makes throwing lines easier and the bridge allows the sash to be tied off without requiring a separate grummet. By using a

Clummet® on both flats the line can be quickly swapped for left-handed throwers. They should be fixed at a 30° - 40° angle near the top of the flat. On tall flats, extra Clummetts® should be positioned at equal intervals along the stile to draw the middles together. Traditionally, No.6 jute sash has been used for throwlines but 8 mm matt black polyester is now a more popular and stronger choice. These cords can be found on pages 201 and 203. Size: 85 x 12 x 22 mm. Fixings needed: 2 off No.8 csk wood screws. Weight: 68 g.



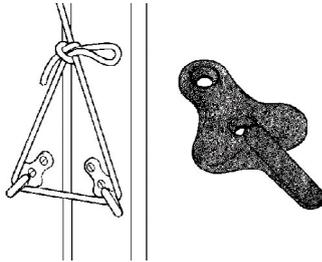
Tidy up your ropes!

Clummetts® can also be used to tidy up ropes and extension leads by using the following method: Trap a loop of cord under the bridge, draw it through the coil of rope to be hung up and then hook the loop over the cleat. We now also stock ready-made 450 mm EWL loops in 8 mm braided cord.

Clummet	weight	code	price	Tradeline 100+
Clummet	68 g	FHS006	£3.25	£3.45
Loop		FHS006LOOP	£3.45	

Halls No.6 Cleats are no longer made.

**F**



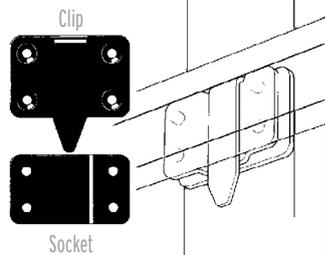
**Tie Off Cleat** Used for securing the sash when line and cleating flats. The cleat grips the sash against the timber. They should be fixed 700 mm from the ground so they are both comfortable to tie off and also so the sash does not become a

trip hazard by trailing on the ground when the flats are run. Made from cast iron and painted black. Size: 75 x 30 x 9 mm from flat. Fixings needed: 2 off No.8 [4 mm] csk wood screws.

Tie Off Cleat	weight	code	price	Tradeline 100+
	52 g	FHS007	£3.25	£2.95

## PELMET CLIPS AND SOCKETS

**NEW**  
**F**

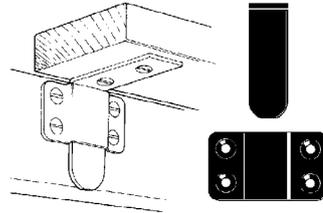


**Pelmet Clip and Socket** A useful pair of fittings for stiffening battens, hanging heavy picture frames, securing panels as well as fitting pelmets. The backing plate is our standard size so, if required, it can be routed in flush using a boss plate jig.

The finish is black powder coated. Clip size: 68 x 65 x 13 mm. Socket: 68 x 40 x 10 mm. Fixings needed: 4 off No.8 or No.10 [4, 4.5 or 5 mm] csk wood screws for each part. Now available as self-colour for welding to steel frames.

Pelmet Clip and Socket	weight	code	price	Tradeline 100+
Clip Black Finish	101 g	FHS003	£2.25	£2.00
Clip Self-colour	101 g	FHS003SC	£3.00	£1.95
Socket Black Finish	63 g	FHS004	£2.05	£1.85
Socket Self-colour	63 g	FHS004SC	£2.85	£1.75

**F**

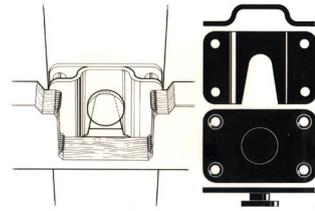


**Pelmet Iron** An alternative to the Pelmet Clip and better suited for fitting shelves to flats. The fit is loose enough to allow the shelf to be quickly removed without jamming. Also widely

used for fitting on-edge stiffening battens. Black powder coated. Size: 80 x 25 x 52 mm. Fixings needed: 2 off No.8 or No.10 [4, 4.5 or 5 mm] csk wood screws.

Pelmet Iron and Socket	weight	code	price	Tradeline 100+
Pelmet Iron	69 g	FHS005	£1.75	£1.55
Pelmet Socket	63 g	FHS004	£2.05	£1.85

**NEW**  
**F**



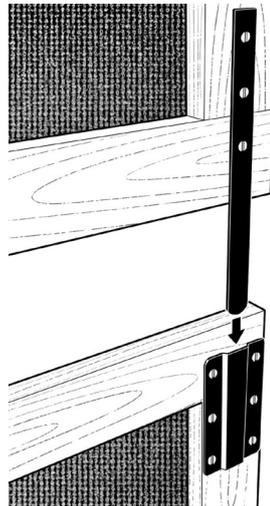
**Button Pelmet Clip and Socket** Made by Flints under licence to Triple E who designed this clever plate several years ago. Triple E kindly asked for their commission to be donated

Now available as self-colour for welding to steel frames!

straight to The Theatrical Guild. The Button Clip allows easy location into the socket at any angle and is not prone to damage during transport. This fitting is a good choice for quick scene change items because of its ease of location. Button size: 68 x 45 x 11 mm. Clip size: 68 x 45 x 13 mm. Fixings needed: 4 off No.8 or No.10 [4, 4.5 or 5 mm] csk wood screws for each part. Now available as self-colour for welding to steel frames.

Button Pelmet	weight	code	price	Tradeline 100+
Clip Black Finish	78 g	FHS046	£3.10	£2.95
Clip Self-colour	78 g	FHS046SC	£3.00	£2.70
Socket Black Finish	62 g	FHS047	£2.95	£2.85
Socket Self-colour	62 g	FHS047SC	£2.85	£2.55

**F**



**Extension Iron and Long Socket** These Extension Irons are particularly useful for joining small extension flats to the main flat. By extending or reducing the height of masking flats, scenery can be made to fit a wide variety of touring venues allowing tall flats to be reduced in height to fit under fly floors or even into short vans. The socket is gently dovetailed to ensure an easy location yet a snug fit. Sizes: Iron length x width 300 x 25 mm, Socket length x width 153 x 66 mm. Fixings needed: Iron - 3 off No.10 [5 mm] csk wood screws, Long Socket - 6 off No.8 [4 mm] csk wood screws.

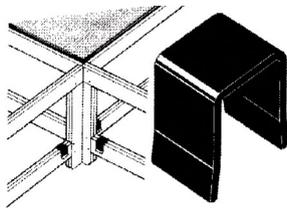
Extension Iron and Long Socket	weight	code	price
Extension Iron	340 g	FHS048	£3.98
Long Socket	99 g	FHS049	£3.50



**Flush Mounts** These small flush mounts are ideal for light panels. They are sold as a pair [i.e. 2 pieces]. Use screws no bigger than No.4 [3 mm] or the heads will not clear. Projection: 3.5mm. Zinc-plated.. See also Dual Lock on page 250.

Flush Mount	dims	weight	code	set	50+ sets
Regular	44 x 38 mm	34 g	TOLMFM	£1.29	£1.16
Small	40 x 15 mm	15 g	TOLMFMS	£0.82	£0.74

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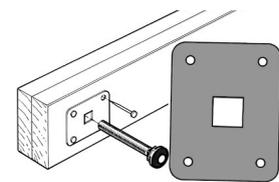


**Rostra Dogs** These clips can be used to speed up set changes by avoiding the need to bolt up folding gate rostra. They clip neatly around 3" x 1" [75 x 25 mm] or 3" x 1/4" [75 x 32 mm] PAR timber. They can also be used to secure rostra with fixed tops when the lack of access to the underside prevents bolts from being used. The finish is black powder coated. Sizes: 30 x 45 mm with a 41 mm gap for 1" [25 mm] nominal timber, 30 x 45 mm with a 57 mm gap for 1/4" [32 mm] nominal timber.

Rostra Dogs	weight	code	price	100+
41 mm	93 g	FHS030	£1.79	£1.37
57 mm	105 g	FHS031	£1.79	£1.37



F



**Bolt Plate** A slim steel plate which can be nailed into place to stop the square heads of M10 coach bolts wearing into the timber [page 264]. Now with rounded corners. Supplied self-colour. Size: 50 x 38 x 22 gauge.

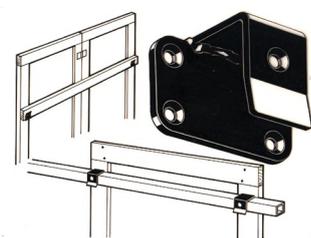
Fixings needed: 4 off 2 mm wire or annular nails. Weight: 12 g.

Bolt Plate	weight	code	price	100+	1000+
	12 g	FHS033	£0.25	£0.15	£0.11

See also Spikey Washer [page 263].

## FLATTAGE CLIPS AND FLUSHING PLATES

F



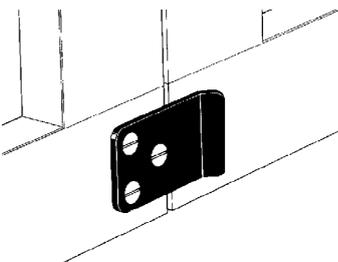
**Flattage Clips** Simple but endlessly useful. Our standard backplate is supplied with three sizes of protruding hooks. They are ideal for securing timber flats to steel trucks and can be used with the hook-up to

provide a location for stiffening battens. A countersunk hole in the hook allows the battens to be fixed in place on flown pieces. Black powder coated finish. Fixings needed: 4 off 5 mm csk machine screws. Base plate size: 68 x 45 mm.

Flattage Clips	weight	gap size	code	price	Tradeline 50+
	110 g	27 mm	FHS027	£2.95	£2.70
	126 g	30 mm	FHS028	£2.95	£2.70
	152 g	42 mm	FHS029	£2.95	£2.70



F



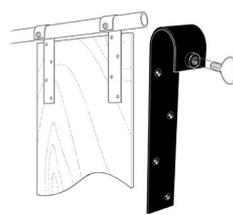
**Jointing Plates** A plain, drilled plate designed to be used as a flushing plate for line and cleated flats but often used as a door stop. The end of the plate is available either slightly folded, to help location, or flat. Black powder coated. Size: 68 x 45 x 6 mm.

Fixings needed: 3 off No.8 or No.10 [4, 4.5 or 5 mm] csk woodscrews.

Jointing Plates	weight	code	price	100+
Folded	65 g	FHS008	£1.65	£1.55
Flat	65 g	FHS008F	£1.65	£1.55

## PANEL HANGER

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**Panel Hanger** These useful fittings can be used to quickly hang panels or flattage from scaffolding or trussing without the need for cables. For static displays, the panel simply hooks over the bar. There is an M10 threaded insert provided to enable an optional wing

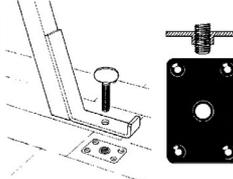
bolt to be tightened against the bar to prevent the panel from being accidentally dislodged. Very useful for touring display panels, exhibition stands and fast scenery changes. Black powder coated. Size: 300 x 50 x 65 mm deep [to fit tube up to 52 mm diameter]. Fixings needed: 4 off 5 mm csk machine screws and tee nuts.

Panel Hanger	weight	code	price	100+
Panel Hanger	400 g	FHS050	£5.10	-
Wing Bolt	23 g	FIX3053	£0.39	£0.35

## BOSS, STUD AND PEG PLATES



F



**Boss Plates** This fitting has hundreds of uses but was primarily designed as a flush stage fixing for stage braces. It uses our standard backing plate and has a threaded insert to take M10 bolts or thumb screws. We also make

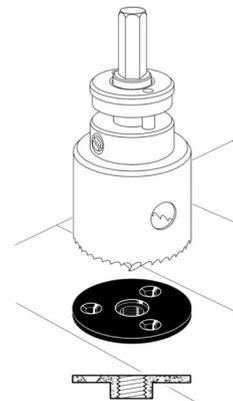
a Reverse Countersunk Boss Plate [FHS014FM] which is designed to fix to the underside of rostra tops so that the strain pulls against the top. Black powder coated. Size: 68 x 45 x 3 mm [10 mm to base of boss]. Fixings needed: 4 off No.8 or No.10 [4, 4.5 or 5 mm] csk screws.

Boss Plates	weight	code	price	100+
	74 g	FHS014	£2.65	£2.40
Reverse countersunk	74 g	FHS014FM	£2.20	£2.00

Also available as self-colour blank plates drilled and countersunk in each corner

		FHS099	£1.45	
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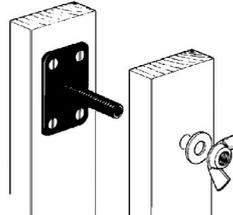


**Round Boss Plate** This product was suggested to us by Alan Cohen and we agreed that it would be very useful to speed up setting boss plates on stage. A 51 mm hole saw will neatly cut through the usual hardboard stage cladding. The hardboard can be discarded and the plate set in the hole. The finish is black powder coated. Size: 50 mm diameter x 3 mm thick [10 mm to base of boss]. Fixings needed: Three No.8 or No.10 [4, 4.5 or 5 mm] csk wood screws. Weight: 52 g.

Round Boss Plates	weight	code	price	100+
Round Boss Plate	52 g	FHS014AC	£2.20	£2.00
51 mm Hole Saw		TOLHS51	£13.98	-
Hole Saw Arbor		TOL1968	£19.44	-

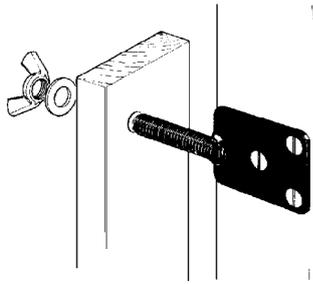
See also page 287.

F



**Stud Plate** Simply a M10 threaded stud fixed to our standard plate. The stud plate solves a multitude of problems especially when access to the rear of flats is awkward. Essential on any fit-up. Black powder coated. Size: 68 x 45 x 50 mm depth from flat. Fixings needed: 4 off No.8 or No.10 [4, 4.5 or 5 mm] csk wood screws.

Stud Plate	weight	code	price	100+
	84 g	FHS015	£2.98	£2.85

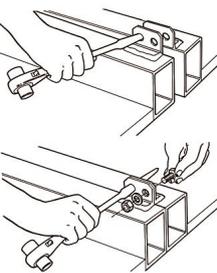
**F**

**Peg Plate** Similar to the stud plate but with the stud welded to the side of the fitting. If the boss plate and the stud plate will not solve your fixing problem then this one probably will. The finish is black powder coated. Stud length: 50 mm. Size: 115 x 45

x 10 mm depth from flat. Fixings needed: 3 off No.8 or No.10 [4, 4.5 or 5 mm] csk wood screws.

Peg Plate	weight	code	price	Tradeline 100+
	91 g	FHS016	£2.35	£2.20

## FITTINGS FOR STEELWORK



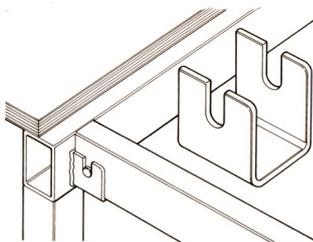
Unique to Flints!

**Podgalug®** Designed and patented for use with the ratchet podger. Podgalugs® are drilled with two holes, one for the podger to align the lug and the other for the bolt. Using these twinhole lugs will not only dramatically speed

up fit-up times but will free up your engineers from lug making when they could be more usefully deployed on other tasks. Supplied self-colour ready to weld. The holes are 12 mm diameter designed for use with 10 mm bolts. They are positioned 22 mm out from the inner flange to provide good clearance for ratchet podgers. They conform to the Royal Opera House Podger Clearance specifications [honest – they exist!]. "Podgalug" is a registered Trade Mark of Flints. Podgalugs are fully covered by Patent No. GB2331343 and are only available from Flint Hire and Supply Ltd. 2 sizes.

Podgalugs	wt	size [mm]	length	code	price 10+	100+	Tradeline 1,000+	
	153 g	40x40x5	60 mm	FHS043	£0.95	£0.85	£0.80	£0.75
	126 g	40x25x4	60 mm	FHS044	£0.95	£0.85	£0.80	£0.75

For our comprehensive range of podgers why not visit Podgertropolis [page 317].

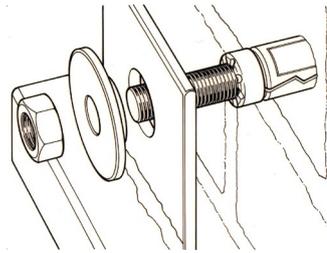
**F**

**Drop-in Clip** Folded and stamped from one piece of steel, the drop-in clip is supplied unpainted ready for welding in place. The slot is designed to accept 50 x 25 steel tube with a 10 mm diameter rod being fitted 20 mm in from the end. It will be

found that the rod can easily be welded on the inside of the tube. The drop-in bar floor is a strong construction which can be set and struck at great speed. Now with rounded off corners on the receiving end. Size: 40 x 35 x 42 mm. Fixings needed: weld in place.

Drop-In Clip	weight	code	price	Tradeline 100+
	93 g	FHS032	£1.60	£1.45

For Key Clamp fittings to make masking goal posts etc see page 234.

**F**

**Top Hat** A simple device to make fixing steelwork to walls much easier. To use, weld one of our Top Hat Lugs – which are pre drilled with a 25 mm diameter hole – to your steel frame. The large diameter hole allows you to

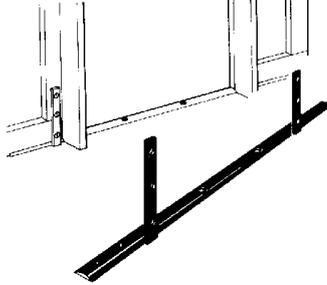
drill straight into the wall with a masonry bit and insert the expanding fixing without having to move the heavy steelwork away. Place a top hat over the protruding stud and it will locate in the large hole. Tighten the nut onto the top hat and your steelwork is held in place.

Overall diameter: 38 mm  
Flange diameter: 24 mm  
Lug size: 50 x 50 x 6 mm with a centred 25 mm Ø hole

Hole diameter: 13 mm  
Overall thickness: 7 mm

Top Hats and lugs	weight	code	price	Tradeline 100+
Top Hat	36 g	FHS039	£2.15	£1.95
Top Hat Lug	92 g	FHS039L	£1.38	£1.25

## SILL AND REVEAL IRONS

**F**

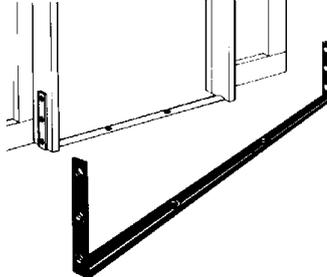
**Sill Iron** Used to provide strength to door flats. They are made-up to suit your requirements, from a flat steel bar with a rounded top section. They should be ordered by stating the distance between the lugs. On a 3 x 1" timber flat with a reveal around the door this

is generally the door opening plus 45 mm. The sill iron is drilled and countersunk in two places to screw downwards into the floor for standing sets and is also drilled to screw upwards into the bottom rail to give the flat stiffness. The iron will protrude beyond the lugs by 120 mm unless stated otherwise. Supplied painted black.

Size: Stated width between lugs plus 290 x 200 mm height.

Fixings needed: No.10 [5 mm] csk screws or M5 csk machine screws.

Sill Iron	code	price
Up to 1 m	FHS034	£75.00
Per extra 300 mm	FHS03XM	£25.00

**F**

**Reveal Iron** Like the Sill Iron the reveal iron is used to provide strength to a doorway but this time the lugs are at right angles to the sill and are bolted through the door reveal. They are made to order and the measurement we require is the distance across the outside of the

reveal. On wide reveals of heavy flats we recommend the use of two per doorway. Supplied painted black. Size: Stated width between lugs plus 8 x 200 mm height. Fixings needed: No.10 [5 mm] csk screws or M5 csk machine screws.

Reveal Iron	code	price
Up to 1 m	FHS035	£75.00
Per extra 300 mm	FHS03XM	£25.00

# STAGE BRACES & WEIGHTS

## STAGE & WALL BRACES



We also hire Stage Braces [page 378]



**Stage Braces** Extendable braces like these are used to support lightweight scenery. They are secured to the flats with a screw eye which locates with the hooks on the brace. The foot is designed to marry with our stage weight but it is also drilled for use with either Stage Screws or Stage Bolts into Boss Plates [page 150]. Made from tulipwood with bright zinc-plated fittings. We also include a small brace, useful for ground rows. Special sizes can be made to order. Fixings needed: 55

mm screw eyes [see below ↗].

Stage Braces	code	price	Tradeline 10+
open length	closed length		
1 m	760 mm	FHS018GRK £33.98	£31.10
2 m	1.2 m	FHS018K £39.75	£36.50
3 m	1.7 m	FHS019K £45.25	£39.20
4 m	2.2 m	FHS020K £47.30	£41.85
Spare Cowhorns		FHS702 £6.60	£5.70

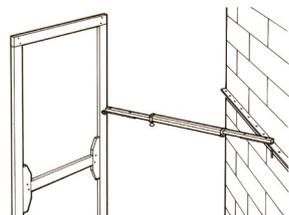
4: STAGE BRACES & WEIGHTS



### Steel Scenery Braces

A range of fixed and extendable steel stage braces. Crackle black finish with bright zinc-plated inner section.

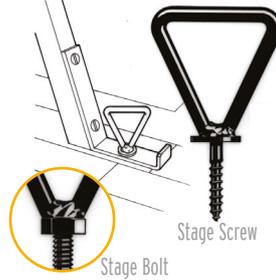
Fixed Steel Scenery Brace	code	price	Tradeline 10+
2 m	DOUT60600	£45.25	£30.60
Extendable Steel Scenery Braces			
open length	closed length		
2 m	1 m	DOUT60000 £74.60	£61.87
3 m	1.5 m	DOUT60100 £85.30	£70.74
4 m	2 m	DOUT60200 £95.97	£79.58



**Wall Braces** Similar to a Stage Brace but with an end fitting which will locate with a drilled angle iron mounted on studio walls. This enables the studio floor space to be kept clear whilst holding the flats solidly in place.

Wall Braces	code	price	Tradeline 10+
open length	closed length		
2 m	1.2 m	FHS021K £39.20	£35.15
3 m	1.7 m	FHS022K £44.58	£40.55

## BRACE ACCESSORIES



**Stage Screws and Stage Bolts** The Stage Screw will drive easily into timber floors to secure stage braces in place without the need for weights. The Stage Bolt serves the same purpose but is used in conjunction with a Boss Plate [see page 150].

Stage Screws & Bolts	weight	code	price	Tradeline 10+
Stage Screw	99 g	FHS024	£4.35	£3.35
Stage Bolt	100 g	FHS025	£2.60	£2.25



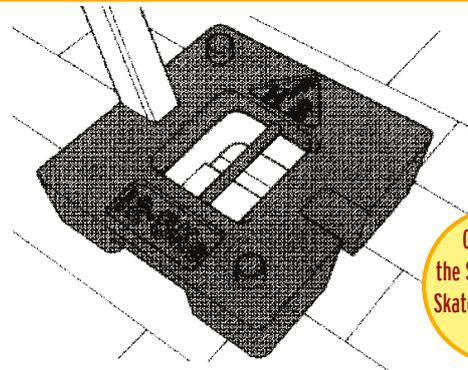
**Screw Eye** The most popular way of attaching stage braces to flats. The 55 mm x 12 g size is the best size for this purpose. A full range of screw eyes are available [page 261].

Screw Eye	gauge	code	price	100+
55 mm	12	FIX3161	£0.22	£0.18



NB: Brace Eyes are no longer made.

## STAGE WEIGHTS



Check out the Stage Weight Skate on the next page



**Stage Weights** Flints famous 12.5 kg\* Stage Weights are made of cast iron with a malleable iron carrying handle. They stack easily on their location lugs and have slots which let them sit safely on Stage Braces and French Braces. The central area is hollowed right through so they cannot be used as ashtrays [nostalgia] or nail stores! The top edge has deliberately not been rounded over so it remains useful for cutting sash or wire with a hammer. Flints holds massive stocks of Stage Weights both for hire and sale. We can customise Stage Weights with your logo for orders of fifty plus. \*Weights can vary plus or minus 5%. Design right applies. Standard weights are supplied painted black but custom weights are self-colour. Size: 211 x 211 x 60 mm. The big question is "Where do they all end up?"

Best-seller

Stage Weights	weight	code	price	10+	76+
	12.5 kg [+/-5%]	FHS023	£35.00	£33.00	£31.00
Custom Logo Weight		FHS023L	POA [50+ minimum order only]		

Prices above are for each weight. Stage weights do not qualify for free delivery. Longweights are available at our trade counter.

Custom made weights can be produced with your logo. Phone 020 7703 9786 for details.



### TV Pattern Weights

Similar to our standard Stage Weight but with the addition of a 29 mm receiver with locking-off wing bolt. Supplied painted black. \*Weights can vary plus or minus 5%. Stage weights do not qualify for free delivery.

TV Pattern Weights	weight	code	price	10+	Tradeline 80+
	12.5 kg [+/-5%]	FHS023TV	£57.35	£47.79	£41.30



**Counterweights** Our 10kg\* Counterweight has two large holes with rounded entries to allow ropes or karabiners to pass through for hauling to the fly floor. Supplied self-colour. Delivery charged at cost. \*Weights can vary

plus or minus 5%. Prices are for each weight. We also supply Temporary Counterweight Cradles [page 222]. Size: 325 x 153 x 42 mm [Lug width: 60 mm].

Counterweights	weight	code	price	10+	Tradeline 50+
	10 kg [+/-5%]	FHS109	£39.90	£33.55	£31.50

### WEIGHT SKATE



**Weight Skate XL** Flints is synonymous with Stage Weights but we haven't ever stocked anything to help you move them around... but now we have the Weight Skate; designed to carry up to 24 stage weights with a welded steel frame that weights neatly stack into. Think of this like a very fancy and much safer dolly. The frame extends on two sides for you to have a two handed grip whilst manoeuvring. Great for moving weights around but also a compact weight storage frame with heavy duty braking castors and a black finish, so can be discretely stowed away backstage.

Specification: Dimensions: 53cm (W) x 52cm (H) x 54cm (D)

Weight Skate XL	code	price
Weight Skate XL	FHS023WSXL	£400.00
Weight Skate XL + 20 Stage Weights	FHS023WSXLK	£995.00

### SANDBAGS



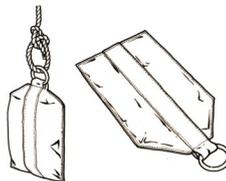
Made in black too!



With zip opening

**Sandbags** Made from heavy canvas with strong webbing which secures the 70 mm diameter galvanised ring. They are sold empty or filled and are fitted with a heavy-duty zip and

velcroed webbing to save having to sew them up after filling. We also have a black version. Sandbags are the preferred weight for the retrieval of otherwise unloaded hemp lines from the grid but obviously they have many other uses.



SPECIFICATION: Size: 300 x 200 x 70 mm [thickness when filled]. Approximate weight when filled: 3.5 kg [+/-5%].

Sandbags [with zip fastening]	code	price	Tradeline 10+
Unfilled plain canvas	FHS026	£8.75	£7.50
Unfilled black canvas	FHS026B	£9.20	£8.00
Filled plain canvas	FHS026FK	£10.90	£9.80
Filled black canvas	FHS026BFK	£10.90	£9.80

See also Hessian Sandbags for filling on page 96.



Up to 25 kg



### Heavy Black Water Resistant Weight Bag

These black bags have a watertight screw top 3.5 L container inside them and a drawstring top. They can be filled with water, sand [or marble dust], steel shot or lead shot giving a variety of weights up to a maximum of 25 kg. When used with water they can be toured empty and filled at each venue with a measured amount of water to give your desired weight. The Weight Bag is

supplied unfilled. For Marble Dust, steel shot, and lead shot see alongside. This new version of the Weight Bag includes an outer sleeve which protects the straps from wear and is fully rated to the working load limit of 25 kg with the certificate of conformity included.

Heavy Black Bag	weight	capacity	code	price
	800 g	25 kg	FHSHWB	£86.30



**Pipe Sling Weight Bag** These sand bags are manufactured from heavy-duty water repellent black Cordura. They are double seamed with zipped openings for easy filling. Supplied empty.

Pipe Sling Bag	capacity	code	price
	16 kg	DOUG3301	£53.67



**Small Tubular Weight Bag** These neat small steel shot bags have a variety of uses and are often preferable to using solid sash weights which can be noisy or cause injury. Fitted with a 25 mm diameter ring at the top. Weights can vary plus or minus 5%. Size: 150 x 50 mm [when flat].

Small Tubular Bag	weight	code	price
	500 g [+/-5%]	FHS026T	£12.95

Plain white sausage bags.



Black sausage bags with delta rings.

**Sausage Weight Bags** Can be used to weigh down the base of cloths and prevent light leaks. The bags with delta rings can be used to help ropes fly-in or for quiet sash window counterweights. We now fill these bags with steel shot to avoid unnecessary handling of lead by our staff. They are slightly lighter than the old ones but still really heavy!

Sausage Weight Bags	colour	length	weight	code	price
Plain	white	500 mm	3 kg	FHSR0H5	£27.70
Plain	white	900 mm	7 kg	FHSR0H1	£53.25
Delta rings each end	black	500 mm	3 kg	FHSSWB5	£32.58
Delta rings each end	black	1 m	6 kg	FHSSWB1	£53.70

**WEIGHT FILLING OPTIONS**

**Lead**

We are keen to avoid our staff being exposed to lead so we now use steel shot whenever possible. The steel shot we supply is of excellent quality and is only a little lighter than the lead shot. We still sell lead shot but only in sealed units.



**Lead Shot** For filling very heavyweight bags. The density of solid lead is 11,340 kg/m<sup>3</sup>. A one litre paint kettle filled with lead shot would weigh 7.95 kg.

Lead Shot	code	price
Lead shot [per 5 kg]	FHS026LS	£32.15



**Steel Shot** For filling heavyweight bags. The density of solid steel is 7,850 kg/m<sup>3</sup>. A one litre paint kettle filled with steel shot would weigh 5.6 kg.

Steel Shot	code	price
Steel shot [per 5 kg]	FHS026SS	£28.56



**Marble Dust** We use Marble Dust to fill our sand bags as it is clean and supplied very dry. The density of solid marble is 2,563 kg/m<sup>3</sup>. A one litre paint kettle filled with marble dust would weigh 1.92 kg.

Marble Dust	code	per kg	code	25 kg bag
Marble dust	PAT867	£3.80	PAT867B	£20.50

# CLEATS

## Cleats

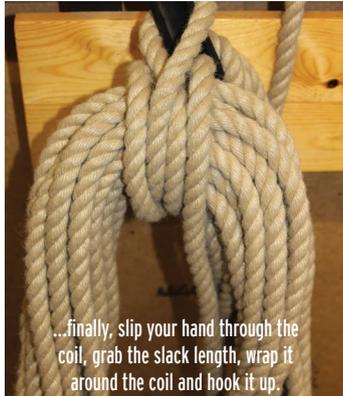
Cleats should be fitted at a slight angle to the direction of the pull of the rope. The rope should make one full turn around the main body of the cleat before crossing over the arms three or four times. The final locking hitch should only be done when there is no load on the rope or it will become jammed.

## CLEATS



**Flyrail Cleats** [Cast Iron and Alloy] Specialist fittings intended for tying-off manila and polyester ropes. These fittings should be securely bolted to a fly rail or wall and are intended to take the heavy loads associated with hand-hauled flying. To keep the fly floor clear of lines try to choose the largest cleat possible so the excess line can be neatly stored on the cleat. Fixings: M10 bolts or coach screws.

Flyrail Cleats	material	weight	code	price
225 mm [9"]	cast iron	416 g	WIR454	£17.33
300 mm [12"]	cast iron	584 g	WIR455	£17.75
285 mm [11 1/4"]	aluminium	362 g	WIR455A	£25.09
375 mm [15"]	aluminium	534 g	WIR456A	£33.47
375 mm [15"]	cast iron	904 g	WIR456	£21.75
450 mm [18"]	cast iron	1,581 g	WIR457	£29.00
450 mm [18"]	aluminium	666 g	WIR457A	£58.57



### Tying ropes to cleats

If the cleats are very large it may be possible to just hook any excess rope over the cleat. Normally this is not possible and another method is needed. Coil up the excess rope working away from the cleat but leave about 1 m slack between the cleat and the start of your coil. Working outwards towards the loose end allows any twist to escape.

Finally, pass your hand through the coil and pull the slack through, wrap it around the coil, twist it then place the loop over the cleat so it holds up the coil. For the demo video visit our YouTube channel [www.youtube.com/flintstheatre](http://www.youtube.com/flintstheatre).



There may be times when a Rope Clutch or Rope Lock [page 223] or the lovely Tibloc Ascender [page 338] might be more appropriate for your job.



**Nylon Black Cleats** A range of very strong but light marine nylon cleats offering excellent value. The bitter end can be tied between the cleat's legs.



Nylon Black Cleats	fastening Ø	code	price
75 mm	3 mm	BAR250	£2.68
100 mm	4 mm	BAR251	£3.77
125 mm	4 mm	BAR252	£5.97
170 mm	5 mm	BAR253	£8.59
210 mm	6 mm	BAR254	£12.11
245 mm	8 mm	BAR255	£21.20



**Cleat Hooks** [Galvanised] A commercial quality fitting with two arms, around which sash cord or similar can be tied off temporarily. These cleats will fracture if the fixings are overtightened or if the arm is hit. We recommend them only for light items such as blinds. For heavier items needing small cleats choose the strong nylon cleats listed above.

Cleat Hooks	weight	code	price
75 mm [3"]	42 g	WIR450	£1.01
100 mm [4"]	55 g	WIR451	£1.14
125 mm [5"]	99 g	WIR452	£2.43
150 mm [6"]	106 g	WIR453	£2.50



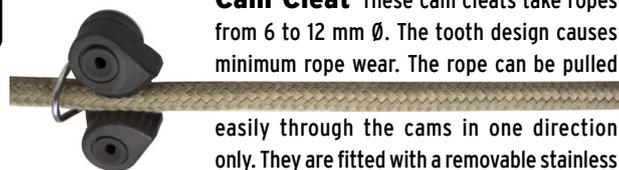
**Small Brass Cleat** Economically-priced smart cleat measuring 75 mm overall. Useful for nylon blind cords, flag halyards etc. Includes two brass 19 mm screws.

Small Brass Cleat	code	price
75 mm	WIR449	£2.15

## CAM AND JAMMING CLEATS



**Cam Cleat** These cam cleats take ropes from 6 to 12 mm Ø. The tooth design causes minimum rope wear. The rope can be pulled easily through the cams in one direction only. They are fitted with a removable stainless wire fairlead.



Cam Cleat	fastening Ø	weight	code	price
holding power 230 kg	5 mm	46 g	BAR721	£24.49



**Nylon Tubular Cleats** A handy small tubular cleat to guide and lock small cords. The cord is quickly and effectively locked by pulling it into the V shaped jaw. Suitable for relatively light applications only.

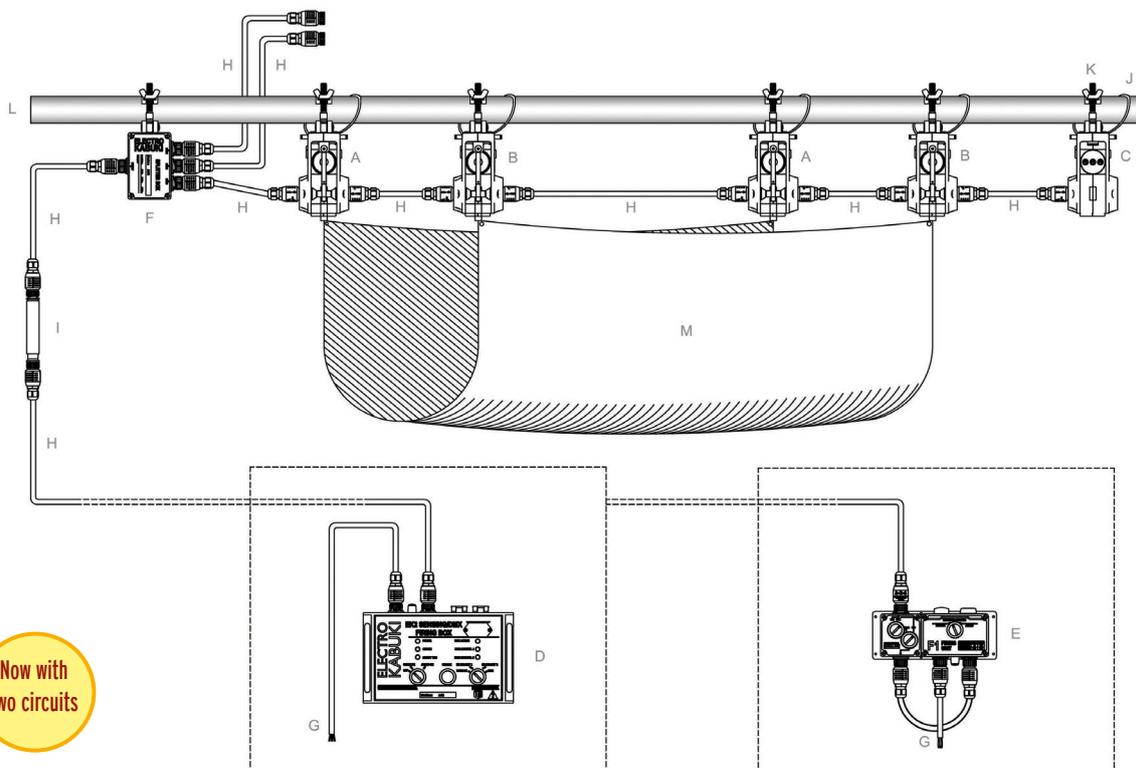


Nylon Tubular Cleats	fastening Ø	code	price		
length	max line Ø	bore			
55 mm	4 mm	6 mm	8 mm	BAR401NY	£2.23
80 mm	6 mm	10 mm	13 mm	BAR402NY	£3.16

# ELECTRO KABUKI

 The EK2 is the latest development of the highly successful Electro Kabuki system. At the heart of each unit is a powerful and dependable magnet which holds a pivoting hook. That's where you hang your load – whether it's for a curtain release, car reveal or a special effect drop. The system has now progressed into being a two-circuit system capable of "Flop and Drops". Typically, a "Flop and Drop" may be a flag or banner which firstly drops into view and then drops to the floor at the end of the scene. For maximum versatility the new firing boxes allow you to select either Circuit 1 or 2 or both. Furthermore, you can now choose between a Standard Firing Box or the DMX version. By using the DMX firing box you will also maximise the feedback information you gain from the LED status Indicators. On page 159 we have also included some useful Holding Magnets and a small Shot Bolt. Flints can also supply heavy-duty shot bolts and rotary solenoids. For projects outside the UK other voltages can be supplied.

## FLOP AND DROP BASIC LAYOUT



Now with  
two circuits

## HOW IT WORKS

### The basic system really could not be simpler!

Each Electro Kabuki unit has a socket on each side. One is coloured blue and the other is coloured white. Each cable has a plug on each end. Yes, you've guessed, one is white and one is blue. Do I need to go any further?! Wiring up really is that simple.

- Just purchase a firing box and a "Power-In" cable – this cable has one end plain for you to attach your preferred plug type
- Purchase as many Electro Kabuki units as you need to perform your drop. Spacing for drapes is generally 1.0 – 1.5 m. They can be selected with clamps so the units can be attached directly to flying bars
- The DMX firing box requires an end of line unit for each branch
- Purchase a long Link Cable to reach from the control box to the first unit
- Purchase enough short Link Cables to join up all the other units
- Plug the system in
- Select Circuit 1, Circuit 2 or both
- Check continuity
- Press the fire button

### "Flop and Drop" Arrangement

If you require a "Flop and Drop" you will need to buy Electro Kabukis with two different circuits. Just select the desired circuit on the firing box for each part of the drop. Don't worry if you want to use them all together at another date. You can just select "Both" on the firing box. No extra cabling is required, all the cables can operate two circuits. Rather than positioning the units side by side, as shown in the diagram, you can also use the new "Back to Back" Bracket [see next page].

## KEY TO PARTS

- A** EK2 Electro Kabuki Circuit 1
- B** EK2 Electro Kabuki Circuit 2
- C** End of Line Indicator
- D** Sensing/DMX Firing Box
- E** Basic Firing Box
- F** Splitter Box [optional]
- G** Power In Cable
- H** Link Cable [various lengths]
- I** Cable Connector
- J** Safety Bond  
[a soft loop formed in 3 mm Ø wire will pass through the hole]
- K** Clamp for 42 - 52 mm tube
- L** Scaffold Tube [page 232], Truss Chord or Flying Bar
- M** "Flop and Drop" Cloth [special item made to order]

### Safety Information

The function of the EK2 Electro Kabuki System is to suspend a load and release it on command from a remote location. Although the equipment is highly reliable it must be remembered that **NO SYSTEM IS 100% RELIABLE**. The Electro Kabuki must therefore not be used in an application where untimely release of the load might cause injury, death or damage to property. Each mechanism is supplied with an instruction sheet. A full manual is available to download from the downloads section of our website – [www.flints.co.uk](http://www.flints.co.uk). It is the user's responsibility to read and understand the manual before using the system. It is important that the person specifying and operating suspension equipment is competent to do so.

## EK2 ELECTRO KABUKI LOAD RELEASE MECHANISM



Shown with half coupler sold separately.

A  
B



**EK2 Electro Kabuki Units** This award-winning design will reliably release weights of up to 50 kg. It can be used to drop items such as backdrops, dummies or cables on cue from a remote position. The load can be released as a vertical drop or at angles up to horizontal. The item is attached to a hook arm which pivots free when the magnet is energised.

A clever spring is incorporated to throw the arm clear of the magnet

when light loads are used. The latest models have a rubber sound dampening pad so the operation is virtually silent. A safety catch is incorporated so that the mechanism can be tested prior to the show without releasing the load. The catch should be locked on until it is safe to operate. The Electro Kabuki can be easily daisy-chained. The body has a thread at the top and at the back to take M12 bolts [max depth 20 mm]. Manfrotto half couplers can be attached to make a quick fixing to scaffold tubes.

- ✓ Now available in two circuits
- ✓ Now fitted with blue LED status lamp
- ✓ Also available in 110 V AC version [plus other voltages for work outside UK]
- ✓ No wiring necessary – just order ready-made cables!
- ✓ Continuous program of improvements – visit [flints.co.uk](http://flints.co.uk) for the latest details
- ✓ Sound dampened
- ✓ Built-in safety catch

SPECIFICATION: Fitted with weatherproof AMP CPC Series 1 connectors. Power consumption: 6.6 W [at 20°C magnet coil temperature]. Weight: 1.4 kg.

☐ Supplied with detailed instructions.

SAFETY	Breaking Load	Safety Factor	SWL
	100 kg	2 to 1	50 kg

EK2 Electro Kabuki	channel	code	price
For 230 V AC supply	1	SOLEK2P230C1	£299.00
For 230 V AC supply	2	SOLEK2P230C2	£299.00
For 110 V AC supply	1	SOLEK2P110C1	£299.00
For 110 V AC supply	2	SOLEK2P110C2	£299.00
<b>K</b> Manfrotto half coupler 300 kg + bolt		SOLEKMF300	£23.41
<b>N</b> Back-to-back bracket [includes coupler]		SOLEKBTB	£21.33
Flight case for up to 15 units		SOLEKFC15	£880.00
Flight case for up to 30 units		SOLEKFC30	£1,500.00

For a full range of Safety Bonds see page 197.

**TRADELINE** Orders over £5,000.00 get 5% off

### General Solenoid Care

- ✓ Keep the matching surfaces spotlessly clean. Even a small iron filing stuck to the magnet will dramatically reduce performance. Try to appoint one person to take charge of re-setting.
- ✓ As these units are impulse rated they should not be energised for longer than 15 seconds. If they remain energised they will heat up and require a slightly different voltage to release.
- ✓ If you are bolting directly to the Electro Kabuki via the M12 threaded inserts please make sure the bolt length is correct. Using a bolt which is too long could damage the unit.
- ✓ A cable securing clip is provided on the new units but please don't yank or carry the units by swinging them from the cables!

## EK2 SENSING/DMX FIRING BOX



**EK2 Sensing/DMX Firing Box** This is the very latest design of control box which now serves five purposes.

Compatible with previous EK Kabuki models

D

- ✓ Checks the status of the system prior to firing [i.e. the position of the safety catches on the mechanisms and the continuity of the cabling circuit]
- ✓ Houses a push button for local firing of the units
- ✓ Controls which units are fired when the push button is used [i.e. Circuit 1, Circuit 2 or both]
- ✓ Houses DMX circuitry for remote firing of the units [i.e. Circuit 1, Circuit 2 or both]
- ✓ Capable of firing up to 200 Electro Kabuki 230 V AC units, or 75 Electro Kabuki 110 V AC units

✗ Not weatherproof

SPECIFICATION: Fitted with colour-coded AMP CPC Series 1 connectors. Fuse rating: 8 A. The power cable is listed below and the other cables are listed in the wiring section opposite. Weight: 2.65 kg.

☐ Supplied with detailed instructions.

EK2 Sensing/DMX Firing Box	code	price
EK2 Sensing/DMX Firing Box	SOLAF2	£1,570.00
Power feed cable 2 m [AMP to bare]	SOLB2A	£20.00

## BASIC FIRING UNIT



**Basic Firing Unit** This basic unit now allows the operator to select Circuit 1, Circuit 2 or both but does not house DMX or sensing circuitry.

E

SPECIFICATION: Fitted with weatherproof colour-coded AMP CPC Series 1 connectors, two fuse holders [one spare fuse] and a LED light to show when the system is armed. Weight: 1.5 kg.

☐ Supplied with: detailed instructions.

Basic Firing Unit	code	price
Firing Unit 110/230 V	SOLAF3	£540.00
Power feed cable 2 m [AMP to bare]	SOLB2A	£20.00

## SPLITTER BOX



**Splitter Box** Although the Electro Kabuki mechanisms can be easily daisy-chained, there are still times when a splitter box can be useful. If you have three drops in different locations in a grid, or a high ceiling, a single cable can be run to a splitter box and then sent in three directions to the mechanisms.

F

SPECIFICATION: Fitted with an M12 threaded insert for easy connection to hook clamps or half couplers. Weight: 0.97 kg.

Splitter Box	code	price
Three-way splitter	SOLEKASP3	£159.99
<b>K</b> Manfrotto half coupler 300 kg + bolt	SOLEKMF300	£23.41

## END OF LINE UNIT



**End of Line Unit** This unit forms part of the circuitry which proves electrical continuity in the cabling. Only used in conjunction with the Sensing/DMX Firing Unit. The unit has three switches, all of which should be on for a single chain of Kabukis. Individual switches should be used when two or three chains of Kabukis are used in conjunction with the splitter box. A green LED on the unit indicates the cables are correctly connected.

End of Line Unit	code	price
	SOLAEOLI	£244.00

## WIRING OPTIONS & ACCESSORIES



**Wiring Options** Wiring up the Electro Kabuki mechanisms couldn't be simpler. The supply end of each cable is pre-fitted with a blue male [pin] connector and the load end is fitted with a white female connector [socket]. The mechanisms and the firing box

are colour coded to match. The AMP connectors used on the cables are weatherproof to IP65. All you need to do is choose the length of cable you need between the firing box and the mechanisms and also the distance between the mechanisms. Special lengths can also be made up but they are slightly more expensive. Please note that it is not possible to join the cables together without a connector (SOLA1C).  
 ✓ Quick ✓ No specialist skills required

Standard Cable Lengths	code	Tradeline
<b>G</b> Power in supply cable 2 m [AMP to bare]	SOLB2A	£20.00
500 mm length	SOLA05A	£28.00
2 m length	SOLA2A	£31.85
5 m length	SOLA5A	£38.65
<b>H</b> 10 m length	SOLA10A	£49.25
20 m length	SOLA20A	£71.25
30 m length	SOLA30A	£93.25
<b>I</b> Connector	SOLA1C	£30.00

Non-Standard Cable Lengths	code	Tradeline
Power-in blue AMP connector [fitted to your cable]	SOLAMPSF	£11.30
Power-out white AMP connector [fitted to your cable]	SOLAMPPF	£11.30
4 x 1.5 mm <sup>2</sup> black cable [price per metre]	SOLCABLE	£2.00

Spare and Accessories for Solenoids	code	Tradeline
Spare coupling rings and fitting tube [pack of 10]	SOLCRINGS10	£19.00
Spare connector caps [pack of 10]	SOLCCAPS10	£28.50
Clamp bolts [pack of 10] and Allen key	SOLCBOLTS10	£14.60
Strain relief clips [pack of 20]	SOLSRC20	£14.00
D-Rings [pack of 10] and velcro [2 m]	SOLDRVEL1	£15.62
24 V DC 8 A fuses for firing unit [pack of 10]	SOLF18A	£3.68
Old style plug for 24 V DC supply	SOL01DC	£3.85
Old style rectifying plug for 240 V supply	SOL02AC	£16.75

Wiring to plugs type SOL01DC and SOL02AC is as follows: earth on earth, live on terminal No.1, neutral on terminal No.2.

## EK2 STARTER KITS



**EK2 Electro Kabuki Starter Kits** Electro Kabuki have put together these Starter Kits to give newcomers to the art of the reveal everything they need. Very popular among small companies and those wanting to try the system before making a bigger commitment. The kits have two EK2 circuit 1 units and two EK2 circuit 2 units so you can stage simple drops or impressive "flop and drops". They come in both a 230 V and a 110 V version. Please note: Electro Kabuki restricts the supply to one Starter Kit per end user company.

EK2 Electro Kabuki Starter Kit	each	total
<b>Mechanisms and Clamps</b>		weight [kg]
2 x EK2 Unit, circuit 1, [no clamp]	1.40	2.8
2 x EK2 Unit, circuit 2, [no clamp]	1.40	2.8
4 x Manfrotto half coupler + bolt [loose]	0.25	1.0
<b>Control</b>		
1 x Basic A-F3 Firing Box, 110/230 V	1.55	1.60
<b>Standard Cables and Accessories</b>		
1 x Power Cable	0.35	0.4
3 x 2 m Link Cable	0.35	1.1
1 x 20 m Link Cable	3.15	3.2

Shipping details	
Total net shipping weight	12.70 kg
Total gross shipping weight	14.00 kg

EK2 Electro Kabuki Starter Kit	code	Tradeline
230 V	SOLA0900145	£1,400.00
110 V	SOLA0900146	£1,400.00

### Design Tips when using Holding Magnets

It is very difficult to pull an armature plate directly off a holding magnet. Well, I certainly can't. However, it is possible to slide the plate off by pushing hard with your thumbs – this is getting very technical. If possible try to design your mechanism so that the plate cannot slide off. Hinged lids work very well as the plate will need a direct pull. Incorporate a small spring if the door is very light. If you want to drop a picture from the wall consider placing a small lip under the picture so it has to fall forwards. Always ensure the plate and the solenoid make 100% contact, it is normal to allow the plate to move slightly to avoid any forced misalignment. Finally, keep the magnet faces spotlessly clean.

# SOLENOIDS

## HOLDING MAGNET



**Holding Magnet** This is a 35 mm diameter magnet which when energised releases its load. The applications are numerous – it could secure the lid to a drop box, release a light cloth, or make a picture fall from a wall. We recommend using our 40 mm diameter holding plate [armature]. A rubber grommet is supplied to allow some movement to ensure complete contact with both

faces. If you want to release very light loads ensure that the voltage is accurately delivered to avoid residual magnetism. Adding extra weight or spring loading doors can be helpful design tips. Our holding magnets are supplied with a plug and socket connector with PG11 glands ready to take your cable. [See previous page for design tips when using magnets]

**SPECIFICATION:** Wiring information: earth on earth, live on terminal No.1, neutral on terminal No.2. Size: 50 mm long x 35 mm Ø. Fixings: One off 5 mm machine screw. Weight: 350 g Power Consumption: 8 W

Holding Magnet	code	Tradeline
With plug for 24 V DC supply [excl. holding plate]	SOL035	£138.10
With plug for 230 V AC supply [excl. holding plate]	SOL035AC	£146.75
Spare plug for 24 V DC supply	SOL01DC	£3.85
Spare rectifying plug for 240 V supply	SOL02AC	£16.75

**NB:** As these units are impulse rated they should not be energised for longer than 15 seconds – our firing boxes are fitted with a momentary switch to avoid this happening. If using the firing box you will need to order a power feed cable [SOLB2A] and a length of cable [SOLCABLE] fitted with a white AMP connector [SOLAMPP]. You will need to connect the cable to the holding magnet. Wiring to plugs type SOL01DC and SOL02AC is as follows: Earth on earth, live on terminal No.1, neutral on terminal No.2.

## ARMATURE PLATES



**Armature Plate** These plates are surface ground electro nickel-plated and are the correct thickness for maximum performance from your solenoid.

**SPECIFICATION:** Size: 40 mm Ø x 6 mm thick supplied with 4 mm csk shoulder screw and rubber grommet with 6 mm of exposed thread. Weight: 50 g.

Armature Plate	code	Tradeline
	SOL40ARM	£13.00

## SMALL SHOT BOLT



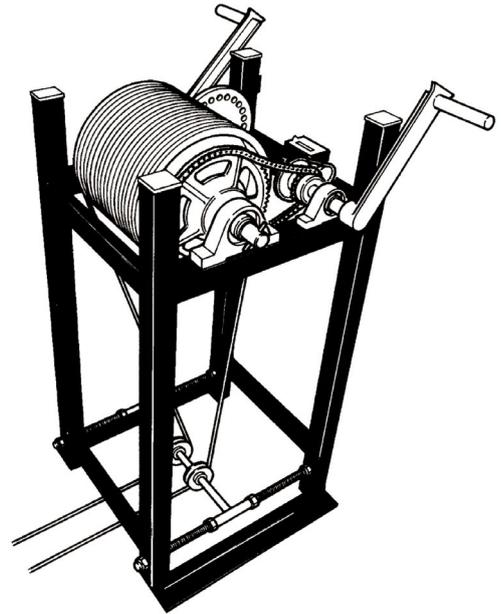
**Small Shot Bolt** This device is ideal for light-duty safety catches on safety cages and lift access gates. They spring to lock and energise to release. It can also be used to drop light loads. It has a 10 mm stroke on its 8 mm diameter

bolt and is supplied with flying leads. The unit is secured by its neck through a 16 mm hole with the nut provided. The reverse end of the stainless steel bolt is tapped to take a 3 mm bolt which could be used as an emergency release in the event of a power failure. The bolt slides on long life PTFE bearings. These solenoids are not suitable for heavy side loads. Please ask for details about heavy-duty solenoids. **SPECIFICATION:** These units are continuously rated for 24 V DC. You will need to provide a 24 V DC supply. Size: 40 mm Ø x 60 mm plus 12 mm long threaded neck [M16]. Weight: 460 g. Power consumption: 14 W

Small Shot Bolt	code	Tradeline
	SOL40SHOT	£97.65

# TRUCK WINCHES

## TRUCK WINCHES



**Truck Winch** Designed for moving medium to heavy-weight stage trucks. The winch drum is capable of 25 m of travel. There is a choice of handle positions providing a 1:1 or 1:3 ratio. The lower sheaves are adjustable to maintain cable tension. It can be operated by one or two crew. Fitted with a simple but effective pin brake. The winch is supplied with a trip meter for the accurate positioning of trucks even in blackouts. The finish is black powder coated. Truck winch handles are also sold separately.

**SPECIFICATION:** WxH 550 x 1,090 mm. Cable: 5 mm. Fixings: 6 off M10 bolts or coach screws.

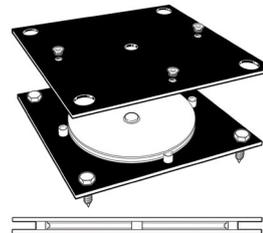
Truck Winch	code	Tradeline
Truck Winch + One handle + Trip meter [25 m travel]	FHS510T	£3,750.00
Extra Handle for all winches	FHS505	£217.00



**Winch Meter** This unit shows 0 – 999999 on 10:1 ratio They are used on our truck winches but they can be used for other applications. Axle: Ø 6 mm.

Winch Meter	code	price
Type CRSRLCB10:1J2010	FHS501I	£120.70

## LOW LEVEL RETURN PULLEY



**Low Level Return Pulley** A 230 mm Ø aluminium sheave for 6 mm wire rope mounted between two 300 mm square plates so that the overall thickness is just 19 mm! Fitted with an Oilite bush bearing and nylon side washers. These pulleys are designed to act as return pulleys for our truck

winches and can be mounted within the thickness of a 19 mm ply floor. Fixings needed are four M10 coach screws which are accessed through large diameter holes in the top plate but are hidden within the 19 mm depth when tightened down.

Low Level Return Pulley	code	price
Whole assembly	FHS503	£111.50
Sheave only	FHS504	£44.65

# WINCHES & LIFTING GEAR

## CHAIN HOISTS



**Tralift Chain Hoists** A hoist that's hand-operated and triple-spur geared, with an automatic brake with double pawls. All steel construction, with steel alloy chains, and high carbon hooks. Simple to install and use. Prices include both the lifting chain and hand chain. The hand chain is one metre shorter than the height of lift.

**Black! With a 12 m lift**

We also stock a 1t black unit with a 12 m lift. For Chain Buckets see page 328.

## LEVER HOISTS



**Bravo™ Lever Hoists** Ideal for lifting, pulling, positioning, and adjusting heavy weights. Available in sizes from 250 kg up to 6,000 kg. Please phone for details of the larger sizes.

- ✓ Robust design
- ✓ Adjustable lift
- ✓ Can be used in any position
- ✓ Rotates around 360° on swivel hooks
- ✓ hooks with overload indicators
- ✓ Automatic brake with double pawls
- ✓ Self-lubricating chain to EN 818
- ✓ Standard lifting heights can be increased to 6 m as an option

Tralift Chain Hoists		code	list	price
model	WLL lifting height chain falls			
272999	1t 3 m 1	LIF272999	£208.00	£149.76
273269	1t 6 m 1	LIF273269	£220.00	£158.40
280629	1t 9 m 1	LIF280629	£333.00	£239.76
106399 black	1t 12 m 1	LIF106399	£416.00	£295.00
245339	2t 3 m 2	LIF245339	£297.00	£213.84
245519	2t 6 m 2	LIF245519	£408.00	£293.76
250369	2t 9 m 2	LIF250369	£531.00	£382.32

Bravo Lever Hoists		code	list	price
model	WLL lifting height chain falls/type			
35919	250 kg 1.5 m 1 [4 x 12]	LIF35919	£112.00	£80.64
245649	500 kg 1.5 m 1 [5 x 15]	LIF245649	£157.00	£113.04
245659	750 kg 1.5 m 1 [6 x 18]	LIF245659	£219.00	£157.68
245679	1,500 kg 1.5 m 1 [7 x 21]	LIF245679	£282.00	£203.04

## TRADELINE

Buy 2+= less 25% off list

Other ratings and lifting heights are available. Please ask for details.

## TIRFORS®



**Tirfor®** machines are portable manual hoists used with Maxiflex wire rope. They can be used to lift, pull, and position loads over great distances determined by the wire rope length. They are the ideal solution for precise location of heavy loads or the setting up of tension wires.

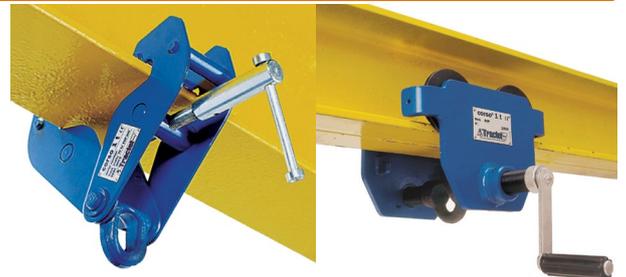
- ✓ No limitation in terms of wire length
- ✓ Manageable, lightweight, robust, powerful
- ✓ Increase load capacity with deflection sheaves
- ✓ Overload protection
- ✓ Precise load placement within millimetres. The wires are supplied separately and are fitted with a safety hook on one end. Flints can supply all Tirfor® equipment, please phone our Rigging Manager.

Tirfor®		code	list	Tradeline
Model	WLL wire rope Ø weight			
Tirfor® 508D	800 kg 8.3 mm 6.6 kg	WIRT508D	£650.00	£606.52

Maxiflex Wire Ropes		code	Tradeline
To suit Tirfor® 508D	length		
	10 m	WIRT50010	£149.00
	15 m	WIRT50015	£183.00
	20 m	WIRT50020	£232.00
	30 m	WIRT50030	£302.00
	40 m	WIRT50040	£380.00

## BEAM CLAMPS AND PUSH TROLLEYS



**Beam Clamps and Push Trolleys** Beam clamps are ideal for securing chain hoists to a wide range of beams [other sizes available, please phone for details]. Push trolleys are fitted with steel wheels with bearings. Longer traverse bars are available to fit wider beams.

Beam Clamps and Push Trolleys		code	list	price
type	model WLL weight beam widths			
Clamp	LT-1B 1,000 kg 4.8 kg 75 - 230 mm	LIFLT1B	£108.00	£77.76
Clamp	LT-2B 2,000 kg 5.6 kg 75 - 230 mm	LIFLT2B	£126.00	£90.72
Trolley	500 500 kg 8.5 kg 50 - 220 mm	LIF23309	£138.00	£99.36
Trolley	1000 1,000 kg 10.5 kg 58 - 220 mm	LIF23319	£174.00	£125.28
Trolley	2000 2,000 kg 18 kg 66 - 220 mm	LIF23329	£267.00	£192.24

### Choosing a hand winch

Hand winches are economical to purchase and very reliable. Some of the winches that we list in this catalogue are quiet in operation but others will make a slight clicking noise. Apart from the truck winches [featured on page 159, and the Line Driver → which is not self-sustaining in the "Down" mode] they are all self-sustaining so if the handle slips from your hand they will hold the load. When choosing a winch try to choose one with plenty of spare capacity. As a rule of thumb, the working load should be reduced by 10% for each extra layer of rope on the drum so if you are lifting weights near the winch load capacity try to keep the wire to a single layer. There should always remain three full turns of wire on the drum in its maximum out dead [see also "Attaching wire to a plain drum winch" on page 162]. Please be aware that the speed of hand winches may make them an unsuitable choice for items which need to move in front of an audience – or to put it another way – they can be very slow.

### SMALL HAND WINCHES AND LINE DRIVERS



**SG Hand Winch [125 kg]** This small aluminium spur gear hand winch is suited for scenic applications such as raising shutters or small drawbridges. Also handy for stowing light but bulky items in roof voids. They are silent in operation and have a self-locking spring operated load pressure brake. The handle is removable. Size 130 x 130 x 116 mm out [270 mm with the handle in place]. Other sizes are available, please phone our Rigging Manager for more details.

SG Hand Winch 125 kg

Working Load Limit [1st layer]	125 kg	[last layer]	125 kg
Wire rope size	3 mm	Capacity 1st layer	2 m
Total Capacity	20 m	Lift per crank	135 mm
Effort on crank	12 kg	Weight	3 kg

A full data sheet with dimensioned technical drawings can be downloaded from [flints.co.uk](http://flints.co.uk)

SG Hand Winch 125 kg

code	Tradeline
LIF0271008	£529.85



**Line Driver** This neat and very well designed unit will drive 10 mm braided ropes in either direction. It can be used to raise and lower shutters and heavy blinds. Its smart appearance and compact size allow it to be used in public environments such as auditoriums and schools. This winch does make a soft clicking noise when

being used. Constructed of black anodized aluminium and 316-grade stainless steel. Tip: Please ensure the top fixing bolt does not expose any sharp threads to the rope. This winch is not self-sustaining when moved to the "Down" mode. Suitable for light loads only. 8:1 ratio. Length: 128 mm. Width: 90 mm. Height: 58 mm. Fixings: 3 off 8 mm Ø.

Line Driver

code	Tradeline
Driver	PUL240010
Winch handle 250 mm Aluminium	PUL2021
	£410.00
	£72.70



### GO-CS Hand Winches

**[100 kg or 200 kg]** A range of worm geared small winches which can be base- or wall-mounted. Ideal for short movement strokes such as ramps and draw bridges.

Compact, self-sustaining and quiet in operation with no brake ratchets. Meets the requirements of BS EN 13157.

Both winches are 109 mm high x 91 mm wide x 100 mm out [251 mm with shaft and handle in place]. Weight: 1.8 kg.

GO-CS Hand Winches	GOCS100	GOCS200
Working Load Limit [1st layer]	100 kg	200 kg
Working Load Limit [Last layer]	80 kg	100 kg
Wire rope size	3 mm	3 or 4 mm
Total Wire Capacity	9 m	4 or 2 m
Lift per crank	13 mm	7 mm
Effort on crank	6 kg	6 kg
Min load for brake to function	10 kg	10 kg

A full data sheet with dimensioned technical drawings can be downloaded from [flints.co.uk](http://flints.co.uk)

GO-CS Hand Winches	WLL	code	Tradeline
GOCS100	100 kg	LIFGOCS100	£91.98
GOCS200	200 kg	LIFGOCS200	£99.98

A version that uses 20 mm wide webbing is also available. Please phone our Rigging Manager for more details.

**Don't forget that most orders over a value of £50 get economy delivery free of charge! Most orders over a value of £325.00 go carriage free with next day delivery!**

### Can't find what you want?

There is almost certainly a winch available to suit your needs, we just don't have the space to list them all here. Flints can supply Loadstars, Tiraks, Pilewinds, capstans and multiple-wire grooved drums. If we can't supply what you need we can probably advise on a company that can. Why not tap into our knowledge and give us a ring?

**MEDIUM TO HEAVY-DUTY WINCHES**



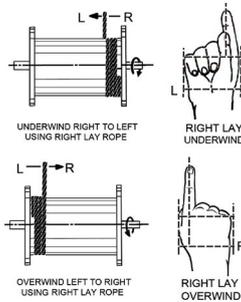
**K-WB Hand Winches [250 kg - 750 kg]** A worm gear winch of cast iron construction with the gears enclosed in an oil bath for smooth operation. It will make a clicking noise when hauling but is silent lowering. Features a self-locking friction type brake, hardened worm shaft, and adjustable crank radius. A good choice for flying bars which need occasional access for maintenance but it is normally too slow for use during performance. For transport reasons these winches are supplied dry. You will need SAE80 oil to fill the oil bath. Also available with grooved or multi-compartment drums, please phone our Rigging Manager for more details. Complies with BS EN 13157.

K-WB Hand Winches	250 kg	500 kg	750 kg
Lifting capacity [1st layer]	250 kg	500 kg	750 kg
Lifting capacity [final layer]	210 kg	425 kg	624 kg
Rope diameter	5 mm	6 mm	8 mm
1st layer rope capacity	4.8 m	7.9 m	9.2 m
Total capacity	11.3 m	29.1 m	49 m
Number of layers	2	3	4
Ratio	16:1	16:1	25:1
Lift per crank turn	20 mm	26 mm	20 mm
Effort on crank	9.2 kg	14.5 kg	16 kg
Weight	12.5 kg	21 kg	42 kg

K-WB Hand Winches	code	Tradeline
250 kg	LIF02422004	£388.50
500 kg	LIF0243000	£577.50
750 kg	LIF0244007	£871.50

**Attaching wire to a plain drum winch**

Most wire ropes [all the ropes we sell] are right-hand lay. The rope certificate may just use the abbreviation RHRL [right-hand regular lay]. If the RHRL wire is to be fed down the back of the drum [under wind] then it should be attached on the right-hand side so it works across towards the left hand side. If the RHRL wire needs to be fed down the front of the drum then it should be attached on the left-hand side and feeds towards the right. Always ensure that at least three full turns of wire remain on the drum at all times.



**Swivel Clews** are used to convert one wire from a winch or cradle to several drops for hauling bars. Swivel clews can occasionally tend to twist under load despite the swivel fitting. Flints is able to arrange for guide tubes or track runners to be fitted to the clew to help prevent this. Please ask for details. Spot the "deliberate" mistake in the picture\*. See also Delta Rings on page 191.

\*Refer to page 174 regarding "dead horses"

Swivel Clews	code	price	code	price
type	500 kg		1,000 kg	
Three-Way Swivel	LIFT41300	£51.30	LIFT41600	£74.60
Four-Way Swivel	LIFT41400	£53.50	LIFT41700	£78.69
Five-Way Swivel	LIFT41500	£55.88	-	-

**A Note on Newtons**

Technically a newton is the SI unit of force [symbol: N]. It is defined as the amount of force required to accelerate a mass of one kilogram at a rate of one metre per second squared. The newton is also the unit of weight. A mass of one kilogram near the earth's surface has a weight of approximately 9.81 newtons. One newton has the mass of a small apple! Throughout this catalogue reference is made to "kN" or kiloNewtons. To convert kN to kgf [kilogram-force] firstly multiply by 1,000 to get newtons then divide by 9.81. Therefore a sling tested to 25 kN could be converted to kgf by the following method: 25 x 1,000 = 25,000. Then divide by 9.81 = 2,548 kgf.

**WEIGHING BEAMS**



**Load Beams** It is now a prerequisite to mark the weight of scenery before it is flown. These beam scales are ideal for weighing large pieces of scenery up to 2 t. The beams are 1.2 m long and supplied with 4 m long cables to a remote digital indicator unit. Free UK mainland delivery. For hire details go to page 379.

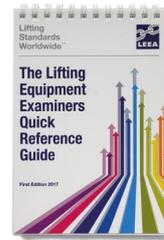
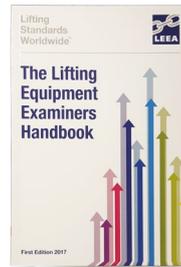
Load Beams	code	Tradeline
	WB2000KG	£649.00

**LOAD CELLS**



Sadly, none of you seemed to want to buy Load Cells, and as we hadn't sold one in over 10 years, the marketing team were forced to discontinue them. Must be because you can Hire them from us so easily! Our hire unit is model LLX 2.5 and is supplied with a copy of the current calibration certificate. See page 379 for hire details.

**LIFTING ENGINEER'S HANDBOOK**



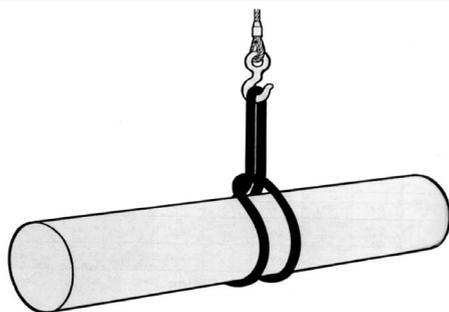
**The Lifting Engineer's Handbook & Quick Reference Guide** [LEEA] A pocket reference and working tool for competent engineers or riggers to carry around for immediate use when required. Covers technical data and legislation concerning lifting equipment. Updated Version for 2017. Also available is the Lifting Equipment Examiners Quick Reference Guide. A pocket sized flip book designed for use on site. Barry thinks it is brilliant!

The Lifting Engineer's Handbook	code	price
Quick Reference Guide	BKSLEHN	£7.50
	BKSLEEQRG	£7.50

Check out some of our other useful books from page 374. Especially the Flints Pocket Ref!

# ROUND & SEWN SLINGS

## ROUND SLINGS



ROUND SLING CHART				
	straight pull	choke hitch	basket hitch parallel	90°
colour coding				
violet	1t	0.8t	2t	1.4t
green	2t	1.6t	4t	2.8t
yellow	3t	2.4t	6t	4.2t

**SAFETY** The safety factor on round slings is 7:1

**Round Slings** Also known as **Strops** and **Span Sets** they consist of a continuous loop of polyester yarn encased in a double thickness polyester fabric sleeve. This easy to use lifting sling is extremely lightweight and versatile. Higher ratings and longer circumferences are also available. Only to be used for temporary installations. Very competitively priced. Never use a sling with damaged stitching or with a tear in the cover which exposes the core. NB: We sell the slings by their Effective Working Length [EWL] which is half the circumference.

Round Slings		code	price	code	price	code	price
EWL	circum	violet	1t	green	2t	yellow	3t
500 mm	1 m	SAF609	£3.72	SAF610	£4.97	SAF611	£5.71
1 m	2 m	SAF612	£4.74	SAF622	£5.80	SAF632	£7.90
1.5 m	3 m	SAF613	£6.23	SAF623	£7.70	SAF633	£10.94
2 m	4 m	SAF614	£7.44	SAF624	£10.10	SAF634	£14.01
2.5 m	5 m	SAF615	£8.54	SAF625	£11.81	SAF635	£17.03
3 m	6 m	SAF616	£9.90	SAF626	£13.85	SAF636	£20.07
4 m	8 m	SAF617	£12.38	SAF628	£18.00	SAF637	£22.95



**Black Theatre Slings** The sizes below are supplied in theatre black for inconspicuous rigs. Be sure to carefully read the label attached to each sling to determine the correct loading.

Black Slings		code 1t	price	code 2t	price
EWL	circum	black 1t	black 1t	black 2t	black 2t
500 mm	1 m	SAF609B	£3.58	SAF610B	£5.75
1 m	2 m	SAF612B	£5.59	SAF622B	£6.71
2 m	4 m	SAF614B	£9.06	SAF624B	£10.40
3 m	6 m	SAF616B	£11.36	SAF626B	£14.35
4 m	8 m	SAF617B	£14.59	SAF628B	£17.62

NB: We sell the slings by their Effective Working Length [EWL] which is half the circumference.



## Black Soft Steel [Wire Rope] Round Slings

Made like polyester round slings but the core consists of multiple turns of flexible steel-wire rope protected by the polyester sleeve. These slings will provide far superior fire resistance over ordinary round slings.

Black Wire Rope Round Slings			code	Tradeline
EWL	circum	weight	black 2 t	
1 m	2 m	1.1 kg	SAF622BW	£17.39
2 m	4 m	1.7 kg	SAF624BW	£28.67
3 m	6 m	2.5 kg	SAF626BW	£39.95

For Slingsaver Shackles see page 181.

## NYLON SEWN SLINGS [EN 566]



**Nylon Sewn Slings** These sewn nylon slings provide an economical quick and strong temporary fixing for pulleys etc. to trusswork or flying bars. The 18 mm slings are black with red stitching, the 25 mm ones have yellow stitching. Supplied with user instruction sheet. CE marked.

Nylon Sewn Slings		width	code	price	
EWL:	200 mm	circum: 400 mm	18 mm	PETLSL18020	£3.92
	300 mm	600 mm	18 mm	PETLSL18030	£4.34
	600 mm	1.2 m	18 mm	PETLSL18060	£5.63

The 18 mm wide slings conform to EN 566. Minimum Breaking Load is 24 kN when new.

EWL:	300 mm	circum: 600 mm	25 mm	PETLSL25030	£4.46
	600 mm	1.2 m	25 mm	PETLSL25060	£5.87
	1,200 mm	2.4 m	25 mm	PETLSL25120	£8.70

The 25 mm wide slings conform to EN 566, EN 795 type B. Minimum Breaking Load is 30 kN when new.

## SAFETY

Sewn slings are marked with the minimum strength as per EN 566. This is NOT the SWL

## DYNEEMA SEWN SLING [EN 566]



## Dyneema Sewn Sling

Although Dyneema is very strong, it has virtually no stretch. If subjected to a sudden-shock load by arresting the fall of a weight it could fail before a similar, or theoretically weaker, sling made from nylon. These slings are, however, popular with climbers where saving weight is crucial. In the event of a Dyneema sling arresting the fall of a climber their own body and their climbing gear will act as a shock absorber [... and I'm not saying that's a good thing].

Dyneema Sewn Sling		width	code	price	
EWL:	600 mm	circum: 1.2 m	15 mm	PETLSD060	£7.87

The Dyneema slings conform to EN 566. Minimum Breaking Load is 22 kN when new.

## JERI-RIGG VELCRO HANGING STRAPS

One of our beloved customers (yes, we could be talking about you) suggested we stock these. We're not sure sure what the exact purpose in a theatre would be, and they definitely aren't properly rated for lifting, however we can see that they could be extremely handy to have about a workshop. Just please don't use them to suspend something on stage, especially above people's heads!

However we think they could be especially useful for securing things in place, and are a great addition to any install kit - could help to give a secure spot to tie something in the back of a van off, in combination with a ratchet strap for example [see page 359].



**Jeri-Rigg Eye** Simply wrap around a tubular structure, secure via the velcro and voila! You have an eye loop connection point. Extremely useful for creating an anchor point. Available in 4 lengths to fit different diameter tubes, and 2 different eye sizes. These are not CE marked, but the manufacturer gives a guide of breaking/working loads listed below.

SPECIFICATION: Eye material: Stainless Steel, Strap Material: Nylon, Large Eye Internal Ø: 21 mm, Large Eye External Ø: 38 mm, Small Eye Internal Ø: 11 mm, Small Eye External Ø: 24 mm.

Jeri-Rigg Eye	fits circumference	width	MBL	WLL	code	price
SS - Small Eye/Short	127-222 mm	40 mm	1500 kg	500 kg	TOLJRSSE	£11.35
SM - Small Eye/Med.	254-381 mm	40 mm	1800 kg	600 kg	TOLJRSME	£11.35
M - Large Eye/Med.	381-508 mm	50 mm	2700 kg	900 kg	TOLJMDE	£13.80
LL - Large Eye/Long	635-762 mm	62 mm	4090 kg	1360 kg	TOLJRLLE	£16.50



**Jeri-Rigg Hook** As above, but this time provides a hook rather than a loop. Stuck for a secure way to join two things together? Instead of getting lost in a tangle of knots, just grab a Jeri-Rigg Eye, and a Jeri-Rigg Hook and you're away! Available in 3 lengths to fit different diameter tubes, and 2 different hook sizes. These are not CE marked, but the manufacturer gives a guide of breaking/working loads listed below. These would be handy for tidying cables, or creating hanging points for ladders etc.

SPECIFICATION: Hook material: Coated Steel, Strap Material: Nylon, Large Hook Opening: 21 mm, Large Hook Depth: 38 mm, Small Hook Opening: 11 mm, Small Hook Depth: 24 mm.

Jeri-Rigg Eye	fits circumference	width	MBL	WLL	code	price
SMH - Small Hook	254-381 mm	40 mm	380 kg	125 kg	TOLRJSMH	£12.70
SLH - Medium Hook	381-508 mm	40 mm	380 kg	125 kg	TOLRJS LH	£12.98
LLH - Large Hook	635-762 mm	65 mm	680 kg	225 kg	TOLRJLLH	£16.25

## WEB LINKS



Laid flat



On size 6 scaffold with a black 0.75 t shackle



On size 8 scaffold with a black 0.75 t shackle

**Flat Web Sling** Sadly our extremely popular Black Web Links [below] are not rated for lifting so Barry, our Technical Sales Director, got straight to the drawing board and came up with this solution! A really simple sling that snugly fits a piece of standard size 8 scaffold. Because of the choke hitch design it will also fit a piece of size 6 scaffold, or any piece of truss. The design allows for it to be used in a straight lift - if you have appropriate connection point above, or even a basket lift! Similar to our Round Slings. Works really well with the 0.75t Green Pin Shackles - available in Black too! SPECIFICATION: Overall length: 300 mm, Width: 25mm, Material: Polyester, WLL based on a 7:1 safety factor and MBL of 1750 kg Fully certified for Lifting to EN1492-1.

Flat Web Sling	WLL	code	price	10 +
25 x 300 mm	250 kg	FHSFWB	£12.00	£10.80
Black Shackle	0.75 t	WIR2093B	£4.75	



**Black Web Link** A very popular special link designed for theatre use made of black webbing. These links are marked with the year of manufacture and SWL. Fits up to 60 mm Ø barrel.

SAFETY	Min Breaking Load	Safety Factor	SWL
	1,500 kg	6 to 1	250kg

Black Web Link	SWL	code	price	Tradeline 10+
25 x 280 mm	250 kg	ROPOT25300	£20.30	£19.45



**Truss Straps** Designed to give a really quick suspension point, simply sling over a bar, pass a shackle through the two d-rings and you're ready to attach whatever you wish to hang! Often used for suspending LX ladders, they are really handy for making small horizontal adjustments - by supporting the weight briefly the strap can be slid along to the desired position. Please note, these straps are not to be used for Dynamic Lifting, but can be used for hauling and lashing. Multiple sizes available depending on your requirements. SPECIFICATION: Material: Polyester / Steel. SWL based on a 4:1 safety factor.

Truss Strap	SWL	code	price
35 x 320 mm	500 kg	SAFTS001	£6.30
35 x 525 mm	500 kg	SAFTS002	£6.75
50 x 320 mm	1000 kg	SAFTS003	£6.48
50 x 500 mm	1000 kg	SAFTS004	£7.44



**Seddon Link** A quick method of slinging pulleys etc. from flying bars. Made of blue webbing with stainless steel fittings. SPECIFICATION: SWL based on a 7:1 safety factor and MBL of 3500 kg.

Seddon Link	SWL	code	list	price
25 x 200 mm	500 kg	ROP0806	£26.88	£25.11

# WIRE ROPES

## Handling Steel Wire Rope

**Unreeling and Uncoiling Wire Rope** When removing wire rope from the reel on which it was received, or from the coil if it is a coil shipment, it is imperative that the reel or coil rotates as the rope unwinds. Attempts to unwind rope from stationary coils or reels will result in kinking the rope, and once a kink is formed the rope at that point is ruined beyond repair.

**Unreeling** If the rope is to be unwound from a reel, there are three correct methods of unreeling. 1) The reel may be mounted on a shaft supported by two jacks. The rope is then pulled from the reel by operators holding the end of the rope and walking away from the reel which rotates as the rope unwinds. This is the common approved method of unreeling wire rope. Care should be taken to avoid over-running. 2) The reel may be mounted on a turntable. It is then unwound in the same manner as described above. Care must be exercised to keep the rope from dropping below the lower reel head. Again avoid over-running. 3) The end of the rope may be held and the reel rolled along the ground.

**Uncoiling** If the rope is to be removed from a coil, there is only one correct method of uncoiling. The end of the rope should be held and the coil rolled on the ground like a hoop.

**Terminations** Wire Rope terminations should be suitable for their purpose and should have a strength of not less than 80% of the minimum breaking load of the rope. Any free end of the rope should be seized to prevent unlaying. The ends of any wire rope other than that on a lifting device, hoist or winch should be fixed to the suspension point with a thimble-eye splice or ferrule-secured eye termination or bulldog-grip fixing [to DIN 1142] or other rope coupling device giving a strength of not less than 80% of the breaking load of the wire rope. The ends of any wire rope feeding onto a reeling winch should be fastened onto the winch drum in the manner specified by the manufacturer and in addition should preferably have at least three turns left on the drum when the suspended item is at its lowest level, and in no circumstances less than two turns.

This information is reproduced with permission from the ABTT Code of Practice for Flying, 2000. See also The Lifting Engineers Handbook [page 377].



### Lifting Equipment Engineers

**Association** Flints are full members of this association. Our staff frequently attend their informative courses and obtain specialist lifting qualifications. The association also keeps us right up to date with changing regulations.



FS 539611

**ISO 9001** Flints is ISO 9001. This certification is awarded by the International Standards Organisation. Flints has chosen the prestigious British Standards Institute to verify and audit our company to rigorous standards.

## STOCK BLACK DRIFTS



Thimble eye

Soft eye



**Stock Black Drifts** Flints holds large stocks of a range of 5 mm diameter 7 x 19 construction galvanised black wire drifts designed to cover most backstage requirements. They are available with either thimble eyes at both ends or with a thimble eye on one end and 100 mm soft loop on the other end. The soft eye enables the wire to be choke hitched around appropriate materials. The Working Load Limit of all the wires is marked at 250 kg. Each wire is individually identified, CE marked and printed with the WLL. They are supplied with appropriate certification and instructions. Flints registers all the stock drift sales on our lifting database so that duplicate copies of certification can be raised [up to 2 years].



Drifts	length	thimble eye both ends	soft and thimble eye	price	10+
1 m		WIRHE1M	WIRSE1M	£23.12	£18.14
2 m		WIRHE2M	WIRSE2M	£24.83	£19.44
3 m		WIRHE3M	WIRSE3M	£26.43	£20.61
4 m		WIRHE4M	WIRSE4M	£28.14	£22.06
5 m		WIRHE5M	WIRSE5M	£29.85	£23.22
6 m		WIRHE6M	WIRSE6M	£31.44	£24.53
7 m		WIRHE7M	WIRSE7M	£33.15	£25.82
8 m		WIRHE8M	WIRSE8M	£34.16	£26.99
10 m		WIRHE10M	WIRSE10M	£37.88	£29.59

Certification Retrieval	code	price
Duplicate certification retrieval fee [up to 2 years]	WIRDCR	£10.00

For Wire Stropps see page 333.

## MADE TO ORDER WIRE ROPE ASSEMBLIES



### Wire Rope Assemblies and Crimping Charges

If our Stock Black Drifts listed left do not suit your purpose then we can make up wire rope assemblies to order.

**Non-Lifting Wire Rope Assemblies** These assemblies are constructed in the same way as lifting assemblies but will not be marked with a WLL or individual identification. They will not be supplied with certification and are therefore not suitable for lifting purposes. We are also unable to supply certification for wire ropes under 1 mm in diameter so Micro Cable Assemblies will be priced as Non-Lifting Assemblies. To price up for budget purposes, use the codes given below plus the cost of the wire, ferrules and thimbles [if required].



**Lifting Wire Rope Assemblies** For lifting purposes the assemblies need dimensionally checking, and marking with individual identification, the WLL, UKCA, and CE marks. The wires will be supplied with the appropriate certification and instructions. Wires requiring a termination on one end only will be supplied with a "Test for Inclusion in the Technical File". Soft eyes complying with BS EN 13411-3 must have a length 15 x the diameter of the wire rope and the width of the eye should be half its length. To price up for budget purposes, use the codes given below plus the cost of the wire, ferrules and thimbles [if required] then add the Certification charges.



Crimping Charge [hard or soft eye]	code	per end
0.26 - 3 mm wire rope [plus cost of thimble if req.]	WIRDRIFT03	£2.00
4 mm wire rope [plus cost of thimble if req.]	WIRDRIFT04	£2.00
5 - 8 mm wire rope [plus cost of thimble if req.]	WIRDRIFT58	£2.50

Certification Charge for wires 1 mm to 8 mm Ø	code	price
Set up charge for 1st certificate per wire Ø/length	WIRSCS	£5.00
Follow on Certification Charge for more wires of the same Ø/L	WIRCAC	£2.50

### Wire Rope Terminology

The general purpose wire ropes used in the theatre are normally 6 x 19 fibre core or 7 x 19 steel core. The first number refers to the number of "Strands" in the "Wire Rope". The second number refers to the number of "Wires" in the "Strand". A 6 x 19 construction wire rope will be slightly more flexible than a 7 x 19 rope. However, 7 x 19 ropes are slightly stronger and are better able to resist crushing and heat. They are less liable to deform when running over sheaves.

Ropes with a construction of 1 x 19 are very stiff and are used for yachts' standing rigging, architectural rigging or handrailing applications. They must be terminated with roll swagged fittings as the wire cannot be formed into loops. The advantage of this construction is that it uses thicker wires which are better able to resist chafe and they present a smoother surface. We only stock them as stainless steel, but regrettably can no longer roll swage them for you.

All the wires that we hold in stock are "R.H.R.L." which stands for Right Hand Regular Lay. Nearly all ropes are "Right Hand Lay" but rarely a rope may need to be left hand lay for a special purpose such as drilling rigs. The "Regular Lay" means that the small "Wires" in each "Strand" are left hand lay to oppose the right hand lay of the rope. Some special purpose wire ropes are made with the wires laid in the same direction as the strands. This lay is called "Lang's Lay". These ropes are not suitable for making slings or drifts as they tend to unwind under load.

All our wire ropes are "Pre-formed". Pre-formed ropes do not tend to spring apart when being cut and are much preferred for general use. Wire ropes are made from various grades of steel. There are only two general grades used for Galvanised Steel Wire Ropes and these are 1,770 N/mm<sup>2</sup> and 1,960 N/mm<sup>2</sup>. A rope made to 1,770 is manufactured from wire with tensile strengths between 1,570 and 1,960 N/mm<sup>2</sup>. A rope made to 1,960 will have a minimum strength of 1,770 and a maximum of 2,160 N/mm<sup>2</sup>. Stainless steel ropes are slightly weaker than galvanised steel ropes.

The Working Load Limit of a wire rope is based on a safety factor of 5:1 of the Minimum Breaking Load. This is industry general practice but higher safety factors may be specified for your specific application.

Flints supplies full certification for all the wires we supply above 1 mm in diameter.

Flints is a full member of the Lifting Equipment Engineers Association and is approved to ISO 9001 by British Standards Institute.

We are proud of the fact that our staff attend regular training courses and symposiums regarding lifting and working at height.



### Lifting Equipment Engineers Association

Here are Flints' staff undertaking practical assessments at LEAA training centre covering thorough examination of lifting accessories [wire rope slings, chain slings, textile slings, loose gear-shackles, eye bolts, rigging screws etc.].

Flints also supplies a wide selection of top quality Wire Rope Cutters [page 179].

### GALVANISED WIRE ROPES [TO BS EN 12385/2002]



#### Galvanised Wire Rope [BS EN 12385:2002] 6 x 19 [Fibre Core] 1,960 N/mm<sup>2</sup>

This rope is the most flexible wire rope construction that we stock. It is a right-hand regular lay wire rope consisting of 6 strands of 19 wires around a fibre core. The wires are pre-formed so the wire will not spring apart when being cut. Choose it as a general purpose wire for making drifts or slings. If you are replacing a damaged wire in a set of wires, all the wires in the set should be replaced at the same time. The Working Load Limit specified is based on a 5:1 safety factor which must not be exceeded. Sometimes, in the theatre industry, higher safety factors of times eight or ten are required. The tensile strength of these wires is 1,960 N/mm<sup>2</sup>. Supplied complete with certification. The minimum breaking load shown on the certificate may vary slightly from those given below due to fluctuations in batches.

Galvanised Wire Rope		WLL	code	1 m	code	100 m	10+
wire Ø	Min BL	5:1	per metre		per drum		per drum
3 mm	522 kg	110 kg	WIRO12	£0.44	WIRO12D	£34.00	£24.00
4 mm	982 kg	196 kg	WIRO14	£0.56	WIRO14D	£46.00	£38.00
5 mm	1,534 kg	307 kg	WIRO16	£0.69	WIRO16D	£59.00	£42.00
6 mm	2,209 kg	442 kg	WIRO18	£0.79	WIRO18D	£73.00	£63.00
8 mm	3,927 kg	785 kg	WIRO20	£0.99	WIRO20D	£89.00	£73.00



#### Galvanised Wire Rope [BS EN 12385:2002] 7 x 19 [Steel Core] 1,960 N/mm<sup>2</sup>

This rope is slightly stiffer than 6 x 19 construction wire rope but it is better at resisting crushing and less liable to deform when running around sheaves. The steel core also makes it a slightly stronger rope. It is a right-hand regular lay wire rope consisting of 6 strands of 19 wires around a steel core. The wires are pre-formed so the wire will not spring apart when being cut. Choose this rope for running rigging and when terminations state that they should only be used on steel core ropes [Gripples and Nicopress are examples]. If you are replacing a damaged wire in a set of wires, all the wires in the set should be replaced at the same time. The Working Load Limit specified is based on a 5:1 safety factor which must not be exceeded. Sometimes, in the theatre industry, higher safety factors of times eight or ten are required. The tensile strength of these wires is 1,960 N/mm<sup>2</sup>. These ropes are supplied complete with certification. The minimum breaking load shown on the certificate may vary slightly from those given below due to fluctuations in batches. If you require these wires in 1,770 N/mm<sup>2</sup> then please add N17 to the code and allow five days.

Galvanised Wire Rope		WLL	code	1 m	code	100 m	10+
wire Ø	Min BL	5:1	per metre		per drum		per drum
3 mm	651 kg	130 kg	WIRO23	£0.44	WIRO23D	£34.00	£27.00
4 mm	1,158 kg	232 kg	WIRO24	£0.65	WIRO24D	£53.50	£43.00
5 mm	1,809 kg	362 kg	WIRO25	£0.80	WIRO25D	£68.00	£59.00
6 mm	2,605 kg	521 kg	WIRO26	£0.79	WIRO26D	£72.00	£66.00
8 mm	4,630 kg	926 kg	WIRO28	£1.32	WIRO28D	£118.00	£99.00

A wide variety of other ropes are available to order. Please phone for a quote if you require special cables.

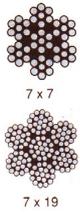
**Low Rotation Wire Rope** These ropes are specially wound in contrary directions to reduce rotation to a minimum. Used mainly for single-point hanging of chandeliers etc. If using these wires with wedge sockets ensure the tail exceeds 20 times the diameter of the rope. Available to order only. Please phone our Rigging Department for details.

## BLACK WIRE ROPES



**Black PVC-Covered Wire Rope 6 x 19 [BS EN 12385-2002] [Fibre Core] 1,770 N/mm<sup>2</sup>** This is a 6 x 19 construction galvanised wire rope with a black PVC sheath. These covered wires are useful for disguising suspension lines. They can also be used for handrail and lanyard applications. This type of wire is not suitable for running rigging. It is essential that the PVC sheath is removed where terminations are made. We can also supply these wires coated in white PVC in 100 m drums POA. Please allow five days.

Black PVC-Covered Wire Rope				code	1 m	code	100 m
wire Ø	finished Ø	Min BL	WLL 5:1	per metre	per drum	per drum	
3 mm	to 4 mm	499 kg	100 kg	WIRO32	£0.73	WIRO32D	£63.00
4 mm	to 5 mm	887 kg	177 kg	WIRO34	£0.82	WIRO34D	£72.00
5 mm	to 6 mm	1,385 kg	277 kg	WIRO36	£1.00	WIRO36D	£89.00



**Black Wire Rope [BS EN 12385-4] [Steel Core] 1,770 N/mm<sup>2</sup>** These popular matt black flexible wire ropes are suitable for use as running rigging whereas the PVC-coated cables listed above should not be used over pulley sheaves. Not suitable for use outdoors.

Black Wire Rope				code	1 m	code	100 m
wire Ø	construction	Min BL	WLL 5:1	per metre	per drum	per drum	
2 mm	7 x 7	280 kg	56 kg	WIRO02	£0.99	WIRO02D	£53.73
3 mm	7 x 7	630 kg	126 kg	WIRO03	£1.05	WIRO03D	£59.77
4 mm	7 x 7	1,120 kg	224 kg	WIRO04	£1.37	WIRO04D	£77.99
5 mm	7 x 19	1,633 kg	327 kg	WIRO05	£2.65	WIRO05D	£169.00
6 mm	7 x 19	2,352 kg	470 kg	WIRO06	£3.15	WIRO06D	£239.00
8 mm	7 x 19	4,182 kg	836 kg	WIRO08	£3.15	WIRO08D	£194.15

## STAINLESS WIRE ROPES

### Some observations on Stainless Steel

Stainless Steel has a lower tensile strength than ordinary steel. As a raw material it is rather weak but higher levels of strength can be obtained by the ability of austenitic stainless steel to be heavily cold worked. The two most common grades of stainless steel are AISI 304 and AISI 316. AISI stands for the American Iron and Steel Institute. They are often referred to as A2 and A4 grade. As a general rule, A2 is used for architectural purposes and A4 is used for marine purposes. A2 [304] is stronger but not so well suited to withstand salt water corrosion. Although A4 [316] is weaker it is virtually always specified for marine use. All our stainless wire ropes are made from A4 [316] grade except for the very small micro cables where the extra strength of 304 grade is essential. N.B. BS EN 13414-1: 2003 + A2: 2008 standard permits rope of both 1,770 N/mm<sup>2</sup> and 1,960 N/mm<sup>2</sup> to be used for Lifting. Our stainless steel rope (1,570 N/mm<sup>2</sup>) falls outside the standard.

Stainless steel resists corrosion by forming an oxide layer on its outer surface. If oxygen is prevented from getting to the steel to form this layer it will corrode rapidly. For this reason stainless steel is not suitable for underwater marine fastenings although it is perfect for standing rigging exposed to both salt water and oxygen. Do not expose stainless steel to hydrochloric acid of any concentration.

When using stainless steel wire ropes a rigorous regime of inspection should be employed as they will tend to look new even when they are old! Care should also be taken with stainless rigging screws which can suffer from cold welding. This is the phenomenon where screw threads can spontaneously weld themselves together without heat. Normally a little Anhydrous Lanolin will prevent this [page 190].

## STAINLESS STEEL WIRE ROPES



**Flexible Stainless Steel Wire Rope [BS EN 12385-2002] [Steel Core] 1,570 N/mm<sup>2</sup>**

These flexible cables are made from 316 marine-grade stainless steel. They are suitable for running over sheaves or for forming thimble eyes. Ideal when high resistance to corrosion is needed or when the cables are being used for display purposes. Unlike galvanised wire, stainless wire will show no tell-tale signs of wear such as rust streaks, but as no cables last for ever it is a wise precaution to enforce a schedule of replacement depending on the wire's application.



Flexible Stainless Steel Wire Rope				code	1 m	code	100 m
wire Ø	construction	Min BL	WLL 5:1	per metre	per drum	per drum	
1 mm	7 x 7	61 kg	12 kg	-	N/A	WIRO49D	£35.00
1.2 mm	7 x 7	90 kg	18 kg	WIRO59	£0.45	WIRO59D	£37.50
1.5 mm	7 x 7	140 kg	28 kg	WIRO50	£0.52	WIRO50D	£40.00
2 mm	7 x 7	248 kg	50 kg	WIRO51	£0.56	WIRO51D	£43.00
2.5 mm	7 x 7	388 kg	78 kg	WIRO54	£0.70	WIRO54D	£54.00
3 mm	7 x 19	522 kg	104 kg	WIRO56	£0.78	WIRO56D	£60.00
4 mm	7 x 19	927 kg	185 kg	WIRO55	£1.45	WIRO55D	£92.50
5 mm	7 x 19	1,449 kg	290 kg	WIRO57	£1.74	WIRO57D	£142.00
6 mm	7 x 19	2,086 kg	417 kg	WIRO58	£2.46	WIRO58D	£195.00



**Non-Flexible Stainless Steel Wire Rope [BS EN 12385-2002] [Steel Core] 1,570 N/mm<sup>2</sup>**

These wire ropes are most typically used for standing rigging on yachts and for architectural and handrailing applications. They have a smoother appearance and are relatively stiff. Because the wires are thicker they are much less susceptible to surface wear which could cause sharp stray strands. They are NOT suitable for running over sheaves or for forming thimble eyes. 316-grade wire. These wire ropes being "Non Flexible" means they are not suited for general lifting purposes. Unlike galvanised wire, stainless wire will show no tell-tale signs of wear such as rust streaks, but as no cables last for ever it is a wise precaution to enforce a schedule of replacement depending on the wire's application. Regrettably we can no longer roll swage these for you in house, but we may be able to help point you in the right direction - please do email rigging@flints.co.uk with your enquiry.

Non-Flexible Stainless Steel Wire Rope				code	1 m	code	100 m
wire Ø	construction	Min BL	WLL 5:1	per metre	per drum	per drum	
3 mm	1 x 19	756 kg	151 kg	WIRO81	£0.90	WIRO81D	£72.00
4 mm	1 x 19	1,345 kg	269 kg	WIRO82	£1.40	WIRO82D	£116.00
5 mm	1 x 19	2,101 kg	420 kg	WIRO83	£3.28	WIRO83D	£173.00
6 mm	1 x 19	3,026 kg	605 kg	WIRO84	£2.78	WIRO84D	£229.00

### Current Technical Data

**We have tried to include as much technical data as we can in this edition of our catalogue.**

**We will always try to match products as closely as possible to the specifications listed but if you are using a product with very tight tolerances then we would advise that you give us a ring and we will be happy to check the dimensions and load ratings for you.**

# MICRO CABLES & THEIR TERMINATIONS



## Micro Cables

These very fine stainless steel micro cables have many uses. They will form virtually invisible suspension wires which are ideal for display or theatre use. They make excellent small control

wires for animatronics and special effects. The wires are made from two grades of stainless steel. The smaller wires are made from the stronger 304 grade. The 1 mm wire is made from the more corrosion-resistant 316 grade. Two of the wires that Flints stocks have a fine transparent nylon coating which is almost invisible but provides a very smooth finish and holds the strands neatly together when the wire is being cut.

Certification is not issued with Stainless Steel Micro cables. We would recommend that you carry out your own tests to establish a minimum breaking load of the finished assembly and then apply a safety factor of at least times five.

To terminate these micro cables we recommend using the Nicopress® system. Flints has had special ferrules developed by Nicopress® to solve the old problem of making secure terminations in these very small wires [see 📄]. We also supply small brass ferrules [not Nicopress®]. When using ferrules any nylon covering should be stripped back and the ferrule should be chosen to suit the actual wire diameter.

## NICOPRESS®



Really versatile tools!

**Nicopress® Micro and Small Wire Tools** Effectively terminating our very small Micro Cables used to be a problem. Flints has worked with Nicopress® to develop a range of Micro Ferrules and Stops with special hand tools which completely solve this dilemma. They are simple to use and are supplied complete with instructions. We have also found them suitable for crimping the brass ferrules listed 📄.

SPECIFICATION: Length: 210 mm. Weight: 0.3 kg. The 17-BA size can be hired [page 380].

Nicopress® Tools		code	price	Tradeline 5+				
Micro wires tool A	17-BA 2 [A,B]	no of grooves	suits wire Ø	suits ferrule	suits stop			
		2	0.26 mm	NIC161A, WIR112*		NIC17BA	£71.15	£67.59
			0.51 mm	NIC162A, WIR113*				
			0.75 mm	NIC171B	NIC87132B			
			0.87 mm	NIC171B				
Small wires tool B	17-B4B 2 [B,B4]	no of grooves	suits wire Ø	suits ferrule	suits stop			
		2	0.75 mm	NIC171B	NIC87132B	NIC17B4B	£89.50	£85.00
			0.87 mm	NIC171B				
			1.0 mm	WIR114*				
			1.0 mm	NIC42815VB4	NIC87112B4			
		1.2 mm	NIC42815VB4	NIC87112B4				

\*Not Nicopress®

Micro Cables - Bare Stainless Steel				code	price
wire Ø mm	grade	construction	Min BL		100 m per drum
0.26	304	1 x 3	6.8 kg	WIR047D	£45.55
0.51	304	1 x 7	34 kg	WIR048D	£46.90
1.0	316	7 x 7	61 kg	WIR049D	£35.00

Micro Cables - Nylon Covered Stainless Steel					code	price
wire Ø mm	finish Ø	grade	construction	Min BL		100 m per drum
0.51	0.75	304	1 x 7	34 kg	WIR048ND	£64.70
0.87	1.05	304	1 x 7	90 kg	WIR049ND	£112.11

## BRASS MICRO FERRULES



### Brass Ferrules

These ferrules are too small for conventional crimpers. A substitute crimper can be made by drilling downwards through the jaws of a pair of pliers and using a vice to apply pressure.

Flints' trials have found a good termination can be made using the Nicopress® 17BA tool. These brass ferrules are not Nicopress® ferrules. Not suitable for lifting purposes.

Brass Ferrules for Micro Cables		code	price
wire Ø mm			per 100
0.26	[see 📄 for Nicopress® Tool use groove A and rotate 90° and repeat]	WIR112	£8.72
0.51	[see 📄 for Nicopress® Tool use groove A]	WIR113	£11.73
1.0	[see 📄 for Nicopress® Tool use groove B]	WIR114	£17.35

Have a look at our Nicopress videos on YouTube under FlintsTheatre channel.

## NICOPRESS MICRO FERRULES



### Nicopress® Micro Ferrules

These small ferrules have been developed by Nicopress® for Flints to provide an effective means of securing a loop in our micro cables. They are made from solid copper. They can be easily compressed

by using the tools above 📄. The combination of these economical tools and the micro ferrules solves the old problem concerning the termination of very small cables. Tests show that these terminations exceed the strength of the wire. They are ideal for invisible control and display wires. For the nylon-covered wires use a ferrule to suit the actual wire diameter. The nylon cover should be stripped back before compressing the ferrule. For non-lifting applications it is possible to make a termination with the nylon coating in place. Using ferrule NIC42815VB4 on the 1.05 mm nylon-covered wire with the nylon cover still in place we achieved results of around 20 kg before the wire slid out through the nylon coating. Although less strong with the nylon in place, they do make extremely smooth and neat assemblies which would be suitable for lightweight lanyards.

Nicopress® Micro Ferrules		code	price	100+1,000+
suits wire Ø mm	constr. finish presses	sleeve lengths before/after/shape		
0.26	1 x 3 3 copper	10 / 12 mm / round A	NIC161A	£0.10 £0.09 £0.08
0.51	1 x 7 3 copper	10 / 11 mm / round A	NIC162A	£0.11 £0.10 £0.09
0.75-0.9	1/32" 1 x 7 2 copper	6 / 8 mm / oval A,B	NIC171B	£0.17 £0.14 £0.11
1 & 1.2	3/64" 1 x 7 3 tin-plated	9 / 11 mm / oval B,D	NIC42815VB4	£0.33 £0.26 £0.24

# MINIATURE DISPLAY FITTINGS

**Miniature Wire Rope Fittings** These smart and unobtrusive fittings fit wire ropes from 1.5 - 2.5 mm diameter or 2 - 3 mm diameter. There are fittings and ready-made wires designed to make neat ceiling fixings and there are also fittings which slide along the wire and grip when the cap is released. To prevent accidental release they are fitted with a safety cap. By carefully selecting the components you can suspend shelving, display boards, scenery etc. and crucially have the ability to make quick and easy onsite height adjustments. There are many other types of fittings available – please ask our Rigging Manager if you are unable to find what you need. The WLLs are assuming stainless steel wire rope, WLLs are slightly higher using galvanised wires.

**Caution:** Not suitable for outdoor use. For static loads only. Not for suspension of persons.

## CORRECT WIRE SELECTION

**Correct Wire Selection** You can buy your wire by the metre or drum or you can select ready-made lengths of wire complete with end fittings to match the ceiling attachments. If using your own wire, select it as follows:

**Galvanised Steel Wire Rope 7 x 7 construction [EN 12385, 2300 N/mm<sup>2</sup>]**  
Diameters from 1.5 mm to 2.5 mm.

Flints supplies [see page 167]:

2 mm Black Galvanised Steel Wire Rope 7 x 7 constr. code WIR092 [per m], WIR092D [drum].

**Stainless Steel Wire Rope 7 x 7 construction [EN 12385-4, 1,570 N/mm<sup>2</sup>]**  
Diameters from 1.5 mm to 2.5 mm

Flints supplies [see page 167]:

1.5 mm SS Wire Rope 7 x 7 constr. code WIR050 [per m], WIR050D [drum].

2 mm SS Wire Rope 7 x 7 constr. code WIR051 [per m], WIR051D [drum].

2.5 mm SS Wire Rope 7 x 7 constr. code WIR054 [per m], WIR054D [drum].

## READY MADE WIRES

**Ready-Made Small Wire Ropes** These 7 x 7 stainless steel cables are ideal for use with the fittings listed on this page. The cylindrical stop fits inside the ceiling fixing shown right making a really neat termination. Use them for display purposes or wire suspended shelving etc. The wires supplied with an M5 thread can be either used with a nut or can be fitted directly into tapped holes. Flints can, of course, make up other wire ropes to your specifications.

Ready-Made SS Wire with Cylindrical Sleeve code price

length	wire Ø mm	construction	code	price
1 m	2	7 x 7	WIR196207100	£3.35
2 m	2	7 x 7	WIR196207200	£4.75
3 m	2	7 x 7	WIR196207300	£6.06
5 m	2	7 x 7	WIR19620750	£7.78

Ready-Made SS Wire with M5 Thread code price

length	wire Ø mm	construction	code	price
1 m	2.5	7 x 7	WIRM51	£12.09
2 m	2.5	7 x 7	WIRM52	£11.79
3 m	2.5	7 x 7	WIRM53	£13.62
5 m	2.5	7 x 7	WIRM55	£19.90

There are other fittings in this range. Please call our Rigging Manager for details or email [rigging@flints.co.uk](mailto:rigging@flints.co.uk). See also the Zip Clip STRUT-LOCK [page 178] and for use with larger cable diameters see Reutlingers [page 177].

## CEILING ATTACHMENT



**Ceiling Attachment** This unobtrusive fitting can be screwed with a 6 mm diameter screw or machine screw to a ceiling or wall. The end cap simply unscrews and a wire with a cylindrical stop can be inserted [see left]. Sold as body and end cap complete.

See also Nicopress® [page 170].

Ceiling Attachment	length	wire Ø	thread	code	price
	23 mm	2 mm	7 x 7 cap thread M13	WIRCAM13	£3.76

## CABLE GLIDERS [THREADED]



**Cable Gliders with Threaded Stud**

These fittings can be securely attached to shelving, display boards or scenery by means of their threaded stud. When the cap is depressed the fittings slide along the wire and grip when the cap is released. To prevent accidental release they are fitted with a safety cap. The WLLs are assuming stainless steel wire rope, working loads are slightly higher using galvanised wires.

Cable Gliders with Threaded Stud	type	fits wire Ø	construction	static WLLs	thread/depth	code	price
				1.5 mm Ø	2.5 mm Ø		
	25V	1.5 - 2.5 mm	7 x 7	16 kg	40 kg	M8 x 6 mm	WIR193000241 £8.12
	25V	1.5 - 2.5 mm	7 x 7	16 kg	40 kg	M10 x 6 mm	WIR193000251 £7.83
				2 mm Ø	3 mm Ø		
	30V	2 - 3 mm	7 x 7	28 kg	56 kg	M8 x 8 mm	WIR193000301 £8.45
	30V	2 - 3 mm	7 x 7	28 kg	56 kg	M10 x 8 mm	WIR193000302 £8.57

## CABLE GLIDERS [SIDE FIXING]



**Cable Glider for Side Fixing** These fittings can be securely attached to display boards or scenery by means of a simple 6 mm diameter screw into the side of the frame. The panels can be easily adjusted onsite to achieve the best possible position.

Everything is available online at [flints.co.uk](http://flints.co.uk)

Cable Glider [Side Fixing] code price

type	fits wire Ø	construction	static WLLs	width/height	code	price
			1.5 mm Ø	2.5 mm Ø		
25V	1.5 - 2.5 mm	7 x 7	16 kg	40 kg	12 mm/44 mm	WIR193000294 £8.24

## CABLE GLIDERS [FORK & CLEVIS PIN]



**Cable Glider with Fork and Clevis Pin**

Use this fitting to terminate your wire onto an eye, loop or drilled lug. The fork diameter is 6 mm and the width of the opening between forks is also 6 mm. The distance from the centre of the clevis pin to the top of the fork is 12 mm. The wire exits from this point so sufficient clearance should be allowed. As with the other fixings listed above this fitting will slide up or down the wire while the top is depressed but will lock onto the wire firmly when the top is released. To prevent accidental release they are fitted with a safety cap.

Cable Glider with Fork and Clevis Pin code price

type	fits wire Ø	construction	static WLLs	Ø/height	code	price
			1.5 mm Ø	2.5 mm Ø		
25V	1.5 - 2.5 mm	7 x 7	16 kg	40 kg	12 mm/57 mm	WIR193000034 £12.90

# NICOPRESS® FERRULES & STOPS



## NICOPRESS®

**Nicopress® Ferrules** The Nicopress® ferrules that Flints supplies are made from solid copper plated with either zinc or tin. For stainless steel wire ropes it is best to choose the tin-plated ones

but for galvanised wire rope choose the zinc-plated ferrules. Nicopress® ferrules can be distinguished from British Standard or DIN ferrules by their shape which slightly separates the two wires. Nicopress® ferrules are not designed for fibre-core cables. Flints can, of course, supply all the wire ropes which are listed on pages 165 – 168. Tip: Using the Nicopress® system is very satisfying but there is a bit of craft and skill involved. We would recommend that you practise on one or two ferrules and a scrap of wire before undertaking your project. We have made a little video which we hope will help you. YouTube – FlintsTheatre.



Scan the QR code to watch the video.

### FOR STAINLESS STEEL WIRES

Nicopress® Tin-Plated Oval Ferrules				sleeve lengths		tool	code	price	100+	1,000+	
suits metric wire	stranding	type	imperial wire Ø	nom Ø	before	after					
1 and 1.2 mm	1x7, 7x7	tin-plated	3/64"	1.19 mm	9.5 mm	11 mm	B*, D	NIC42815VB4	£0.33	£0.26	£0.24
1.5 mm	7x7, 7x19	tin-plated	1/16"	1.59 mm	9.5 mm	11 mm	C,D,E	NIC4282VC	£0.33	£0.26	£0.24
2 mm	7x7, 7x19	tin-plated	1/16"	1.59 mm	9.5 mm	11 mm	C,D,E	NIC428F2VC	£0.35	£0.28	£0.25
2.5 mm	7x7, 7x19	tin-plated	3/32"	2.38 mm	9.5 mm	11 mm	C,D,E	NIC4283VG	£0.36	£0.32	£0.30
3 and 3.5 mm	7x7, 7x19	tin-plated	1/8"	3.17 mm	14 mm	19 mm	E,F	NIC4284VM	£0.75	£0.67	£0.59
4 mm	7x7, 7x19	tin-plated	5/32"	3.97 mm	16 mm	22 mm	E,F	NIC4285VP	£0.88	£0.82	£0.75
5 mm	7x7, 7x19	tin-plated	3/16"	4.76 mm	24 mm	30 mm	F	NIC4286VX	£1.69	£1.55	£1.42
6 mm	7x7, 7x19	tin-plated	7/32"	5.56 mm	22.2 mm	27 mm	J	NIC4287VF2	£2.40	£2.03	£1.85

\*Tool B is on page 168

### FOR GALVANISED WIRES

Nicopress® Zinc-Plated Oval Ferrules				sleeve lengths		tool	code	price	100+	1,000+	
suits metric wire	stranding	type	imperial wire Ø	nom Ø	before	after					
1.5 and 2 mm	7x7, 7x19	zinc-plated	1/16"	1.59 mm	9.5 mm	11 mm	C,D,E	NIC281C	£0.30	£0.26	£0.23
2.5 mm	7x7, 7x19	zinc-plated	3/32"	2.38 mm	9.5 mm	11 mm	C,D,E	NIC282G	£0.33	£0.29	£0.26
3 and 3.5 mm	7x7, 7x19	zinc-plated	1/8"	3.17 mm	14 mm	19 mm	E,F,H	NIC283M	£0.67	£0.59	£0.55
4 mm	7x7, 7x19	zinc-plated	5/32"	3.97 mm	16 mm	22 mm	E,F	NIC284P	£0.93	£0.79	£0.73
5 mm	7x7, 7x19	zinc-plated	3/16"	4.76 mm	24 mm	30 mm	F	NIC286X	£1.76	£1.50	£1.36
6 mm	7x7, 7x19	zinc-plated	7/32"	5.56 mm	22.2 mm	27 mm	J	NIC288F2	£1.98	£1.79	£1.65

### NICOPRESS® STOPS AND STOP TOOL



**Nicopress® Stops** The stops are unplated copper and are suitable for stainless and galvanised steel wire ropes. They have many uses such as control cables, handrailing and making concealed terminations in hanging shelves. They are also very useful for providing support and accurate positioning under yacht spreaders. Some of the stops are colour coded to help with identification. \*The typical strength given is based on galvanised aircraft cable.

Nicopress® Stops [plain copper]				sleeve dimension			tool	code	price	100+	1000+
suits metric wire	stranding	typical strength*	imperial wire Ø	nom Ø	length	outside Ø					
0.75 mm	1x7	54 kg	1/32"	0.79 mm	6 mm	3 mm	A, B	NIC87132B	£0.22	£0.19	£0.17
1 and 1.2 mm	7x7	108 kg	3/64"	1.19 mm	5.5 mm	4 mm	B	NIC87112B4	£0.25	£0.20	£0.17
1.5 mm	7x7, 7x19	195 kg	1/16"	1.58 mm	11 mm	5 mm	E	NIC8711C	£0.31	£0.24	£0.22
2.5 mm	7x7, 7x19	272 kg	3/32"	2.38 mm	8 mm	8 mm	H	NIC87117J	£0.32	£0.28	£0.24
3 and 3.5 mm	7x7, 7x19	408 kg	1/8"	3.17 mm	8 mm	8 mm	H	NIC87118J	£0.36	£0.31	£0.28
4 mm	7x7, 7x19	544 kg	5/32"	3.97 mm	8 mm	10.7 mm	H	NIC87119M	£0.46	£0.39	£0.37
5 mm	7x7, 7x19	725 kg	3/16"	4.76 mm	8 mm	10.7 mm	H	NIC87120M	£0.72	£0.58	£0.52
6 mm	7x7, 7x19	1,133 kg	7/32"	5.56 mm	16 mm	11 mm	H	NIC87122M	£0.79	£0.68	£0.61

For stop sleeves



H

**Type 51-MJ Stop Tool** Suitable for stop sleeves for 2.5, 3, 3.5, 4, 5 and 6 mm wire ropes using stop types 87117J, 87118J, 87119M, 87120M and 87122M. Can also be used on Type 283M oval sleeves for 3 – 3.5 mm wires. Supplied complete with instructions and check gauge. For compressing smaller stop sleeves please see the NIC17BA and the NIC17B4B tools [page 168], and NIC32VCVG and the NIC64CGMP on the following page. Spare head available - suitable for use with both this tool, and the bench mounted handle **G** on the next page.



Scan the QR code to watch the Nicopress® Stops video.

Nicopress® Stop Tool type								code	price	5+	
Stop Tool	51-MJ	tool length	no of grooves	wire Ø	suits ferrule	suits stop	weight	check gauge?			
		480 mm	2 [M,J]	2.5 mm	-	NIC87117J	2.3 kg	Yes	NIC51MJ	£270.96	£253.80
				3-3.5 mm	NIC283M	NIC87118J					
				4 mm	-	NIC87119M			Spare Head 51 MJ	code	price
				5 mm	-	NIC87120M			NIC51MJHEAD		£149.50
				6 mm	-	NIC87122M					

For adjustable wire rope stops see page 178.

# NICOPRESS® TOOLS



**C Type 32-VCVG** Suitable for crimping 1.5, 2.0 and 2.5 mm wire ropes using oval sleeves type NIC281C, NIC4282VC, NIC428F2VC, NIC282G, and NIC4283VG. Also fits the 1.5 mm stop sleeve type NIC8711C.

**D Type 33V-CGB4** Suitable for crimping 1.0, 1.2, 1.5, 2.0 and 2.5 mm wire ropes using oval sleeve types NIC42815VB4, NIC281C, NIC4282VC, NIC428F2VC, NIC282G and NIC4283VG.

**E Type 64-CGMP** Suitable for crimping 1.5, 2.0, 2.5, 3.0, 3.5 and 4.0 mm wire ropes using oval sleeve types NIC281C, NIC4282VC, NIC282G, NIC4283VG, NIC283M, NIC4284VM, NIC4285VP and NIC284P. Also suitable for 1.5 mm stops type NIC8711C. Can also be supplied with a powerful cable cutter giving very clean results on wire rope up to 5 mm Ø.

**F Type 63V-XPM** Suitable for crimping 3.0, 3.5, 4.0 and 5 mm wire ropes using oval sleeve types NIC283M, NIC4284VM, NIC284P, NIC4285VP, NIC286X and NIC4286VX. Also available with a wire cutter. Supplied complete with instructions and check gauge.

Perfect for workshop use



All Nicopress® toggle action tools are supplied with check gauge and instructions

Type 510 with head fitted.



**Type 63 and Type 64 Fitted with a Cutter**  
This is a useful optional extra to enable the tool to also be used as a powerful wire-rope cutter.

Head showing lettered grooves with wire cutter fitted as an optional extra.



**G Type 510 Bench Mount.** If you are workshop-based, it is easier to crimp with bench-mounted tools as you can hold the assembly in one hand while making the compression with the other hand. This bench mount will take the heads type 63VXPM, 64CGMP, 51MJ and all the type 51 tools. The picture shows the bench mount with a head fitted.

**J Type 51F2850 for 6mm Wire Ropes** This single groove hand tool is for use with NIC4287VF2 or NIC288F2 ferrules on 6 mm stainless steel or galvanised wire ropes with a 7 x 7 or 7 x 19 construction.

## Nicopress® Tools

	type	tool length	no of grooves	wire Ø	suits ferrule	suits stop	weight	check gauge?	code	price	Tradeline 5+	
<b>C</b>	Medium Tool Type 32	32-VCVG	292 mm	2 [C,G]	1.5 and 2 mm	NIC4282VC, NIC428F2VC, NIC281C	NIC8711C [1.5 mm only]	1.1 kg	Yes	NIC32VCVG	£219.30	£206.95
<b>D</b>	Medium Tool Type 33	33V-CGB4	292 mm	3 [B-4,C,G]	1 and 1.2 mm	NIC42815VB4		1.1 kg	Yes	NIC33VCGB4	£228.00	£214.00
<b>E</b>	Large Tool Type 64	64-CGMP		4 [C,G,M,P]	1.5 and 2 mm	NIC4282VC, NIC281C	NIC8711C [1.5 mm only]	2.7 kg	Yes	NIC64CGMP	£343.80	£252.45
					2.5 mm	NIC4283VG, NIC282G						
					3 and 3.5 mm	NIC283M, NIC4284VM						
					4 mm	NIC4285VP, NIC284P						
	Type 64 With Cutter	64-CGMPCT	508 mm	4 [C,G,M,P]	as above	as above		3.2 kg	Yes	NIC64CGMPCT	£361.73	£339.55
	Type 64 Head Only	64-HEAD		4 [C,G,M,P]	as above	as above			Yes	NIC64HEAD	£199.95	£179.95
<b>F</b>	Large Tool Type 63	63V-XPM	508 mm	3 [X,P,M]	3 and 3.5 mm	NIC283M, NIC4284VM		2.7 kg	Yes	NIC63VXPM	£273.85	£269.96
					4 mm	NIC284P, NIC4285VP						
					5 mm	NIC286X, NIC4286VX						
	Type 63 With Cutter	63V-XPCT	508 mm	3 [X,P,M]	as above	as above		3.2 kg	Yes	NIC63VXPCT	£299.95	£269.96
	Type 63 Head Only	63-HEAD		3 [X,P,M]	as above	as above		1.1 kg	Yes	NIC63HEAD	£192.87	£173.58
<b>G</b>	Bench Handle Type 510	510	533 mm	n/a	n/a	n/a		2.7 kg	No	NIC510	£275.00	£260.00
<b>J</b>	Hand Tool for Type 51	51-F2850	463 mm	1 [F2]	6 mm	NIC4287VF2, NIC288F2		2.38 kg	Yes	NIC51F2850	£265.00	£251.75

## CHECK GAUGES



**Check Gauges** Go/No-go check gauges are supplied with all Nicopress® toggle action tools. We stock spare ones in case you lose one. Of course you could always make up a lanyard for your gauge with your Nicopress® tool!

Check Gauges	code	Tradeline
For Types 51 [not 51MJ], 63, 64, and 3 tools	NIC2930	£32.33
For Type 51MJ only	NIC2931	£25.88

See our Bench Mounted Wire Cutters & other Wire Rope Cutters on page 179.  
For Ferrules and Crimpers to EN13411-3 see page 172 - 173.  
For Micro Ferrules and Crimpers see page 168

## NICOPRESS® BATTERY OPERATED TOOL



# NICOPRESS®

**Battery Powered Compression Tool** This model features an increased range for Nicopress® ferrules up to 3/8" or 10 mm. The tool is ideal for work in confined spaces where traditional tools cannot be opened. The slim body shape is now fitted with an LED light for dark areas and it can be operated single-handed. Nicopress® are currently adding a cable cutter and embossing dies to the product range. The tool weighs just 3.7 kg [with battery] and its length is 560 mm. Flints brings these tools in to order so please allow 14 days for delivery. Ask for our Rigging Manager for more information.



## Aluminium Ferrules to EN 13411-3

For use with galvanised wire ropes. Take care to choose the correct ferrule for Fibre Core, Wire Rope or Steel-Core Wire Rope. The code used on dies refers to the fibre rope size. [eg. A Code 3.5 die would be used on a 3 mm steel-core wire rope]. BS ferrules to order only.

Aluminium Ferrules for Galvanised Rope			code	price	100+
fibre core	steel core	diameter x length			
die code		pressed			
2.5 mm	2 mm	5x12 mm	WIR102EN	£0.09	£0.07
3 mm	2.5 mm	6x14 mm	WIR101EN	£0.08	£0.06
3.5 mm	3 mm	7x16 mm	WIR104EN	£0.10	£0.09
4 mm	3.5 mm	8x18 mm	WIR103EN	£0.12	£0.10
4.5 mm	4 mm	9x20 mm	WIR106EN	£0.17	£0.13
5 mm	4.5 mm	10x23 mm	WIR105EN	£0.22	£0.18
6 mm	5 mm	12x27 mm	WIR107EN	£0.25	£0.20
6.5 mm	6 mm	13x29 mm	WIR108EN	£0.32	£0.24
8 mm	7 mm	16x36 mm	WIR109EN	£0.48	£0.42
9 mm	8 mm	18x40 mm	WIR110EN	£0.72	£0.57

Nicopress® Battery Powered Compression Tool	code	Tradeline
Tool with charger, carry case and two batteries	NIC5606	£2,945.00
Dies [up to 10 mm]	NIC5606DIE6	£171.82
Spare Battery	NIC5606BAT	£335.88
Replacement charger	NIC5606CH	£347.22

## FERRULES

### Ferrules

The following ferrules comply with EN 13411-3. We no longer stock the ferrules to the old British Standard BS 5281. The most important factor when using ferrules to terminate a wire rope is to ensure the ferrule correctly matches the wire rope. Care must be taken because wire ropes with a steel core use a larger ferrule than those with a fibre core. The dies on the crimping machine should be perfectly aligned. A good compression will produce a thin fin on either side of the ferrule which should be easy to remove normally with one stroke of a file. The tail of the wire must be visible at the end of the ferrule, either flush or slightly protruding. The ferrules finished diameter should be measured to ensure it complies with the regulations. Take care not to allow the ferrule to touch the thimble, there should be a little room for movement.



## Copper Ferrules to EN 13411-3

Suitable for stainless steel wire ropes. The stainless ropes in our catalogue are wire core so choose from the wire core column. The code used on dies refers to the fibre rope size. [eg. a Code 3.5 die would be used on a 3 mm steel core wire rope]. BS ferrules to order only.

Copper Ferrules for Stainless Steel Rope				code	price	100+
die code	fibre core	wire core	Ø pressed			
1	1 mm	N/A	3 mm	WIR114EN	£0.10	£0.10
1.5	1.5 mm	1 mm	3.8 mm	WIR115EN	£0.13	£0.10
2	2 mm	1.5 mm	4 mm	WIR116EN	£0.13	£0.10
2.5	2.5 mm	2 mm	5 mm	WIR119EN	£0.17	£0.14
3	3 mm	2.5 mm	6 mm	WIR117EN	£0.19	£0.17
3.5	3.5 mm	3 mm	7 mm	WIR120EN	£0.32	£0.29
4	4 mm	3.5 mm	8 mm	WIR118EN	£0.39	£0.35
4.5	4.5 mm	4 mm	9 mm	WIR124EN	£0.53	£0.48
5	5 mm	4.5 mm	10 mm	WIR125EN	£0.73	£0.65
6	6 mm	5 mm	12 mm	WIR126EN	£1.05	£0.94
6.5	6.5 mm	6 mm	13 mm	WIR127EN	£1.42	£1.22

## HAND HYDRAULIC CRIMPER AND DIES



### Hydraulic Crimper D-D31

Hand-held, single-handed operation, weighs only 1.5 kg, rotating die head, complete with carry case. Develops 35 kN force. Presses up to code 2.5 ferrules in a single bite and up to Code 5 ferrules in multibites. It is crucial that the die is correctly matched to the ferrule. Suitable for EN 13411-3 ferrules only.

☐ Supplied in a plastic carry case. Dies need to be ordered separately.

NB: The Die Number etched on the side of the dies refers to fibre core rope. Example: To correctly crimp a 3 mm diameter wire rope with a steel core [7 x 19 construction] you will need a Code 3.5 Die and you should use WIR104EN ferrules for galvanised wire or WIR120EN ferrules for stainless wire rope.



Manual Hydraulic Crimper D-D31			code	Tradeline
die code	fibre core	steel core		
			TOL1923	£686.25
die code	fibre core	steel core	code	Tradeline
1	1 mm	1 mm	TOL1924	£171.95
2	2 mm	1.5 mm	TOL1925	£171.95
2.5	2.5 mm	2 mm	TOL1926	£171.95
3	3 mm	2.5 mm	TOL1927	£171.95
3.5	3.5 mm	3 mm	TOL1928	£171.95
4	4 mm	3.5 mm	TOL1939	£171.95
4.5	4.5 mm	4 mm	TOL1940	£171.95
5	5 mm	4.5 mm	TOL1929	£171.95
6	6 mm	5 mm	TOL1950	£171.95



Please phone our Rigging Manager regarding bench mounted hydraulic presses capable of terminating larger wire diameters.

**Orders over £325.00 go carriage free, although there are a few exceptions!**

## HAND CRIMPERS



**HIR** **Hand Crimpers** For steel wire ropes. Make up your own wire rope assemblies either with a hard [thimble] eye or a soft eye, this simple compression tool facilitates the use of ferrules to give your wire rope a professional finish. NB: that sizes used for ferrules relate to Standard A size. The figures in brackets relate to EN 13411-3 ferrules [see previous page]. EN 13411-3 ferrules are slightly longer but have a thinner wall than the old British Standard ferrules. We do not recommend this tool for terminating lifting wires as it is difficult to achieve a compressed ferrule with the exact recommended final dimensions to achieve maximum loading. Flints also hires [page 380].

Hand Crimpers		length	code	price
type	fits ferrules	tool/handle		
TSC1	BS 1.5, 2, 3, 4 mm [EN 2, 2.5, 3.5, 4.5 mm]	30"/24"	TOL1920	£157.76
TSC2	BS 1.5, 2.5, 3.5, 4.5 mm [EN 2, 3, 4, 5 mm]	30"/24"	TOL1921	£157.76
TSC3	BS 1.5, 2, 5, 6 mm [EN 2, 2.5, 6.5 mm]	36"/30"	TOL1922	£198.24

## THIMBLES

### Thimbles

Thimbles are used to provide protection against crushing and abrasion for either wire rope or fibre ropes. It is important that the correct size thimble is used to ensure the correct curvature. The scope of EN 13411-1:2002 only covers thimbles for wire ropes of 8 mm to 60 mm. It states that the internal width of the thimble should be 2.5 to 3.5 x the diameter of the rope (d). The internal height of the thimble should be 1.5 to 2 x the internal width. The width of the supporting groove should be 1.1 x d and its depth should be 0.55 x d. Thimbles must be capable of being opened up to 1.5 x d. A small gap is permissible. While producing the EN standard, no doubt at great expense, no one was capable of deciding whether the ends of thimbles should be pointed or truncated so, not surprisingly, some are and some aren't. If you are thinking of buying the EN standard, don't bother, it will cost you about £80.00 for 12 pages, 10 of which are gobbledegook, one page is entirely blank, and the only page of any use is summarised above.

NB: In the following tables we list the internal width but this does not necessarily mean a shackle pin of the same diameter will have sufficient clearance to pass through the thimble. Always allow some extra clearance.



**Galvanised Wire Rope Thimbles [DIN 6899]** Type BF. Used for making hard [thimble] eyes in galvanised wire rope. Best quality German manufacture.

Galvanised Wire Rope Thimbles			code	price	100+
wire Ø	int. width	int. length			
3 mm	12 mm	19 mm	WIR122A	£0.34	£0.30
4 mm	13 mm	21 mm	WIR122B	£0.38	£0.34
5 mm	14 mm	23 mm	WIR123	£0.48	£0.43
6 mm	16 mm	25 mm	WIR125	£0.56	£0.50
8 mm	20 mm	32 mm	WIR127	£0.86	£0.78



### Stainless Steel Thimbles [AISI 316 Grade]

Used for making thimble eyes in fibre ropes or stainless steel wire rope. Only suitable for 7 x 7 and 7 x 19 flexible construction wire rope.

Stainless Steel Thimbles			code	price
Ø	int. width	int. length		
2 mm	9 mm	17 mm	BW110002	£0.32
3 mm	10 mm	18 mm	BW110003	£0.36
4 mm	11 mm	20 mm	BW110004	£0.52
5 mm	13 mm	21 mm	BW110005	£0.57
6 mm	15 mm	27 mm	BW110006	£1.02
8 mm	22 mm	38 mm	BW110008	£1.79
10 mm	27 mm	48 mm	BW110010	£3.30
12 mm	29 mm	53 mm	BW110012	£3.83
14 mm	32 mm	57 mm	BW110014	£6.50
16 mm	40 mm	67 mm	BW110016	£6.49
20 mm	50 mm	80 mm	BW110020	£18.18
22 mm	56 mm	90 mm	BW110022	£23.68



### Hot Dip Galvanised Fibre Rope Thimbles [BS464]

For use with traditional cordage. For stainless steel fibre rope thimbles see above.

Galvanised Fibre Rope Thimbles			code	price
Ø	int. width	int. length		
8 mm	22 mm	33 mm	WIR130	£0.60
10 mm	25 mm	38 mm	WIR131	£0.85
12-13 mm	32 mm	44 mm	WIR132	£1.29
16 mm	41 mm	59 mm	WIR134	£2.05
19-20 mm	51 mm	73 mm	WIR135	£3.86
22 mm	57 mm	82 mm	WIR136	£5.24
24-26 mm	70 mm	108 mm	WIR137	£7.96



### Nylon Fibre Rope Thimbles

A lighter and quieter option for use with braided and three strand fibre ropes.

Nylon Fibre Rope Thimbles			code	price
rope Ø	int. width	int. length		
4 mm	11 mm	20 mm	WIRED804	£0.67
6 mm	15 mm	27 mm	WIRED806	£1.26
8 mm	22 mm	38 mm	WIRED808	£1.40
10 mm	27 mm	48 mm	WIRED810	£1.40
12 mm	29 mm	53 mm	WIRED812	£1.61
14 mm	32 mm	57 mm	WIRED814	£1.75
16 mm	40 mm	67 mm	WIRED816	£2.08

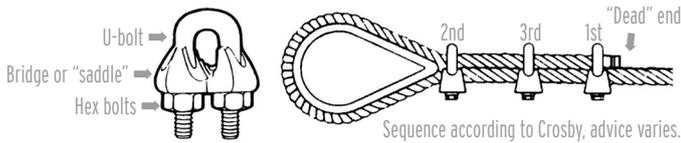


### Barton High Load Eyes

Manufactured from marine-grade aluminium and finished in Barton's unique hard "Spectro" grey anodising. When used in conjunction with a Dyneema loop they make powerful Barber Haulers or brailing devices with minimal weight. They can also be used as purchase blocks for tensioning.

High Load Eyes					code	price
external Ø	rope Ø	bore Ø	weight			
38 mm	10 mm	16 mm	24 g	BAR60452	£12.88	

# WIRE ROPE GRIPS



Sequence according to Crosby, advice varies.

rope size	number of rope grips	rope tail length
3 - 5 mm	3	150 mm
6 mm	3	180 mm
8 mm	4	280 mm
10 mm	4	320 mm

## Wire Rope Grips – Dogs

“Dogs” provide a simple and effective means of making a loop or a thimble eye in wire rope. They consist of a U-bolt, bridge [also known as the “saddle”] and two hex nuts. The U-bolt should be fitted over the non-load bearing [short] tail of the loop [also known as the “dead” end hence “dead horse”]; the bridge over the load bearing longer part. Remembered by the mnemonic:

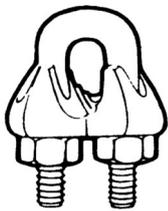
“Never saddle a dead horse”.

The hex nuts should be tightened equally, using a nutspinner or a torque wrench as advised. The grips will settle after a while so they should be retightened to ensure the correct torque is maintained. Any PVC covering to wire rope must be stripped before applying the dogs.

For heavier loads and when lifting always use grips to EN 13411-5 [DIN 1142] or Crosby Grips.

Wire Rope Grips are also occasionally known as “Bulldog Clips”.

## WIRE ROPE GRIPS – DOGS



### Commercial Galvanised Wire Rope Grips [DIN 741]

Provide a simple, effective and economical means of making a loop or a thimble eye in wire rope. Consists of U-bolt, bridge and two hex nuts. The hex nuts should be tightened equally, using a nutspinner.

For heavier loads or for lifting purposes use grips to EN 13411-5 [DIN 1142] or Crosby Grips.

Commercial Galvanised Wire Rope Grips			code	price	100+
Grip size	rope size	nut size			
1/8"	3-4 mm	7 mm	WIR161	£0.24	£0.14
3/16"	5 mm	8 mm	WIR163	£0.28	£0.16
1/4"	6 mm	8 mm	WIR165	£0.29	£0.18
5/16"	8 mm	10 mm	WIR167	£0.35	£0.28
3/8"	10 mm	14 mm	WIR169	£0.39	£0.30



### Galvanised Wire Rope Grips EN 13411-5 [DIN 1142]

These grips are of slightly heavier construction and the hex nuts are flanged. The scope of DIN 1142 only starts at 5 mm so if you are using wire-rope grips for lifting purposes with smaller wires it would be worth considering using the Crosby Grips which are listed in the next column. For torque wrenches see alongside.

Wire Rope Grips to EN 13411-5 [DIN 1142]			code	price	100+
wire Ø	torque	nut size			
5 mm	2 Nm	8 mm	WIR163D	£0.30	£0.20
6.5 mm	3.5 Nm	10 mm	WIR165D	£0.32	£0.25
8 mm	6 Nm	10 mm	WIR167D	£0.51	£0.49
10 mm	9 Nm	13 mm	WIR169D	£0.54	£0.49



### Stainless Steel Wire Rope Grips

These highly polished grips are designed for use with stainless steel wire rope. The 2 mm size is one of our best-selling grips. Made from 316 marine-grade stainless steel.

Stainless Steel Wire Rope Grips		code	price
wire Ø	nut size		
2 mm	5.5 mm	WIR160	£1.14
3 mm	7 mm	WIR1601	£1.33
4 mm	7 mm	WIR1602	£1.76
5 mm	8 mm	WIR1603	£1.26
6 mm	8 mm	WIR1604	£1.52
8 mm	10 mm	WIR1605	£1.90



### Forged Crosby Wire Rope Grips [G450]

The Federal Specification FF-C-450 Type 1 Class 1 covers wire rope grips which are 6 mm and over. This specification exceeds ISO DIN 1142. Crosby grips 6 mm and upwards comply with the specification. The smaller grips would comply if the specification had a wider scope. Each forged base has a product identification code. The grips are individually bagged with full instructions and they are fitted with a red U-bolt for instant visual recognition. For torque wrenches see below. For imperial sockets to fit see page 323.

Forged Crosby Wire Rope Grips [G450]					code	price
wire Ø	no. of grips	torque	turnback	nut size		
3 - 4 mm	3	6.1 Nm	83 mm	3/8"	CRO4501	£4.00
5 mm	3	10.2 Nm	95 mm	7/16"	CRO4502	£4.25
6 - 7 mm	3	20.3 Nm	120 mm	9/16"	CRO4503	£6.28
8 mm	3	40.7 Nm	133 mm	11/16"	CRO4504	£6.07
10 mm	3	61 Nm	165 mm	3/4"	CRO4505	£7.07

## NUTSPINNERS



### Nutspinners

These have many uses but they are particularly useful for tightening the fiddly nuts on wire rope grips. Top quality German manufacture from WERA.

Nutspinners		types	code	price	
		commercial type	DIN 1142 Crosby		
5.5 mm	2 mm SS*	n/a	n/a	TOL1600	£9.64
7 mm	3-4 mm and 3 mm SS	n/a	n/a	TOL1597	£9.64
7 mm Flexi Shaft	3-4 mm and 3 mm SS	n/a	n/a	WER028150	£14.11
8 mm	5-6 mm	5 mm	n/a	TOL1598	£10.09
10 mm	8 mm	6 mm	3-4 mm*	TOL1599	£15.96

\* Insufficient clearance between nuts to finally tighten down.

## TORQUE WRENCHES



### Torque Wrenches

To obtain efficiency ratings of 80% of the breaking load of the wire rope, dogged terminations have to be properly tightened and re-tightened after proof loading. Use the Norbar Torque Wrench for DIN 1142 dogs from 5 - 10 mm [length: 230mm]. The Roebuck wrench covers the torques for the larger dogs that we stock. For sockets and socket adapters see page 323.

Torque Wrenches		code	list	price	
type	torque	drive			
Norbar TTi 20 1/4"	4-20 Nm	1/4"	TOL13830	£126.58	£89.88
Roebuck Professional	20-100 Nm	1/2"	TOL15015	£157.22	£142.22

# GRIPPLES

## GRIPPLES – LOCKABLE



### Grippler - Lockable

Innovative lockable system for securing wire rope – quickly!

The Lockable Grippler makes catenary\* and bracing wire rope installation easier and faster. Working on the same principle as the original standard Grippler, but with the additional feature of locking screws for extra security under outdoor conditions.

- ✓ Simple push fit assembly
- ✓ Automatic locking wedges

- ✓ Easy tensioning
- ✓ Secure locking screws
- ✓ The Lockable Grippler can be used with galvanised steel core and stainless steel core wire rope
- ✓ Ideal for overhead catenary wires\* and promenade lighting\*, aerial and marquee bracing, shade cloth bracing, tree bracing
- ✓ Exhibition Hall displays

NB: Safety factor on the Grippler Lockable is 4:1. Locking screws should always be used. Never tension with locking screws in place. Do not reuse, for single use only. Always ensure 200 mm tail is left protruding from the Grippler prior to tensioning. When installing around structure, the distance between the Grippler and the structure should equal or exceed the width of the structure. Load ratings are based on a vertical suspension. When hanging at angles the load ratings are reduced. Do not use at an angle exceeding 60° as the load rating is reduced by 50%. Do not use for lifting, such as crane or pulley applications.

\*If being used for catenary purposes, a full understanding of the forces imposed by applying weight to wires stretched between two horizontal points is needed. Very high loads can be imposed by adding weight to long wires stretched between two points. The loads can be greatly reduced by allowing the wire to sag by 10° or more from the horizontal. If in doubt seek the advice of a structural engineer.

Use a 5.5 mm nutspinner to lock off the Gripplers from 2-5 mm and an 8 mm nutspinner to lock the 6 mm version [see previous page].

Lockable Gripplers		WLL	quantities	code	price	Tradeline
wire Ø	constr	vertical	per bag		per bag	16+ bags
2 mm	7 x 7	70 kg	10	WIR182L	£96.44	£74.42
3 mm	7 x 7, 7 x 19	150 kg	10	WIR183L	£96.44	£74.42
4 mm	7 x 19	300 kg	5	WIR184L	£50.30	£40.41
5 mm	7 x 19	400 kg	5	WIR185L	£50.30	£40.41
6 mm	7 x 19	500 kg	4	WIR186L	£67.34	£50.51

Each bag is supplied with a simple "L" shape setting key



Grippler key size A



Grippler key size B

Grippler keys with Plastic Handle	suits Grippler	code	price
Grippler key size A	2 and 3 mm	WIRKEYFLAG	£1.87
Grippler key size B	4, 5 and 6 mm	WIRKEYHF45LK	£3.13

## GRIPPLE C-CLIPS



**Grippler C-Clips** Creates a vertical suspension from 3 mm or 6 mm catenary wires, angled up to 60° from horizontal. When used vertically upwards this new product can greatly reduce the strain on long catenary wires by providing frequent pick-up wires onto convenient beams. No pre-measuring is necessary, just twist and clip the Grippler C-Clip onto the catenary wire and slide until it is directly under the pick up point. Loop the wire over the beam and adjust the tension with the provided Grippler. Equally suitable for display and exhibition use especially when the number of products on display or the space used can not be pre-determined. Highly recommended clever piece of rigging. Diameter of the wire loop with Grippler is 1.5 mm on the 3 mm, 2 mm on the 6 mm.

- ✓ Ready to use kit
- ✓ No tools needed
- ✓ Up to 10 times faster
- ✓ They can be inserted onto pre-rigged wires
- ✓ Adjustable and releasable
- ✓ Ideal for use with catenary wires
- ✓ Self-locking mechanism
- ✓ 5:1 safety factor
- ✓ Independently certified

Grippler C-Clips	length	vert WLL	code	price	10+
for 3 mm Ø	1 m	10 kg	WIRCCCLIP31	£9.85	£8.87
for 3 mm Ø	5 m	10 kg	WIRCCCLIP35	£12.63	£11.36
for 3 mm Ø	10 m	10 kg	WIRCCCLIP310	£16.19	£14.54
for 6 mm Ø	1 m	45 kg	WIRCCCLIP61	£11.78	£10.57
for 6 mm Ø	5 m	45 kg	WIRCCCLIP65	£14.78	£13.41
for 6 mm Ø	10 m	45 kg	WIRCCCLIP610	£18.68	£16.81

# ZIP CLIPS

## ZIP CLIPS



**Zip Clip RIZE** Quickly secures your wire ropes, even down to 1 mm wire! Produce your own made-to-measure wire suspension pieces. Extremely quick and easy installation, simply pass one end of the wire through the Zip Clip RIZE in the direction of the arrow shown, then through your fixing point. Then pass back at least 150 mm of the wire through the Zip Clip RIZE. Push the pins in the opposite direction to the arrows to secure. The 4 mm is able to connect to a fixing point and the suspension with just one Zip Clip RIZE, thanks to its double grip feature.



Only the 4 mm can achieve this!

These clips are not suitable for use with dynamic loads, but we think they are particularly well suited for:

- ✓ Display work
- ✓ Temporary fixings to ease height placement thanks to easy adjustment
- ✓ Where the exact requirements / fixing point cannot be established in advance of arrival on-site
- ✓ Secondary lightweight supports

SPECIFICATION: The SWL has been calculated with a Safety Factor of 5:1.

Zip Clip Rize - standard	SWL	code	price	10+
1 mm	15 kg	WIRZIPKL050	£2.05	£1.83
2 mm	50 kg	WIRZIPKL100	£2.33	£2.09
3 mm	120 kg	WIRZIPKL150	£3.38	£3.03
4 mm	300 kg	WIRZIPKL200	£6.98	£6.25

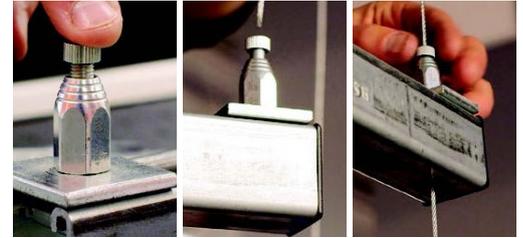


**Zip Clip Wire** Zip Clips must be used with Zip Clip steel wire to meet its guarantee. 1 mm and 2 mm wires come in a very handy dispenser box. See from page 165 for our full range of wire rope.

Zip Clip Wire	length	code	price
1 mm	construction 7x7 200 m MBL 78 kg	WIRZIPR200G	£48.28
2 mm	7x7 100 m 290 kg	WIRZIPR100S	£29.61
3 mm	7x7 100 m 645 kg	WIRZIPR100Y	£47.36
4 mm	7x19 100 m 2804 kg	WIRZIPR100P	£69.99



**Zip Clip STRUT-LOCK** Similar to the Reutlinger concept but much smaller. Strut-Lock is a safe, lockable solution for installing single and multi-tiered static loads that are supported vertically. When installed as part of a wire suspension system, the steel device delivers an impressive safety factor of 5:1, with weight loading of 45 kg per wire. Can be used for wrapping around existing steelwork. Ideal for long and varied suspension lengths and for secondary light supports. For use with 2 mm wire listed to the left. Quick to install and easy to adjust to desired height.



depress plunger      insert wire rope      tighten collar to lock

Once the STRUT-LOCK is located in place with square washer and channel nut on the M8 thread, tighten into position using 15 mm spanner. Unscrew locking collar [not fully]. Depress plunger, insert wire rope through the top of the device and tighten locking collar to lock. The STRUT-LOCK is versatile and is not just for use with unistrut as pictured.

M8 STRUT-LOCK	SWL safety factor	code	price	10+
	45 kg 5:1	WIRZIPSLM8	£4.70	£4.23



**REUTLINGER®**  
systematic suspension

## Reutlinger® Cable Grippers for Event Rigging

These grippers have been developed in cooperation with the industry's top experts to provide a simple, neat and modern solution to rigging static loads. Simply press down the sprung plunger and slide the fitting along your wire to the desired place. Then just release the plunger and the fitting will grip the wire rope. When you are satisfied with the position simply hand-tighten the safety cap to prevent accidental release. You can rest assured that the load will be secure as Reutlingers® not only have TÜV GS certification but also have the test seal of the DGUV which is only conferred after extensive examination of all load applications but also of most anticipated mis-applications. In fact, Reutlinger® 50, 66, and 80 ranges are the only load-bearing devices certified by DGUV for use in touring productions.

- ✓ Quick, infinitely adjustable and re-usable!
- ✓ Just press down the sprung plunger and it will slide along the wire. Release it and it will grip
- ✓ One-handed operation!
- ✓ No tools needed!
- ✓ Non-reflecting black finish ensures the fittings are barely visible on stage
- ✓ Protected against accidental release by hand tightening the knurled safety cap
- ✓ Available with central or side cable exit and a choice of four different coupling parts
- ✓ Certified to TÜV-GS and BGV C1

**Reutlingers®** will not only speed up your installation times but they will provide a far smarter result. Use them for:

- ✓ Event rigging
- ✓ Truss installation
- ✓ Foyer and exhibition rigging
- ✓ Museum and shop display
- ✓ Art installations
- ✓ Sound system rigging
- ✓ Temporary and touring exhibitions
- ✗ Reutlingers have thousands of uses but they are not suitable for dynamic loads. You should not use them for flying moving scenery and they should not be used outdoors.



Internal thread with side exit

SAF50SVTZW



External thread

SAF50SVT



Eye with side exit

SAF50SVEZW



Fork with side exit

SAF50SVFZW



Coupler with side exit

SAF50SVCZW

The fast and smart way to dead hang equipment!



SAF50SVE

Eye

## Technical Data Summary for Type 50

Full technical drawings for each product including Types 66 and 80 can be found on our website [www.flints.co.uk](http://www.flints.co.uk)

Internal Thread Type	SAF50SVTZW3	Thread depth: 10 mm x M12
External Thread Type	SAF50SVT3	Thread length: 17 mm x M12
Eye Type	SAF50SVE3 and ZW3	Internal eye diameter: 30 mm [27 mm clear]
Fork Type	SAF50SVF3 and ZW3	Clevis pin diameter: 13.9 mm. Internal fork width: 14 mm, C/L pin to underside of fork 28 mm
Coupler Type	SAF50SVCW3	Coupler type Doughty T58081 48-51 mm Ø

	Type	code	price	10+
Type 50 for 4 and 5 mm wires	Eye	SAF50SVE3	£26.37	£23.55
	Eye with side exit	SAF50SVEZW3	£33.42	£29.47
	M12 external thread	SAF50SVT3	£19.95	£17.96
	M12 internal thread and side exit	SAF50SVTZW3	£25.20	£22.25
	Fork	SAF50SVF3	£30.87	£28.70
	Fork with side exit	SAF50SVFZW3	£32.13	£28.37
	Scaff Coupler with side exit	SAF50SVCW3	£52.45	£49.66
Type 66 for 6 mm and 1/4" wires	Eye	SAF66SVE3	£38.55	£34.70
	Eye with side exit	SAF66SVEZW3	£51.93	£47.57
	Scaff Coupler with side exit	SAF66SVCW3	£65.41	£52.35
	M16 External Thread	Available to order		
Type 80 for 6 and 8 mm wires	M12 internal thread and side exit	Available to order		
	Fork with side exit	Available to order		
	Eye	SAF80SVE3	£66.23	£59.60
	Eye with side exit	SAF80SVEZW3	£57.11	£52.35
	M20 external thread	SAF80SVT3	£48.55	£44.79
	Fork with side exit	SAF80SVFZW3	£64.25	£59.28
	M12 internal thread and side exit	Available to order		
Scaff Coupler with side exit	Available to order			

WLL GUIDE						
Suitable only for use with flexible steel wire rope and in accordance with Reutlinger's instructions.						
Wire	DGUV WLL in kg 10:1 safety factor			TUV WLL in kg 5:1 safety factor		
	Type 50	Type 66	Type 80	Type 50	Type 66	Type 80
4 mm	60 kg	-	-	120 kg	-	-
5 mm	90 kg	-	-	180 kg	-	-
6 mm	-	135 kg	135 kg	-	270 kg	270 kg
1/4"	-	150 kg	-	-	300 kg	-
8 mm	-	-	240 kg	-	-	480 kg

# OTHER TERMINATIONS

## WIRE ROPE STOPPERS



Type A

Type B



**Wire Rope Stoppers** These 316 marine-grade stainless steel stoppers have many uses. Often they are used for supporting display shelves hung on wires. They can also be used either side of track runners or bobbins on wire reeved curtain tracks such as Halls T60 to convert them into master runners. On yachts they can be placed under spreaders for support or forward of the cockpit stanchion to prevent the entire guardrail from sagging when the aft lashings or pelican hooks are released. They are now available in two types both of which can be inserted directly onto the wire without un-reeving.



Type A has a slot to take the wire and a single grub screw which tightens onto the wire.



Type B splits into two halves and is clamped onto the wire by means of two hex drive bolts.

Type A Wire Rope Stoppers	diameter	code	price	25+
	2 mm	WIR190	£6.62	£5.95
	3 - 4 mm	WIR191	£7.41	£6.67
	5 - 6 mm	WIR192	£8.10	£7.29

Type B Wire Rope Stoppers	diameter	code	price	25+
	2 mm	WIR190B	£3.12	£2.81
	3 mm	WIR191B	£3.43	£3.09
	4 mm	WIR192B	£3.65	£3.29
	5 mm	WIR193B	£3.55	£3.20

See page 190 for Stainless Steel Crossover Clamps.

## WEDGE SOCKETS



### Wedge Sockets

These open wedge sockets are made according to DIN

15315. They are the preferred terminations in many industrial sectors and are popular in the theatre industry. Prices include wedge, socket and clevis

pin. On US Federal approved wedge sockets the advice is to never put a wire-rope grip securing the dead end to the standing loaded wire rope, however on these DIN 15 315 wedge sockets the advice is to put one cable grip across the dead and live parts with the saddle on the loaded wire. When using wedge sockets in conjunction with Flints Hanging Clamps [page 146] you will need to use the Hanging Clamp Toggle as the jaw width of the wedge sockets will not fit over the clamp itself [not suitable for the size 3 wedge socket]. Also available in black. [For Split Pins see page 258] They are not rated for use with wires with a nominal strength greater than 1,770 N/mm<sup>2</sup>.

### ✓ Suitable for dynamic lifting applications

[Those marked with an \* below fall outside the scope of regulations, but are made to the same specifications as the larger sizes]

Wedge Sockets	nominal size	wire rope Ø	width between forks	code	price
	3	2 - 3 mm	7.7 mm	WIR3WS*	£10.75
	5	4 - 5 mm	12 mm	WIR5WS	£15.98
	6.5	5 - 6.5 mm	10 mm	WIR65WS	£16.98
	8	6 - 8 mm	14 mm	WIR8WS	£18.03

Black Wedge Sockets	nominal size	wire rope Ø	width between forks	code	price
	3	2 - 3 mm	7.7 mm	WIR3WSB*	£13.05
	5	4 - 5 mm	12 mm	WIR5WSB	£14.91
	8	6 - 8 mm	14 mm	WIR8WSB	£20.06

## KLEIN HAVEN GRIPS



**Klein Haven Grips** These popular grips allow a temporary hauling line or tackle to be attached to a steel cable. Often used for rigging catenary wires or for making adjustments to flown pieces without de-rigging. Not to be used for permanent anchorage. Weights: 450 g and 1.14 kg.

Klein Haven Grips	wire sizes	latch	code	Tradeline
	1.52 mm - 6.35 mm	No	WIR160410	£75.45
	3.18 mm - 12.70 mm	Yes	WIR160420L	£119.95

# WIRE ROPE CUTTERS

## ECONOMICAL WIRE ROPE CUTTER



**Economical Wire Rope Cutter** An economical yet very serviceable tool. With hard carbon steel blades, that are tempered and polished. The handles have a safety lock, are vinyl-coated for comfort, and spring-loaded for cutting strength.



Wire Rope Cutter	cuts up to Ø		weight	code	price	
	Length	wire rope	spring steel			
	190 mm	5 mm	1.5 mm	320 g	TOL1904B	£17.44

## RATCHET WIRE ROPE CUTTER



### Ratchet Wire Rope Cutter

These cutters are becoming more and more popular, especially with engineers who appreciate the ability to trim off wire ropes in hard to access places. For instance, it is easy to cut through the excess of a large diameter wire rope from a counterweight cradle by squeezing just one hand between obstructing beams. It would be impossible to achieve this with large traditional wire-rope cutters. Using the ratchet principle these cutters can cut through fine stranded flexible wire ropes

up to 10 mm diameter. Very little effort is required and as the tool is operated single-handed it is a great safety feature when working at height. NB: every cutter is tested once after manufacture. This will show as a slight mark on the blade.

SPECIFICATION: Capacity: fine stranded wire ropes/10 mm Ø, Niro and hard drawn wire/8 mm Ø, stainless steel/7 mm Ø. Minimum 4 mm Ø.

✓ One-handed operation

✓ Will cut wires where other cutters can not reach

Ratchet Cutter	cuts Ø	weight	code	price
	for fine stranded wire rope			
	4-10 mm	1 kg	TOLKS10	£198.00

## BENCH-MOUNTED CUTTERS



**Bench-Mounted Wire Cutters** Who would have known how difficult it is to source a simple bench-mounted wire cutter? We have decided to import these units. Bench-mounted cutters enable you to use your free hand to precisely position your wire to make more accurate and cleaner cuts. The cutting action is easier too, reducing fatigue. These are based on the Felco cutters and the spare handle is provided so you can always re-assemble the cutter for site work.

✓ More accurate, easier action, less fatigue

✓ They don't go walkies!

Bench-Mounted Wire Cutters	cuts up to Ø		weight	code	Tradeline
	for soft wire rope				
Bench-mounted Felco C9	9 mm	750 g	TOLC9B	£218.90	
Bench-mounted Felco C12	12 mm	1.36 kg	TOLC12B	£288.45	

## FELCO WIRE ROPE CUTTERS



SWISS+MADE



**Felco Cutters** Generally regarded as the world leaders for hand cutters for steel wire rope. These top quality Swiss-made tools give a nice clean cut every time. Strong, simple and well-designed these cutters will last you a lifetime. Replacement blades are also available for all the tools except the small C7 cutters. NB: The maximum wire sizes listed on each tool should be taken as the absolute maximum. For comfortable working Flints would recommend the C7 up to 4 mm, C9 up to 6 mm, C12 up to 8 mm and the C16 up to 12 mm. If you are using these cutters in a salt water environment we would recommend coating the blades with Anhydrous Lanolin [page 190] for details. The C7 is our biggest selling wire-rope cutter. It has the advantage of being single-handed so it is ideal for working with the smaller diameter wires.

Felco Cutters	cuts up to Ø		length	weight	code	price	
	for soft wire rope						
	max	Flints recommends					
C7	7 mm	4 mm	190 mm	320 g	TOL1900	£55.43	
C9	9 mm	6 mm	320 mm	860 g	TOL1901	£128.42	
C12	12 mm	8 mm	500 mm	1.80 kg	TOL1902	£203.51	
C16	16 mm	12 mm	630 mm	2.64 kg	TOL1903	£290.73	
Spare Blades [pair]					code	price	
					C9	TOL1901B	£72.40
					C12	TOL1902B	£126.35
					C16	TOL1903B	£162.02

## WIRE TWISTING PLIERS



**Wire Twisting Pliers** Also called mousing pliers, these simple-to-use wire twisting pliers are mainly used to wire lock fixings in safety-critical applications. Useful for any wire mousing operation, but particularly for shackles. Manufactured from chrome vanadium steel hardened, tempered with painted handles, chrome plated spiral screw assembly and polished faces. Need a demonstration? Visit our YouTube page for a video of them in action!

Wire Twisting pliers	length	weight	code	list	price
twists up to Ø:	cuts up to Ø:				
1.5 mm	2 mm	250 mm	400 g	TOL38896	£57.85 £49.98

## Wire Rope Cutters vs Bolt Cutters



Please don't confuse wire cutters with bolt cutters! Never exceed the manufacturer's wire rope size. You will ruin them trying to cut high tensile bolts!

For bolt cutters see page 308.

# SHACKLES

## Shackles

These simple devices are used to connect wires, chains or ropes to each other or to anchoring points. They consist of a U-shaped body and a pin, and are generally made of steel or stainless steel.

Choosing the correct shackle depends on the application:

To join a single wire, chain or rope to an anchor point choose a D-Shackle.

To join more than one wire, chain or rope to an anchor point choose a Bow Shackle.

Bow and D-Shackles can be supplied with Screw Pins, Clevis Pins or Bolts:

Screw Pins are by far the most common type used on stage. They are chosen when the shackle needs to be frequently fastened and unfastened. If the shackle is being left for long periods the pin should be secured with seizing wire to prevent it from accidentally unscrewing.

Clevis Pin shackles are generally used to connect directly to pulleys. We do not sell this type of shackle separately. The pins are secured with a split pin.

Bolt Type shackles are useful when frequent inspection is difficult. The nut is secured with a split pin. This type of shackle has the advantage that the pin can rotate slightly under load without it unscrewing making it a very secure shackle. They are not so convenient for frequent usage and are generally used for permanent installations. They are often called Anchor Shackles.

### What is a "Lifting Shackle"



For lifting operations you should choose a "Lifting Shackle". These are shown in our catalogue with the "Hook Symbol".

A lifting shackle will be a steel shackle which either complies with the European Standard BS EN 13889 or the US Federal Specification RR-C-271b [which would meet the EN standard]. It was the influence of the oil industry that made US Fed Spec. shackles so popular. Hopefully, an international standard will be agreed in the future. All lifting shackles must be marked with their WLL, manufacturer's name or symbol, traceability code and grade mark. They should also have a CE mark. They should be supplied with either a Report of Thorough Examination or a EC Declaration of Conformity and instructions for use. You will notice that pins on Lifting Shackles are all slightly fatter than the material that makes the body of the shackle. This is because the modern WLL allows the load to be applied to the centre of the pin. Older legislation required the load to be evenly spread along the pin. Care should be taken to ensure these old shackles are no longer in service.

Please be aware that lifting shackles are marked with a Working Load Limit in kg [or tonnes] but Karabiners used for personal protection equipment are marked with the Breaking Load in kN.

### Shackle Care

It is very important that the shackle is able to move freely in the axial direction of the load. Lifting shackles should be inspected before use and at six-monthly intervals [or in accordance to an examination scheme]. If the shackle is to be exposed to corrosion a little Anhydrous Lanolin [page 190] applied to the pin will ensure a longer service life.

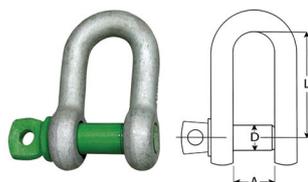
### Why buy your shackles from Flints?

Flints registers every lifting shackle sold on our database. In the highly unlikely situation that there was a product recall we would be able to immediately contact you and advise you to withdraw the batch. Flints is a full member of the Lifting Equipment Engineers Association and we are British Standards ISO:9001 approved. Our staff frequently attend training courses, professional development symposiums and visit specialist trade shows to ensure we are able to offer up-to-date and reliable advice.



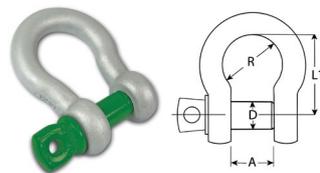
## GREEN PIN® SHACKLES

The Green Pin® shackles listed on this page are made by Van Beest, a company established over 90 years ago in the Netherlands to supply the dredging industry. Their top quality certified shackles are now used worldwide in many safety conscious industrial sectors. Please note, Van Beest make their shackles to a metric tonne [t], but mark them with a capital T - don't get confused! All Van Beest shackles listed here are supplied with a Certificate of Thorough Examination and are registered on Flints' lifting database. Van Beest safety design factor is 6 to 1, and they are suitable to be used in a temperature range from -20°C to +200°C



**Green Pin® D-Shackles** The body and pins are made from high-tensile Grade 6 steel which is quenched and tempered. The finish is hot-dipped galvanised with a green painted bolt. Marked with WLL, batch mark and CE mark. In accordance with EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVB Class 2, Grade A.

Green Pin D-Shackle			WLL	code	price
pin Ø D	jaw width A	height L1			
8 mm	12 mm	26 mm	0.5 t	WIR2101GP	£4.01
10 mm	13 mm	32 mm	0.75 t	WIR2102GP	£4.39
11 mm	17 mm	38 mm	1 t	WIR2104GP	£5.77
13 mm	19 mm	44 mm	1.5 t	WIR2105GP	£6.03



**Green Pin® Bow Shackles** The bows and pins are made from high-tensile Grade 6 steel which is quenched and tempered. The finish is hot-dipped galvanised with a painted green bolt. Marked with WLL, batch mark and CE mark. In accordance with EN 13889 and meets performance requirements of US Federal Specification RR-C-271 Type IVA Class 2, Grade A.

✓ Choose Bow shackles when the lift is from more than one rope

Green Pin Bow Shackle				WLL	code	price
pin Ø D	jaw width A	height L1	Ø R			
8 mm	12 mm	33 mm	20 mm	0.5 t	WIR2092GP	£4.25
10 mm	13.5 mm	37 mm	22 mm	0.75 t	WIR2093GP	£4.53
11 mm	17 mm	42 mm	26 mm	1 t	WIR2094GP	£5.13
13 mm	20 mm	49 mm	29 mm	1.5 t	WIR2095GP	£6.34
16 mm	22 mm	60 mm	32 mm	2 t	WIR2096GP	£7.82
19 mm	27 mm	74 mm	43 mm	3.25 t	WIR2097GP	£10.90



**Black Green Pin® Theatre Shackles** Made from high-tensile Grade 6 steel, quenched and tempered, and hot dipped-galvanised to the same standard as the Green Pin® Bow Shackles above. Painted matt black. Marked with WLL, batch, and CE Mark. Cert: EN13889, RR-C-271 Type IVA Class 2, Grade A.

Green Pin Bow Shackle				WLL	code	price
pin Ø D	jaw width A	height L1	Ø R			
6 mm	9.5 mm	25 mm	16 mm	0.33 t	WIR2091B	£4.24
8 mm	12 mm	33 mm	20 mm	0.5 t	WIR2092B	£3.93
10 mm	13.5 mm	37 mm	22 mm	0.75 t	WIR2093B	£4.75
11 mm	17 mm	42 mm	26 mm	1 t	WIR2094B	£5.55
13 mm	20 mm	49 mm	29 mm	1.5 t	WIR2095B	£6.77
16 mm	22 mm	60 mm	32 mm	2 t	WIR2096B	£10.23
19 mm	27 mm	74 mm	43 mm	3.25 t	WIR2097B	£12.36
22 mm	31 mm	87 mm	51 mm	4.75 t	WIR2099B	£17.15

# CROSBY SHACKLES



Crosby® are the major US manufacturer of rigging products. Contracts around the world state "Crosby® or equal" as their name is synonymous with quality. From their extensive range of products we have listed a selection of items that we think will be most useful for theatre applications. We are able to supply the entire range of Crosby® Fittings. Please call us if there is anything you require.

NB: WLL stands for Working Load Limit and is defined as the maximum mass or force which the product is authorised to support in general service. Crosby® Shackle safety design factor is 6 to 1.

## CROSBY® SHACKLES

A range of forged shackles that have been quenched and tempered to give strength and resilience, to meet the requirements of USA Federal Specifications with the Working Load Limit permanently shown on every shackle. [Look out for the Red Pin, the mark of Crosby quality].



**Screw Pin Shackles Bow G209 and D-Shackle G210** These meet the requirements of the Federal Specification RR-C-271D Type IVB, Grade A, Class 2. Even if you are lifting relatively light items it is often worth choosing the very popular 1 t size which will be endlessly useful for future use.



✓ Choose Bow shackles when the lift is from more than one rope



Bow Shackle G209	pin	WLL	code	price
	nominal size diameter jaw width			
	4 - 5 mm	6.35 mm 9.65 mm	0.33 t	CRO2091 £5.79
	6 mm	7.87 mm 11.9 mm	0.5 t	CRO2092 £5.97
	8 mm	9.65 mm 13.5 mm	0.75 t	CRO2093 £5.88
	10 mm	11.2 mm 16.8 mm	1 t	CRO2094 £6.80
	11 - 12 mm	12.7 mm 19.1 mm	1.5 t	CRO2095 £7.59
	13 mm	16 mm 20.6 mm	2 t	CRO2096 £9.66
	16 mm	19.1 mm 26.9 mm	3.25 t	CRO2097 £12.60
	19 mm	22.4 mm 31.8 mm	4.75 t	CRO2099 £17.23

D-Shackle G210	pin	WLL	code	price
	nominal size diameter jaw width			
	6 mm	7.87 mm 11.9 mm	0.5 t	CRO2102 £7.38
	8 mm	9.65 mm 13.5 mm	0.75 t	CRO2103 £7.38
	10 mm	11.2 mm 16.8 mm	1 t	CRO2104 £6.96
	11 - 12 mm	12.7 mm 19.1 mm	1.5 t	CRO2105 £7.85
	13 mm	16 mm 20.6 mm	2 t	CRO2106 £10.07
	16 mm	19.1 mm 26.9 mm	3.25 t	CRO2107 £13.20
	19 mm	22.4 mm 31.8 mm	4.75 t	CRO2109 £17.62

### Tonnes, tons, short tons, tuns?

Note: a metric tonne is a lower case t NOT an upper case T which is an imperial ton. They are both pronounced "tun". They are different weights!!! A metric tonne [t] is 1,000 kg but an imperial ton [T] is 2,240 lb or 1,016 kg if it is a "long ton" but if the item comes from America it could be a short ton which is just 907 kg. A tun is a unit of liquid capacity equivalent to 252 gallons – but let's not go there.

No wonder we have safety factors!



## BLACK CROSBY® BOW SHACKLES



### Screw Pin Shackle Bow in Black Finish S-209T

These shackles are produced by Crosby® to their exacting standards to provide the theatre industry with a fully certified shackle which is unobtrusive in the grid. They are proving to be very popular.



✓ Choose these shackles for rigs within sightlines



Black Bow Shackle	pin	WLL	code	price
	nominal size diameter jaw width			
	10 mm	11.2 mm 16.8 mm	1 t	CRO2094B £7.35
	11 - 12 mm	12.7 mm 19.1 mm	1.5 t	CRO2095B £8.85
	13 mm	16 mm 20.6 mm	2 t	CRO2096B £12.51
	16 mm	19.1 mm 26.9 mm	3.25 t	CRO2097B £17.36
	19 mm	22.4 mm 31.8 mm	4.75 t	CRO2099B £23.58

## BOLT TYPE ANCHOR SHACKLES



### Bolt Type Shackles Bow G2130 and D-Shackle G2150 [Anchor Shackles]

These shackles have the most secure pin design. Meets the requirements of the U.S. Federal Specification RR-C-271D Type IVB, Grade A, Class 3.



✓ Choose these Bolt Shackles when the shackle pin is difficult to frequently inspect, typically permanently rigged applications



Bolt Bow Shackle G2130	pin	WLL	code	price
	nominal size diameter jaw width			
	8 mm	9.65 mm 13.5 mm	0.75 t	CRO21303 £12.13
	10 mm	11.2 mm 16.8 mm	1 t	CRO21304 £12.51
	11 - 12 mm	12.7 mm 19.1 mm	1.5 t	CRO21305 £13.05
	13 mm	16 mm 20.6 mm	2 t	CRO21306 £13.20
	16 mm	19.1 mm 26.9 mm	3.25 t	CRO21307 £19.30
	19 mm	22.4 mm 31.8 mm	4.75 t	CRO21309 £26.55

## CROSBY® SLINGSAVER SHACKLES



### Crosby® Sling Saver Shackles [S-281]

Designed to eliminate the bunching of slings caused by conventional shackles allowing 100% of the slings rated WLL to be achieved.



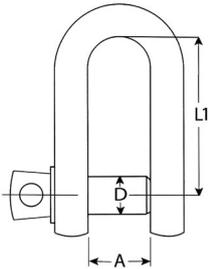
✓ Choose these Sling Saver Shackles whenever you need to anchor Synthetic Round Slings to Pad Eyes etc. [page 190]

SAFETY	Min Breaking Load	Safety factor	WLL
	14,750 kg	5 to 1	2,950 kg

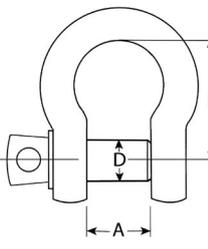
Sling Saver	width	jaw width	WLL	code	price
	50 mm	26.9 mm	2,950 kg	CROS281	£23.01

**GALVANISED COMMERCIAL SHACKLES**

**Galvanised Commercial Pattern D-Shackles**  
 An economical general purpose D-shackle. Not to be used for lifting purposes.

Galvanised D-Shackles		code	price
	pin Ø D	L1 x A	
	5 mm	20 x 10 mm	WIR201 £0.42
	6 mm	27 x 14 mm	WIR202 £0.54
	8 mm	35 x 17 mm	WIR203 £0.79
	10 mm	43 x 18 mm	WIR204 £1.04
	12 mm	53 x 27 mm	WIR205 £1.30
	16 mm	74 x 34 mm	WIR206 £2.48
20 mm	86 x 38 mm	WIR207 £4.46	

**Galvanised Commercial Pattern Bow Shackles**  
 An economical general purpose bow shackle. Bow shackles are used when more than one rope needs to be attached. Not to be used for lifting purposes.

Galvanised Bow Shackles		code	price
	pin Ø D	L1 x A	
	5 mm	22 x 10 mm	WIR210 £0.53
	6 mm	29 x 13 mm	WIR211 £0.64
	8 mm	34 x 17 mm	WIR212 £0.70
	10 mm	44 x 18 mm	WIR213 £0.92
	12 mm	57 x 25 mm	WIR214 £1.48
	16 mm	75 x 32 mm	WIR215 £2.90
20 mm	88 x 40 mm	WIR216 £4.79	

**STAINLESS STEEL SHACKLES**

All the Stainless Steel Shackles listed in this section are 316 grade. AISI 316 is the grade suitable for marine use due to its high corrosion resistance. For more information on stainless steel see page 167.

**Strip Stainless Shackle** Useful in conjunction with our small stainless wire ropes. This design of shackle is used in the heads of some Barton Pulleys.

Strip Stainless Shackle		code	price
pin Ø	width	length	
5 mm	10 mm	29 mm	BAR310 £4.29

**Twisted Stainless Shackles** Occasionally a normal shackle will not sit neatly and a twisted shackle is required. More often than not this applies when they are used with webbing around the pin as with Jack Stays which need to lie flat on the ground.

Twisted Stainless Shackles		code	price
pin Ø	int width	L1	kN kgf
5 mm	10 mm	30 mm	9.1 kN 927 kg
6 mm	12 mm	36 mm	13.2 kN 1,345 kg
8 mm	16 mm	48 mm	23.7 kN 2,416 kg

**Key Pin Shackles with Bar** A useful shackle because it can be incorporated into a splice and will not get lost. The pin is also captive and requires no tool to fasten. Widely used on yacht halyards but also used by sound engineers for rigging microphones in tricky positions.

Key Pin Shackles with Bar		code	price
pin Ø	int width	L1	kN kgf
6 mm	15 mm	48 mm	13.2 kN 1,346 kg
8 mm	20 mm	64 mm	23.7 kN 2,416 kg

**Stainless Steel Bow Shackles**  
 Marine-grade shackles suited for use with our stainless wire rope. The smart appearance of these shackles also lends them to handrailing and display applications.  
 ✓ Choose Bow shackles when the lift is from more than one rope

Stainless Bow Shackles		code	price
pin Ø D	jaw width	L1 R	kN kgf
4 mm	8 mm	16 mm 14 mm	5.8 kN 591 kg
5 mm	10 mm	20 mm 17 mm	9.1 kN 927 kg
6 mm	12 mm	24 mm 21 mm	13.2 kN 1,129 kg
8 mm	16 mm	32 mm 28 mm	23.7 kN 2,415 kg
10 mm	20 mm	40 mm 35 mm	37.8 kN 3,853 kg
12 mm	24 mm	48 mm 42 mm	54.9 kN 5,596 kg

**Stainless Steel D-Shackles** Marine-grade shackles suited for use with our stainless wire rope. The smart appearance of these shackles also lends them to handrailing and display applications.

Stainless D-Shackles		code	price
pin Ø	jaw width	L1	kN kgf
4 mm	8 mm	16 mm	5.8 kN 591 kg
5 mm	10 mm	21 mm	9.1 kN 927 kg
6 mm	12 mm	25 mm	13.2 kN 1,346 kg
8 mm	16 mm	36 mm	23.7 kN 2,416 kg
10 mm	20 mm	41 mm	37.8 kN 3,853 kg
12 mm	24 mm	48 mm	54.9 kN 5,596 kg

**Stainless Hex Head D-Shackles**  
 Marine-grade shackles ideal for use when an ordinary screw pin would be liable to catch on fittings. Typically used joining chain to rope but their clean appearance lends them to handrailing and display applications.

Stainless Hex Head D-Shackles		code	price
pin Ø	jaw width	L1	kN kgf
8 mm	16 mm	32 mm	23.7 kN 2,416 kg
10 mm	20 mm	40 mm	37.3 kN 3,853 kg

**Stainless Long D-Shackles** Marine-grade shackles in a long pattern suited to reaching anchoring holes which are set a long distance from the edge, typically plastic sheets etc., where a good edge distance helps maintain strength.

Stainless Long Pattern D-Shackles		code	price
pin Ø	jaw width	L1	kN kgf
4 mm	8 mm	32 mm	5.8 kN 591 kg
5 mm	10 mm	40 mm	9.1 kN 927 kg
6 mm	12 mm	48 mm	13.2 kN 1,346 kg
8 mm	16 mm	64 mm	23.7 kN 2,416 kg

# CARBINE HOOKS & OTHER SNAPS

## CARBINE HOOKS AND SNAP HOOKS



Central carbine shows eyelet



**Carbine [Snap] Hooks** These simple connecting hooks with a spring-loaded gate enable a very quick connection of light loads. Commercial snap hooks could fail if subjected to heavy loads. They can find a use as a sacrificial weak point in certain rope assemblies. The 50 mm snap hook is one of our biggest selling connectors. Not to be used for lifting purposes. Some sizes now available in Black, and one with a screwgate for extra security.

Carbine [Snap] Hooks	finish	code	price	100+
Ø C x length A gate opening B				
3 x 30 mm 5 mm	Stainless	WIR3113SS	£0.76	£0.68
4 x 40 mm 6 mm	Stainless	WIR3114SS	£0.77	£0.69
4 x 40 mm 6 mm	Black	WIR228B	£1.05	-
+Eyelet 5 x 50 mm 6.5 mm	BZP	WIR220	£0.91	£0.60
5 x 50 mm 7 mm	Black	WIR229B	£1.19	-
6 x 60 mm 7.5 mm	BZP	WIR221	£1.01	£0.69
+Eyelet 6 x 60 mm 7.5 mm	BZP	WIR261	£1.34	£0.87
+Eyelet 6 x 60 mm 7.5 mm	Black	WIR227B	£1.59	-
7 x 70 mm 9 mm	BZP	WIR222	£1.13	£0.74
8 x 80 mm 10.5 mm	BZP	WIR223	£1.33	£0.88
8 x 80 mm 10 mm	Black	WIR230B	£2.40	-
10x100 mm 12.5 mm	BZP	WIR224	£2.07	£1.05
11 x120 mm 15.5 mm	BZP	WIR225	£2.60	£1.33

Screwgate Carbine Hooks	finish	code	price
Ø C x length A gate opening B			
+Eyelet 6 x 60 mm 7.5 mm	Black	WIR226B	£1.25



**Stainless Steel Screwgate Carbine Hooks** Suitable for heavier loads. The screwgate prevents accidental opening. Also available with a captive eye, ideal for use with lanyards etc. as it will prevent the carbine hook getting lost. Not for lifting purposes.

Screwgate Carbine Hooks	Min BL	code	price	10+
Ø C x length A gate opening B kN kgf				
6 x 60 mm 8 mm	5.1 kN 520 kg	WIR3136SS	£1.58	£1.42
+Eyelet 6 x 60 mm 8 mm	5.1 kN 520 kg	WIR3146SS	£2.19	£1.72
8 x 80 mm 9 mm	7.8 kN 795 kg	WIR3138SS	£2.33	£2.10
+Eyelet 8 x 80 mm 9 mm	7.8 kN 795 kg	WIR3148SS	£3.61	£2.88
10 x 100 mm 12 mm	11.8 kN 1,203 kg	WIR3131OSS	£3.60	£3.24
+Eyelet 10 x 100 mm 12 mm	11.8 kN 1,203 kg	WIR3141OSS	£4.67	£3.71

## SPECIALISED SPRING HOOKS



**Spring Hooks to Crue** The end can be squeezed closed to form a permanent connection onto a chain link. Black powder coated. A zinc-coated version is also available, please ask for a quote.

Spring Hooks	code	price
60 mm	WIR482	£2.45
75 mm	WIR483	£2.11



**Swivel Spring Hooks** A useful clip for attaching small accessories. Black powder coated. Zinc-coated are also available, please ask for a quote.

Swivel Spring Hooks	code	price
50 mm	WIR400	£1.91
75 mm	WIR401	£2.52



**S-Biners** Black, made of stainless steel, these double-ended karabiners are for securing small tools, keys, loop pins etc. to a belt or screw eye. They are surprisingly useful. However, although they are made from stainless steel, they are not suitable for marine use. Available in two sizes.

S-Biners	length	Min BL	code	price
Size 3	67 mm	11 kg	SAFSB30301	£3.53
Size 4	89 mm	33 kg	SAFSB40301	£4.83



**Lockable S-Biners** Black, made of stainless steel, these S-biners have two hinged gates that can be locked independently. The patent-pending SlideLock™ design is simple but clever: there is a hook and the gate pops over that; there is a notch in the body of the S-biner and when the plastic slider fits into the notch the gate is good and locked. Not suitable for marine use. Available in two sizes.

Lockable S-Biners	length	Min BL	code	price
Size 2	49.9 mm	4.5 kg	SAFLSB201R3	£3.63
Size 4	90 mm	34 kg	SAFLSB401R3	£5.02



**Wichard Snap Hooks** A smooth patented design made from special marine-grade stainless steel that will deform before breaking. Designed by Wichard. These are the genuine article stamped with the logo. This design of snap is very quick to use and can be useful if an attachment needs to be made by performers during a show. Available in three lengths.

Snap Hooks	hole Ø	body Ø	Min BL	code	list	price
50 mm	6 mm	8 mm	300 kg	WIR2480	£10.96	£9.87
75 mm	10 mm	12 mm	700 kg	WIR2481	£17.77	£16.00
100 mm	13 mm	16 mm	1,500 kg	WIR2482	£33.97	£30.58

**QUICK RELEASE SNAP SHACKLES**

Wichard use high resistance 17.4 PH forged stainless steel [magnetic] on these snap shackles which will deform before breaking and will never break suddenly. Designed for marine use. N.B. Different safety standards apply. Wichard is renowned for their quality and innovation, please beware of imitations.



**Wichard Quick Release Snap Shackle "HR"** This patented design allows the shackle to open immediately by means of a control line.

<b>SAFETY</b>	Breaking Load	Safety Factor	WLL
	2,000 kg	1.56 to 1	1,280 kg

Wichard Quick Release Snap Shackle				code	list	price
overall length	weight	Ø inside release	inside swivel bail			
90 mm	100 g	16 mm	23 mm	WIRWD2774	£69.62	£67.83



**Wichard Fixed Eye Snap Shackle "HR"** The plunger is set captive into the hook and cannot become dislodged. We can supply other sizes and types of snap shackles.

<b>SAFETY</b>	Breaking Load	Safety Factor	WLL
	2,500 kg	2.08 to 1	960 kg

Wichard Fixed Eye Snap Shackle				code	list	price
overall length	weight	Ø inside release	inside lower eye			
50 mm	42 g	16 mm	10 mm	WIRWD2471	£32.61	£31.70

**KEY RING ATTACHMENTS**



**Detachable Key Ring** Useful if you're a stage manager. A simple press and the keys you need are separated from the rest. We found that at 18.5 kg the split ring pulled apart but the connection still held, so pretty strong, but that's uncertified. Split ring Ø: 25 mm

Detachable Key Ring	code	price	100+
40 mm [ex split rings]	WIRKR30N	£1.15	£0.99



**Bit Pits** We really love these - allows the user to keep on hand a little hex bit, and not lose it in a pocket. Held in place with a magnet, and attached to a key ring.

Bit Pit	code	price	5+
holds one hex bit	TOLBPBHS	£6.99	£6.00

**SOMETHING FOR THE DOG**



**Swivel Harness Snap Hook** Your dog will recognise these.

Swivel Snap Hook WLL	code	price
one labrador	WIR3364349	£2.83

**S-HOOKS**



**S Hooks** Stainless Steel A good quality hook, suitable for hanging items from rods and wires or as a link for light loads on small chains. 316-grade stainless steel. Suitable for marine use.

S Hooks	internal height	wire gauge	code	price	100+
	24 mm	3 mm	WIR4353SS	£0.21	£0.19
	32 mm	4 mm	WIR4354SS	£0.34	£0.31
	40 mm	5 mm	WIR4355SS	£0.49	£0.45
	48 mm	6 mm	WIR4356SS	£0.72	£0.65
	64 mm	8 mm	WIR4358SS	£1.52	£1.37

**QUICK LINKS**

**QUICK LINKS [MAILLON RAPIDES]**



**Maillon Rapides EN12275 :1998 and EN362** If you are wondering why Quick



Links are often called by their French name, "Maillon Rapides", it's because they are made by a very safety-conscious family firm in France. We have expanded our range of these reliable connectors which are suitable for PPE. Each connector is supplied with user instructions [in English!]. They are all galvanised mild steel except the PPEGO107 which is stainless steel. Breaking load is 5 x WLL [major axis].



Standard Pattern Black



Long opening Pattern



Delta Pattern [also in black]

**Standard Pattern Black**

Standard pattern black			WLL	code	price
type	bar Ø	gate opening			
PPENZ08N	8 mm	11 mm	700 kg	WIR250B	£5.42
PPENZ10N	10 mm	12 mm	1,100 kg	WIR251B	£6.91

**Long Opening Pattern**

Long opening pattern [stainless steel version shown]			WLL	code	price
type	bar Ø	gate opening			
SS→PPEGO107	7 mm	16 mm	800 kg	WIR246SS	£10.75
PPEGOZ07	7 mm	16 mm	500 kg	WIR246	£3.71
PPEGOZ10	10 mm	20.5 mm	1,000 kg	WIR245	£5.66

**Delta Pattern** The black 8 mm Delta is the preferred connector to link the Petzl Absorbica to the Jane Lanyard [page 333].

Delta pattern [triangular shape for 3-way loading]			WLL	code	price
type	bar Ø	gate opening			
Black→PPEDZ08N	8 mm	10 mm	550 kg	WIR252B	£6.46
PPEDZ10	10 mm	12 mm	900 kg	WIR247	£5.87
PPEGZ12	12 mm	15 mm	1,100 kg	WIR249	£8.75

**Any unit that has arrested a falling weight should be replaced immediately.**

**COMMERCIAL QUICK LINKS**



**Commercial Quick Links** These are untested quick links which are not suitable for lifting purposes but make a useful lightweight and secure fastening for small chains and accessories.

Commercial Quick Links		code	price	100+
finish	bar Ø			
BZP	3.5 mm	WIR230	£0.62	£0.49
BZP	4 mm	WIR231	£0.63	£0.42
BZP	5 mm	WIR232	£0.79	£0.53
Black	5 mm	WIR232B	£0.88	£0.80
BZP	6 mm	WIR233	£0.91	£0.61
Black	6 mm	WIR233B	£0.92	£0.82
Black	7 mm	WIR234B	£1.16	£1.05

# KARABINERS

## Standards

Connectors used for work positioning and fall arrest should comply with EN 362 which states a minimum strength of 15 kN along the major axis with the gate closed and unlocked and 20 kN for the gate closed and locked. The mountaineering standard EN 12275 exceeds the requirements of EN 362.

## Take care

Please ensure that lines connecting karabiners do not get twisted or tangled, especially around the latch, as it is possible, in very rare circumstances, for a twisted line to disengage the safety button and twist the gate to the open position. It is good practice to ensure all lines to any fittings [shackle, rigging screw, lanyard connectors etc.] pull in the required direction along the major axis before applying loads.

For information on newtons and kN please see the information box on page 162.

## STEEL GENERAL PURPOSE KARABINERS TO EN362



Screwgate



Twistlock



**Foin D Karabiners 25 kN** Economical steel connectors which comply to EN 362 for use in work positioning or fall arrest. Available with Twistlock or the very popular screwgate.

Overall height: 105 mm, overall width: 57 mm.

Foin D Karabiners		Min BL	code	price
type	weight	gate opening	major axis when closed	
Twistlock	190 g	16 mm	25 kN SAF4247	£21.58
Screwgate	180 g	18 mm	25 kN SAF4249	£7.89



## Offset D Screwgate Karabiner

**45 kN [C812]** These steel karabiners are suitable for fall arrest and work positioning purposes.

CE marked to EN 362:2004/B 45 kN.

45 kN along the major axis

Offset D Screwgate [C812]		Min BL	code	price
weight	gate opening	major axis when closed		
235 g	18 mm	45 kN	SAFC812	£15.90



## Captive Eye Karabiners 50 kN [KH301SG]

This steel karabiner is fitted with a screwgate. Suitable for fall arrest and work positioning. CE Marked to EN 362:2004/T 50 kN.

✓ Ideal for use as a robust end connector for a lanyard

50 kN along the major axis

Captive Eye [KH301SG]		Min BL	code	price
weight	gate opening	major axis when closed		
240 g	18 mm	50 kN	SAFKH301SG	£18.65

## ALLOY GENERAL PURPOSE KARABINERS



## OK Screw Lock Black M33ASLN

Ideal for use with pulleys and hauling systems. The symmetrical oval aluminium H profile frame facilitates pulley use; ideal for clipping anchors [easy to flip over]. The compact shape is easy to use with one hand. Keylock System ensures a snag-free body/gate interface. CE EN 362, EAC.

✓ Great with Fixe and Pro Traxion Pulleys and Ascension Rope Clamps

✓ Red band visual warning indicates if karabiner is not fully locked



OK Screw Lock Black		Min BL	code	price
weight	gate opening	major axis	open gate	short axis
70 g	22 mm	25 kN	7 kN	8 kN
				PETM33ASLN
				£12.20



Convert your karabiner to a pulley. See the Ultralegere sheave on page 221. Or you can buy a pulley-karabiner like the Petzl ROLLCLIP on page 186



## Am'D Ball Lock Karabiner

The D-ball system offers a quicker one-handed operation. The D-ball system is easy to use indoors but not so good with cold gloved hands where a screwgate or twistlock would be preferred. Now fitted with an alloy barrel.

CE marked EN 362 and EN 12275 type B/K.

Am'D Ball Lock		Min BL	code	price
weight	gate opening	major axis when closed		
75 g	22 mm	28 kN	PETM34ABL	£16.88



## Am'D Screw Lock Karabiner

A multipurpose karabiner for connecting devices to a harness or to use at the end of a lanyard. Asymmetric shape for exceptional weight to strength ratio. When loaded the karabiner is oriented in the optimal working axis. CE marked EN 362 and EN 12275 type B.

Am'D Screw Lock		Min BL	code	price
weight	gate opening	major axis	open gate	minor axis
70 g	22 mm	28 kN	8 kN	7 kN
				PETM34ASL
				£14.80

Any unit that has arrested a falling weight should be replaced immediately.

**HMS KARABINERS**



**HMS Strike Triple Karabiner** A matt black triple-locking karabiner ideal for use in belay systems. Height: 100 mm, width: 70 mm. Complies to EN 362:2004, EN 12275.

HMS Strike Triple Black		Min BL			code	price
weight	gate opening	major axis	open gate	minor axis		
74 g	21 mm	22 kN	7 kN	8 kN	SAF88262	£17.50

**What does HMS mean?**

Well, it means Halbmastwurf-sicherung! This is the German name for a Munter Hitch [Italian Hitch] which is similar to half a clove hitch and is used for controlled descent in belay systems. The wider shape of the karabiner is useful in this application to prevent bunching.

**SPECIAL PURPOSE KARABINERS**



**Omni Triact M37 TL Type C812** This is the recommended connector for use with any harness having two attachment points. Snag-free keylock system. They are suitable for fall arrest and work positioning purposes. These conform to EN 362 and EN 12275 type H. **15 kN strength in ALL directions**

✓ Ideal for harness connections

Omni Triact M37 TL		Min BL			code	price
weight	gate opening	major axis	open gate	short axis		
92 g	21 mm	20 kN	7 kN	15 kN	PETM37TL	£25.08



**Revolver A277 Locksafe Karabiner** Suitable for fall protection, rescue, rope access and arborist purposes. The built-in sheave makes this a great choice for deviating lines. Fitted with a very neat revolving sheave for emergency use. Approved to EN 362:2004 B.

Revolver A277 Locksafe		Min BL			code	price
weight	gate opening	major axis	open gate	minor axis		
70 g	15 mm	24 kN	8 kN	8 kN	WIRA277	£27.55



**Twister** is a compact lightweight connector that has an integrated swivel feature, making it very useful when there is a need to manage twisting cables or when it is necessary to rotate the load relative to the anchor. The Twister can be used as a connector on fall arresters as it can remain captive on a system yet allows rotation by the user and is quick, easy and secure when connected. Fitted with "Super Safe" Lift, turn, open gate. CE0120 EN 362 04T.

Twister Karabiner		Min BL			code	price
weight	gate opening	major axis				
142 g	15 mm	27 kN			SAFKH255SS	£30.96



**Kong Ovalone DNA Twistlock Karabiner** Special "helical" karabiner that allows the 90 rotation of the connected article. Smooth circular profile. CE EN 362/B.

Kong Ovalone DNA Twistlock		Min BL			code	price
weight	gate opening	major axis	open gate	minor axis		
215 g	19 mm	40 kN	12 kN	15 kN	TOL414110	£24.55

**PULLEY KARABINERS**

These Petzl ROLLCLIP pulley-karabiners would be a valuable addition to any rigger's kit. The two types are differentiated not only by their shape, but also by the gate opening direction. The Petzl ROLLCLIP A opens "downwards" with the opening next to the roller, and the Petzl ROLLCLIP Z opens "upwards" with the opening away from the roller. The H cross-section of both improves the strength-to-weight ratio, and protects markings from abrasion. Highly compact and lightweight solution compare to carrying a pulley and a shackle/connector.



**ROLLCLIP A** designed to be used as a pulley that is pre-attached to an anchor point prior to installing the rope. It can be locked into position on the anchor using a CAPTIV positioning bar, which also favours the loading along the major axis and limits the risk of flipping. The sheave is mounted on sealed ball bearings for excellent efficiency. The gate opens "downwards" - next to the roller for easy installation of the rope. TRIACT-lock for peace of mind.

SPECIFICATION: Material: Aluminium, Rope Ø: 7-13 mm, Sheave Ø: 18 mm, Max. Working Load: 2 x 2 = 4 kN, Efficiency: 85%. Certification: CE EN 362, EN 12275, EN 12278, EAC.



**ROLLCLIP Z** Designed to be used as a fast movable connection to an anchor point or device. It would be ideal for using as a positioning aid on a horizontal line by inverting it and placing the roller on the line; the item can then hang below and easily dragged into horizontally into position. Screwlock with red security band for easy visual check if unlocked.

SPECIFICATION: Material: Aluminium, Rope Ø: 7-13 mm, Sheave Ø: 18 mm, Max. Working Load: 2 x 2 = 4 kN, Efficiency: 85%. Certification: CE EN 362, EN 12278, EAC.

Petzl ROLLCLIP		Min BL			code	price	
weight	gate opening	major axis	open gate	minor axis			
A	115 g	22 mm	25 kN	7 kN	8 kN	PETP74TL	£40.00
Z	105 g	21 mm	25 kN	7 kN	8 kN	PETP75SL	£36.50

**ULTRALIGHT KARABINERS**



**Attache 3D** This ultralight HMS karabiner weighs just 56 g. The H-profile D frame is lighter and thinner than expected. It's recently come back into stock, and as it's my favourite lightweight karabiner, I'm very glad it's back in! Certification: CE EN 362, CE EN 12275 type H, UIAA. ✓ When weight matters this is a great choice.

Attache 3D		Min BL			code	price
weight	gate opening	major axis	open gate	short axis		
56 g	24 mm	22 kN	6 kN	7 kN	PETM38ASL	£13.24



**Spirit Curved Gate** This ultralight smooth action sports karabiner has a bent [non-locking] gate to make clipping a breeze. Certification: CE EN 12275 type B, UIAA 121. ✓ For rapid [non-locking] attachment – not for PPE

Spirit Curved		Min BL			code	price
weight	gate opening	major axis	open gate	short axis		
39 g	25 mm	23 kN	9 kN	8 kN	PETM53B	£8.96

## BRAKING KARABINER



**Freino** This karabiner has an extra friction spur to help control descent. It allows the rope to be quickly redirected over the friction spur and removed with one hand. Ideal for use with the RIG, I'D, Stop and Huit [pages 338-339]. CE EN 362, CE EN 12275 type B, UIAA 121.  
 ✓ For extra control during descents

Freino		Min BL			code	price
weight	gate opening	major axis	open gate	short axis		
85 g	15 mm	25 kN	9 kN	10 kN	PETM42	£35.04

### BS EN 362

This is the standard relating to Personal Protective Equipment against falls from a height: Connectors.

## SCAFFOLD KARABINERS TO EN 362



**PETZL MGO OPEN 60** This brilliant connector from Petzl features a gated connection point [like the open ring, page 191] that allows the user to switch the lanyard out to vary the length, or replace if damaged, without replacing the connector. Any unit which has arrested falling weights should be replaced immediately. CE EN 362, EAC  
 ✓ Special connection point helps keep the karabiner loaded on the major axis  
 ✓ Ergonomic unlocking handle

Petzl MGO Open 60		Min BL			code	price
material	weight	gate opening	major axis			
Aluminium	490 g	63 mm	25 kN		PETMG0060	£54.00



**Alloy Scaffold Hooks [captive eye]** Tested to 25 kN. 60 mm wide dual action opening for ease of operation. Ergonomically shaped unlocking handle. Available in black. Suitable for fall arrest provided it is used according to instructions. Any unit which has arrested falling weights should be replaced immediately. Conforms to CE EN 362.

Alloy Scaffold Hooks		Min BL			code	price
type	weight	gate opening	major axis when closed			
Standard	455 g	60 mm	25 kN		WIR228	£53.50
Black	455 g	60 mm	25 kN		SAFE3787B	£39.55



**Scaffold Carbine** This large, tested carbine will clip directly over 50 mm diameter tube making securing lanyards, rigging rope ladders and blocks a quick, safe operation. Also useful for securing tool bags, paint kettles and buckets to scaffold towers. A pin is provided to form a captive eye if it is needed. Suitable for fall arrest provided they are used according to instructions. Any unit which has arrested falling weights should be replaced immediately. CE marked EN 362:2004/T.

Scaffold Carbine		Min BL			code	price
material	weight	fits tube Ø	length			
Steel	744 g	50 mm	35 kN	230 mm	WIR229	£41.31

## KONG FROG FAST CONNECTORS



11 mm Ø hole for attachment



Frog with short web stop

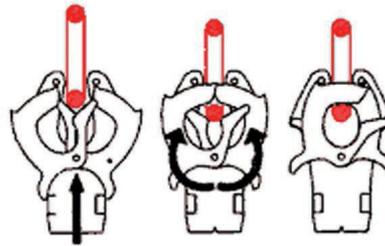


Diagram detailing the mechanism



**Kong Frogs** These are super fast connectors with a 13 mm jaw width. Just touch the Frog against cable, rope or another connector and the patented end design slams shut instantly grabbing the item and you have a secure connection able to withstand 23 kN! [26 kN for the Kong Frog Cable]. The Kong Frog eliminates fiddling with karabiner gates while trying to make an awkward connection. Use it to reach for a flying wire for brailing purposes. Use it for action onstage when a clean instant pick up is needed. Really well thought out and useful bits of rigging kit. CE Marked.

Conformity: EN 362:2004/A/T, EN 12275.

The Kong Frog comes in two types:

**Kong Frog** with a short 94 mm web stop which can be used to connect to any karabiner, shackle or brail line.

**Kong Frog Cable** which has no stop, but does have an 11 mm Ø hole for your own lanyard attachment.

Kong Frogs	weight	jaw width	Min BL	code	price
Kong Frog [with web stop]	75 g	13 mm	23 kN	TOLFROGN	£19.98
Kong Frog Cable	50 g	13 mm	26 kN	TOLFROGC	£22.69

## SKY HOOKS



**Sky Hook** We can't see what use these would be in the theatre but the next time the young apprentice gets asked to order some sky hooks from Flints their line manager will get a shock when the invoice arrives.

Sky Hook with sling	code	price
	PETP06	£14.96

# RIGGING SCREWS

## Rigging Screws

Often called straining screws, turnbuckles, or bottle screws. The open body rigging screw is the preferred type for theatre flying as the thread engagement can be clearly seen. However, British Standard BS 7905-1:2001 "Lifting Equipment for Performance, Broadcast and similar applications" states:

*"Rigging Screws shall be constructed of welded or seamless steel tube. The full length of the thread in the tapped holes shall not be less than 1.5 times the diameter of the screwed shank. A tommy bar hole shall be drilled through both walls of the body at the centre of its length, central to and at right angles to its axis. A probe hole shall be provided to check the thread of the shank is fully engaged"*

I'm not sure who writes these standards but it looks suspiciously like a "cut and paste" job from BS 4429:1987 by someone unfamiliar with theatre rigging. I can say that I have personally never seen a closed-body rigging screw with a probe hole and if you decided to drill your own "probe holes" it would not pass a visual lifting examination due to the design being compromised.

The rigging screws shown with the "Hook Symbol" will be supplied with a Report of Thorough Examination of Lifting Equipment or an EC Declaration of Conformity. For handrailing and display applications closed-body screws, especially stainless steel ones, are often more suitable as the smooth surface prevents snagging and gives a more pleasing appearance.

Rigging screws should be secured once they are adjusted with Monel Seizing Wire [next page] or with lock nuts if they are provided. If the rigging screws are being used outside we would recommend smearing the threads with Anhydrous Lanolin [page 190]. Rigging screws must always be free to move into the direction of the load.

## US FEDERAL SPECIFICATION STRAINING SCREWS

These good value rigging screws come from a long established ISO9001:2000-registered German company. They are supplied fitted with locking nuts to avoid accidental unwinding.



**Straining Screw Eye to Eye** Meets the performance requirements of USA Federal Specification FF-T-791b. Straining screws should be used for a straight or in-line pull only. The eye diameters are 13 and 18 mm.

Fitted with lock nuts!

Straining Screw Eye to Eye		code	price
thread diameter	length BB	WLL	
3/8"	6"	540 kg	WIR2263 £12.92
1/2"	6"	1,000 kg	WIR2264 £19.87



**Straining Screw Jaw to Jaw** Meets the performance requirements of USA Federal Specification FF-T-791b. Straining screws should be used for a straight or in-line pull only. The width between forks are 12 and 16 mm.

Straining Screw Jaw to Jaw		code	price
thread diameter	length BB	WLL	
3/8"	6"	540 kg	WIR2283 £15.75
1/2"	9"	1,000 kg	WIR2285 £27.58



**Straining Screw Jaw to Eye** Meets the performance requirements of USA Federal Specification FF-T-791b. Straining screws should be used for a straight or in-line pull only. The eye diameters are 13 and 18 mm and width between forks are 12 and 16 mm.

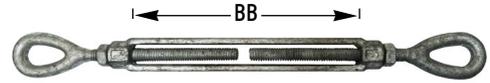
Straining Screw Jaw to Eye		code	price
thread diameter	length BB	WLL	
3/8"	6"	540 kg	WIR2273 £14.67
1/2"	6"	1,000 kg	WIR2274 £22.15

## CROSBY STRAINING SCREWS



Made from hot-dip galvanised steel, the end fittings are quenched and tempered. Eyes are elongated to facilitate fitting. The

length specified for straining screws is the maximum take up of the item shown as BB, in the illustration below. The proof load is twice the working load limit and the ultimate load is five times the WLL.



**Crosby Straining Screw Eye to Eye HG226**

To USA Federal Specification FF-T-791b Type 1 Form 1 Class 4.

Straining screws should be used for a straight or in-line pull only.

Straining Screw Eye to Eye HG226		code	price
thread diameter	length BB	WLL	
5/16"	4 1/2"	360 kg	CRO2262 £42.74
3/8"	6"	540 kg	CRO2263 £51.29
1/2"	6"	1,000 kg	CRO2264 £52.71



**Crosby Straining Screw Jaw to Jaw HG228**

To USA Federal Specification FF-T-791b Type 1 Form 1 Class 7.

Straining screws should be used for a straight or in-line pull only.

Straining Screw Jaw to Jaw HG228		code	price
Thread diameter	length BB	WLL	
5/16"	4 1/2"	360 kg	CRO2282 £51.55
3/8"	6"	540 kg	CRO2283 £55.56
1/2"	9"	1,000 kg	CRO2285 £67.99



**Crosby Straining Screw Jaw to Eye HG227**

To USA Federal Specification FF-T-791b Type 1 Form 1 Class 8.

Straining screws should be used for a straight or in-line pull only.

Straining Screw Jaw to Eye HG227		code	price
thread diameter	length BB	WLL	
5/16"	4 1/2"	360 kg	CRO2272 £46.76



## Lock Nuts for Crosby Rigging Screws

Crosby rigging screws are, sadly, not fitted with locking nuts. They can be seized with Monel Seizing Wire [see next page] or lock nuts can be purchased separately.

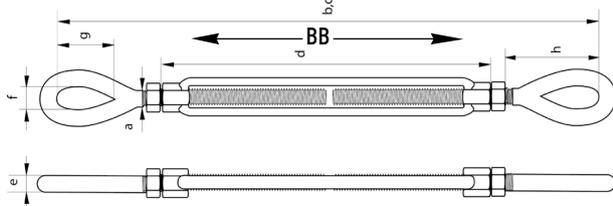
Lock Nuts	hand	code	price
thread diameter			
5/16"	left	CRO1075516	£2.10
3/8"	left	CRO1075534	£2.73
1/2"	left	CRO10755701	£3.89
5/16"	right	CRO1075133	£1.60
3/8"	right	CRO1075151	£1.84
1/2"	right	CRO1075197	£2.05

Most orders over £325.00 go carriage free.

## VAN BEEST GREEN PIN TURNBUCKLES

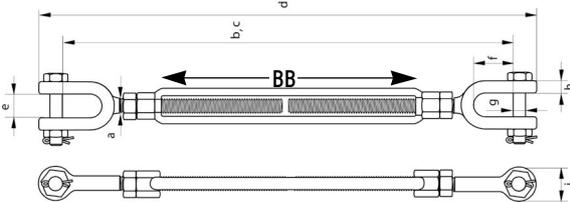


Since stocking their shackles, we've been highly impressed with the quality of Green Pin® products - especially with the clean finish and clear batch marking. Made from drop forged high tensile steel, with a hot-dipped galvanised finish for long-term durability. Eyes are elongated to facilitate fitting. The length specified for straining screws is the maximum take up of the item shown in the illustration below. The Minimum Break Load is five times the stated WLL. All of these are supplied with the locking nuts in place. Table below details the full spec of each type/size according to the provided diagrams.



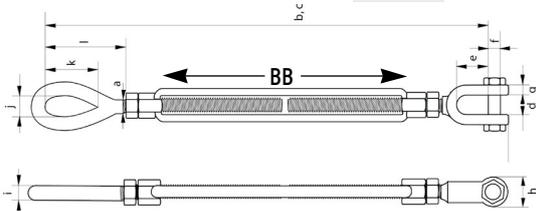
**Green Pin® Turnbuckle Eye to Eye G-6311**  
To ASTM F1145-92, formerly U.S. Federal Specification FF-T-791b  
Straining screws should be used for a straight or in-line pull only.

Turnbuckle Eye to Eye G-6311			code	price
thread diameter	length BB	WLL		
3/8"	6"	0.54 t	WIR2263GP	£21.75
1/2"	6"	1 t	WIR2264GP	£26.15



**Green Pin® Turnbuckle Jaw to Jaw G-6323**  
To ASTM F1145-92, formerly U.S. Federal Specification FF-T-791b  
Straining screws should be used for a straight or in-line pull only.

Turnbuckle Jaw to Jaw G-6323			code	price
Thread diameter	length BB	WLL		
3/8"	6"	0.54 t	WIR2283GP	£16.71
1/2"	6"	1 t	WIR2285GP	£20.92



**Green Pin® Turnbuckle Jaw to Eye G-6315**  
To ASTM F1145-92, formerly U.S. Federal Specification FF-T-791b  
Straining screws should be used for a straight or in-line pull only.

Turnbuckle Jaw to Eye G-6315			code	price
thread diameter	length BB	WLL		
3/8"	6"	0.54 t	WIR2273GP	£21.75
1/2"	6"	1 t	WIR2274GP	£28.43

Green Pin Turnbuckles		dimensions [mm] as per above diagrams													
Type	thread Ø	a	b	c	d	e	f	g	h	i	j	k	l	weight [kg]	
Eye/Eye	3/8"	10	292	428	183	10	13	29	49	-	-	-	-	0.48	
Eye/Eye	1/2"	12	325	455	193	12	18	36	58	-	-	-	-	0.81	
Jaw/Jaw	3/8"	10	273	409	304	12	21	7	9	21	-	-	-	0.55	
Jaw/Jaw	1/2"	12	304	435	434	16	26	10	11	25	-	-	-	0.97	
Eye/Jaw	3/8"	10	283	418	12	21	8	9	21	10	13	29	49	0.52	
Eye/Jaw	1/2"	12	315	446	16	26	10	11	25	12	18	36	57	0.88	

## STAINLESS RIGGING SCREWS

### Closed-Body Rigging Screws

The rigging screws below are made from marine-grade 316 stainless steel. Closed-body adjusters are ideal for handrail wires, small tension wires and for display and exhibition purposes. The smooth sleek appearance is less likely to snag on clothing and blends in with modern settings.

The fork ends can be attached directly onto small Pad Eyes [see next page] without the need for extra shackles. They are all fitted with lock nuts. The given lengths are from centre of pin to centre of pin.

### Handrailing

If you are considering using wire rope assemblies for handrailing purposes be sure to check with your local authority regarding the regulations. Normally, the maximum width between the wires must not exceed 100 mm - tested with a 100 mm sphere to represent a child's head. Any horizontal wires should lean inwards to prevent children from climbing the wires. Best to check first!



**Machined Fork Rigging Screws** These machined fork rigging screws offer the smartest appearance for prestigious installations.

Machined Fork Stainless Rigging Screws					Min BL	code	price
size	length closed	length open	kN	kgf			
M4	115 mm	175 mm	4.1 kN	417 kg		WIR2514SS	£3.89
M5	135 mm	195 mm	4.6 kN	468 kg		WIR2515SS	£4.45
M6	160 mm	230 mm	9.1 kN	927 kg		WIR2516SS	£6.10



**Welded Fork Rigging Screws** These rigging screws represent fantastic value for a marine-grade 316 stainless steel product.

Welded Fork Stainless Rigging Screws					Min BL	code	price
size	length closed	length open	kN	kgf			
M4	110 mm	170 mm	3.4 kN	346 kg		WIR2714SS	£3.48
M5	130 mm	190 mm	5.6 kN	570 kg		WIR2715SS	£3.77
M6	150 mm	220 mm	7.7 kN	784 kg		WIR2716SS	£4.68
M8	165 mm	240 mm	13.9 kN	1,416 kg		WIR2718SS	£6.00
M10	190 mm	280 mm	21.8 kN	2,222 kg		WIR27110SS	£8.38
M12	245 mm	360 mm	32 kN	3,261 kg		WIR27112SS	£12.06

Flints can order larger sizes up to M20.

## MONEL SEIZING WIRE



**Monel Seizing Wire** Seizing wire for seizing up rigging screws and shackles to prevent them from accidentally coming undone. Many of our rigging screws are supplied with locking nuts.

Monel Seizing Wire [10 m]		Ø	code	price
Spool		0.9 mm	WIR080	£8.98

### Give us a bell

Did you know that the average time for us to answer a call is 30 seconds. Even in this era of emails most of our clients prefer to get technical advice by telephone. Over 97% of those people who asked us for technical advice said they were either satisfied or very satisfied. It's old fashioned but it works - 020 7703 9786. Dring dring!

## ANHYDROUS LANOLIN



**Lanoguard** Anhydrous lanolin combined with non-toxic corrosion inhibitors to provide long-term protection for rigging screws, shackles and sheep etc. Helps to prevent the cold welding sometimes associated with stainless steel threads. Also widely used to prevent weed growth on propellers. Available as a tub of thick butter-like lanolin or as a thinner concoction in a trigger spray.

Lanoguard	size	code	price
Prop-tection & Lube	250 ml pot	PATLAN250	£16.68
Marine & Chassis Spray	500 ml bottle	PATLANS	£23.83

## PELICAN HOOKS

Type 812



Type 354



**Pelican Hooks** A convenient means of quickly releasing tensioned wire ropes. They can be very useful for clearing gauze guide wires during scene changes. To use the threaded version we will need to roll-swage an M8 right-hand thread to the end of your wire which will need to be stainless steel. Please phone and ask for the Rigging Manager. Safety factor 4:1.

Pelican Hook	Min BL		code	price
	kN	kgf		
Type 812			WIRPH812	£39.98
Type 354 [M8 right-hand thread]	16.3 kN	1,661 kg	WIR3548SS	£6.11

## WIRE STRAP EYES



**Wire Strap Eyes – Lacing Eyes** A simple and very useful neat and economical fixing typically used to anchor small wire-rope assemblies or as a lacing eye for cords or small ropes.

Wire Strap Eyes				code	price
width	height	bar Ø	fixing		
50 mm	18 mm	5 mm	4 mm csk	WIR97815SS	£0.36
60 mm	22 mm	6 mm	4.5 mm csk	WIR97826SS	£0.41
63 mm	24 mm	8 mm	5 mm csk	WIR97838SS	£0.61

**Need to tie up a cheetah, suspend a twenty-foot clock, rig a water writing machine under a bridge, hang paper from a hydraulic tower? Give us a ring, we like a challenge!**

## PAD EYES



**Pad Eyes and Pad Eyes with Rings** Marine-grade stainless steel pad eyes to provide a really neat fixing. Ideal for use with our Stainless Rigging Screws [page 189]. We now also stock these pad eyes complete with ring.



Pad Eyes [no ring]						code	price
length	width	height	bar Ø	fixing/Ø			
45 mm	15 mm	20 mm	5 mm	M4 [4.5]	WIR9815SS	£0.76	
60 mm	20 mm	26 mm	6 mm	M4 [4.5]	WIR9816SS	£1.15	
80 mm	26 mm	32 mm	8 mm	M6 [6.2]	WIR9818SS	£2.18	
100 mm	36 mm	39 mm	9 mm	M6 [6.2]	WIR9819SS	£2.62	

Pad Eyes [with ring]						code	price
length	width	int ring Ø	bar Ø	fixing			
45 mm	15 mm	30 mm	5 mm	M4 [4.5]	WIR9895SS	£1.29	
60 mm	20 mm	35 mm	6 mm	M4 [4.5]	WIR9896SS	£1.75	
80 mm	26 mm	45 mm	8 mm	M6 [6.2]	WIR9898SS	£3.13	
100 mm	36 mm	50 mm	9 mm	M6 [6.2]	WIR9899SS	£4.35	



**Folding Pad Eye** Drop-forged with no welding to offer remarkable strength. In addition, by aligning the D-ring to the direction of the force they can handle higher operating loads. Often used to secure trapeze tension wires. A small silicone pad included can be used to when folded flat. Also available in titanium.

### SAFETY

MANUFACTURER STATED		
Breaking Load	Safety Factor	Working Load Limit
5,000 kgf	2.1 to 1	2,400 kgf

Folding Pad Eye			code	price
width of D-ring	fixing Ø	weight		
59 mm	8 mm	165 g	WIR6605	£36.42

## CROSSOVER CLAMPS



**Crossover Clamps** These 316-grade stainless steel clamps will hold wire ropes at right angles. They are often used to form large wire-netting structures to help plants to grow up the sides of buildings. I'm sure you will dream up all sorts of odd things to do with them. They are all 20 mm Ø. For Wire Rope Stoppers see page 178.

Crossover Clamps			code	price
to fit	length	weight		
3 mm wire rope	19 mm	37 g	WIR4103SS	£2.27
4 mm wire rope	21 mm	37 g	WIR4104SS	£2.38
5 mm wire rope	23 mm	37 g	WIR4105SS	£2.79
6 mm wire rope	25 mm	37 g	WIR4106SS	£3.07

# RINGS & SWIVELS

## RINGS



**Petzl Ring Open** An aluminium manual locking attachment with massive scope as a semi-permanent connection for PPE, or for joining wires or ropes. The plastic spacer unfastens using the supplied 3 mm Allen key and leaves an 11 mm opening wide enough to

take rope with sewn terminations. Tighten the pin following maker's instructions for 23 kN on all axes. Conformity: CE EN 362: 2004/M

Petzl Ring Open		Min BL	code	price
int Ø	ext Ø	opening	wt	on all axes
45 mm	70 mm	11 mm	70 g	23 kN
			PETP28	£16.40



**Steel Welded Rings [self-colour]** Useful for a multitude of purposes including lightweight multi-legged suspension, heavy-duty curtain rings and useful securing points when used with Grummets [page 148]. They are supplied self-colour so they can be welded directly to steel work or cut open and re-welded. For lifting purposes use Rated Shackles [page 180] or Masterlinks [page 195].

Welded Rings		code	price
int Ø	mat Ø		
32 mm	6 mm	WIR465	£1.14
38 mm	5 mm	WIR466	£0.81
50 mm	8 mm	WIR462	£1.19
63.5 mm	9.5 mm	WIR467	£1.98



**Bright Nickel-Plated Rings** A lighter weight ring ideal for curtains.

Bright Nickel Plated Rings		code	price	100+
int Ø	mat Ø			
19 mm	3.24 mm	WIR600	£0.28	£0.12
25 mm	4.06 mm	WIR602	£0.30	£0.23
32 mm	4.06 mm	WIR604	£0.34	£0.24
50 mm	4.06 mm	WIR606	£0.48	£0.35



**Nylon 6 Rings** These rings are tough and much quieter and lighter than steel rings. The breaking strain was determined on a test rig and all the rings proceeded to elongation and necking rather than cracking. They will not break when hit with a sledgehammer in a vice.

Nylon 6 Rings		code	price	100+		
int Ø	ext Ø	mat Ø	Min BL			
43.3 mm	68.5 mm	12.6 mm	1,550 kg	WIRN6R43	£0.50	£0.36
58.4 mm	86.5 mm	14.5 mm	1,850 kg	WIRN6R58	£0.60	£0.43
89.2 mm	119.6 mm	15.2 mm	2,020 kg	WIRN6R89	£0.92	£0.67



**Stainless Steel Welded Rings** Made from 316 marine-grade stainless steel. These rings have a very smooth profile.

SS Welded Rings		Min BL	code	price	100+		
int Ø	ext Ø	mat Ø	kN	kgf			
30 mm	38 mm	4 mm	3 kN	305 kg	WIR436430SS	£0.43	£0.39
40 mm	52 mm	6 mm	7 kN	713 kg	WIR436640SS	£0.90	£0.81
50 mm	66 mm	8 mm	12.4 kN	1,264 kg	WIR436850SS	£1.54	£1.39
60 mm	80 mm	10 mm	19.4 kN	1,977 kg	WIR4361060SS	£2.19	£1.98



**Split Rings** Bright nickel-plated. For keys, curtains and attaching light-duty lanyards. Our split rings have smooth tapered ends so they do not catch the material.

Split Rings		code	price	100+
int Ø	ext Ø			
12 mm	19 mm	WIR904	£0.10	£0.09
22 mm	25 mm	WIR905	£0.15	£0.10
34 mm	38 mm	WIR907	£0.29	£0.20
46 mm	50 mm	WIR909	£0.65	£0.50

## SWIVELS



Micro with gate



Small



Gated



Large



**Petzl Swivels** Prevents ropes from twisting when the load is turning. With the exception of the Micro, they are all mounted on sealed ball bearings. Available in four types. Micro [CE, EAC certified], Small [CE certified] and Gated [CE, NFPA 1983 Technical Use and EAC certified] are for one-person. Micro and Gated open to avoid the need for extra connectors. Large is for two-person use [CE and NFPA 1983 General Use certified].

Petzl Swivels	weight	Min BL	code	price
Micro	75 g	23 kN	PETP58XS0	£44.50
Small	95 g	23 kN	PETP58S	£50.62
Gated	130 g	23 kN	PETP58S0	£63.50
Large	150 g	36 kN	PETP58L	£59.00



**Stainless Steel Swivels** 316 marine-grade stainless steel. Available as jaw-to-jaw or eye-to-eye types. Not certified for lifting purposes.

Stainless Steel Swivels		Min BL	code	price		
pin Ø	int width	length	kN	kgf		
5 mm [eye/eye]	13 mm	60 mm	6.4 kN	652 kg	WIR4215SS	£1.60
6 mm [eye/eye]	15 mm	65 mm	9.2 kN	937 kg	WIR4216SS	£1.77
8 mm [eye/eye]	20 mm	90 mm	16.3 kN	1,661 kg	WIR4218SS	£2.84
5 mm [jaw/jaw]	11.5 mm	60 mm	6.4 kN	652 kg	WIR4235SS	£1.91
6 mm [jaw/jaw]	12 mm	66 mm	9.2 kN	937 kg	WIR4236SS	£2.24
8 mm [jaw/jaw]	16 mm	94 mm	16.3 kN	1,661 kg	WIR4238SS	£3.69

## DELTA RINGS & D-RINGS



D ring



Delta

**Delta Rings and D-Rings** 316 marine-grade stainless steel delta and D rings with a multitude of uses such as clew plates, multiple pulley arrangements and terminating webbing.

Delta and D Rings		Min BL	code	price			
Shape	mat Ø	int width	int height	kN	kg /kgf		
Delta	6 mm	50 mm	44 mm		4,000 kg	WIR1773	£4.39
Delta	8 mm	50 mm	50 mm		5,000 kg	WIR1781	£9.15
D	3 mm	15 mm	12 mm	1.8 kN	183 kgf	WIR437315SS	£0.27
D	4 mm	20 mm	17 mm	3.0 kN	305 kgf	WIR437420SS	£0.32
D	5 mm	25 mm	22 mm	4.8 kN	489 kgf	WIR437525SS	£0.47
D	6 mm	30 mm	27 mm	7.0 kN	713 kgf	WIR437630SS	£0.72

# EYE BOLTS & EYE NUTS

## Eye Bolts – some common problems

Eye bolts are widely used for a variety of purposes including lifting operations. However, many people misunderstand the limitations of eye bolts and this can cause dangerous situations to arise. All eye bolts are held in place by the thread. Obviously, the length of the thread engagement is important but also the type of thread. Fine threads are unsuitable for lifting purposes as they provide insufficient landing area. A common error is to over-tighten eye bolts which should only be tightened by hand. Even tightening by hand can stress small diameter threads so for lifting purposes a minimum thread diameter of 12 mm is recommended. The collar must be properly seated against the substrate. For this reason the tread on lifting eye bolts is relieved with a small recess at the junction of the collar to the thread to ensure a totally flat mating surface. Dynamo eye bolts were originally designed to be fixed into the tapped hole on the top of dynamos. The hole was in the centre of gravity and they were designed only to ever take a straight pull. Off axis loading by just 5° can stress the eye bolt. Collared eye bolts can take reduced loads at angles but only in the plane of the eye. If the eye bolts are to be used for bridles it will be unlikely that hand-tightening the eyes will result in alignment of the plane of the eyes within 5°. In this case fine shims will need to be added until the eye bolts align. To avoid this alignment problem Flints stocks the Starpoint VRS eye bolt that adjusts to the direction of the load and is an excellent solution for lifting items where the alignment may change during rigging [speaker cabinets or permanently installed multi-purpose lifting points etc.].

All lifting operations should be carried out by a competent person.

## Weight Loadings

Flints uses the information supplied by the manufacturers to give you an indication of the strength of the product. It can get a bit confusing! Generally speaking the Safe Working Load [SWL] is the same as the Working Load Limit [WLL], never more. The Working Load Limit is the maximum design load of the product, you may enforce a lower SWL for certain applications. This is generally expressed in kilogrammes [kg] or tonnes [t]. Some manufacturers express the strength as the Minimum Breaking Load MBL. We use Min BL because occasionally manufacturers use a "mean" breaking load. This is sometimes expressed as kilonewtons [kN] a unit of force. This can be converted to kg [page 162] but strictly speaking it is kgf – kilogram force. You will then need to apply your own safety factor.

## Adjusting ratings for non-vertical loads

If it is stated that a load may be applied at an angle then the working load limit should be reduced as follows. If the direction of the pull is 45° the adjusted working load will be 30% of rated load. If the pull is 90° the adjusted working load will be 25% of the rated load.

**N.B.** The pull must be in the same plane as the eye [+/- 5°].

**N.B.** For lifting purposes choose eye bolts M12 or greater.

## EYE BOLTS



### Drop Forged Collared Long and Short Shank Eye Bolts

Tested and certified. Unlike Dynamo eye bolts these may be used with loads applied at angles although the pull must

be in the same plane as the eye. Suitable for trunion lifting. Safe working loads will be reduced, see box 📦. Choose M12 threads for lifting purposes. Self-colour.

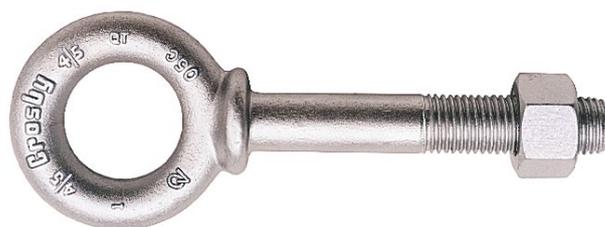
Drop Forged Collared Long/Short Shank Eye Bolts				code	price
thread Ø	thread length	int. eye Ø	vertical SWL		
M10	18 mm	14 mm	250 kg	WIR15110	£2.18
M12	18 mm	14 mm	400 kg	WIR15112	£2.81
* M12	178 mm	18 mm	400 kg	WIR15662	£12.60

The above eye bolts comply to British Standards as follows:

Short Shank code WIR15112 to BS 4278 Part 1 1984.

[The scope of this standard starts at M12 - the M10 is machined from an M12 forging].

\* Long Shank code WIR15662 did conform to BS 529 Part 1 1944 but this standard has now been withdrawn.



### Crosby Forged Steel Rated Eye Bolts With Nuts

**[Type G277]** Made from forged steel, then hot-dip galvanised. Supplied with a hot-dip galvanised heavy hex nut. UNC Thread. These bolts are supplied with fitting instructions. The ultimate load is five times the manufacturer's working load. Loads may be applied at an angle [in the plane of the eye] but in these cases the collars of the bolts must be secured flush to the load surface. The rating must be reduced as shown in the information box at the top of this column. For vertical loads the shank may protrude. Although the bolts are supplied with nuts we also stock spare nuts as replacements or as locking nuts.

Crosby Forged Steel Rated Eye Bolts with Nuts [Type G277]				code	price
thread Ø	thread length	int. eye Ø	vertical WLL		
3/8"	114 mm	19.1 mm	700 kg	CRO2776	£19.30
1/2"	152 mm	25.4 mm	1,180 kg	CRO2778	£27.85

Spare Nuts for above		code	price
3/8"		CRO88317	£3.25
1/2"		CRO88305	£1.47



### Crosby Forged Steel-Rated Short Shank Eye Bolts

**[Type M279]** Made from quenched and tempered forged steel. Designed to be inserted into

a tapped hole of at least the tapped length plus one half the diameter of the bolt. These bolts are supplied with fitting instructions. The ultimate load is five times the manufacturer's working load. Loads may be applied at an angle in the plane of the eye but ratings must be reduced as shown in the information box 📦.

Crosby Forged Steel-R Short Shank [Type M279]				code	price
thread Ø	thread length	int. eye Ø	vertical WLL		
M6	13 mm	19.1 mm	200 kg	CRO2792	£22.41
M8	13 mm	22.4 mm	400 kg	CRO2794	£25.65
M10	17 mm	25.4 mm	640 kg	CRO2796	£28.88
M12	20.5 mm	30.2 mm	1,000 kg	CRO2798	£34.33

## DYNAMO EYE BOLTS



**Long Shank Dynamo Eye Bolts** Commercial quality drop forged eye bolts, intended to fix through a surface material with a hex nut to provide a single fixing point. The load must be a vertical pull and the bolt must be tightened down to the shoulder. Self-colour.

Long Shank Dynamo Eye Bolts				code	price
thread Ø	thread length	int. eye Ø	vertical SWL		
3/8"	4"	7/8"	250 kg	WIR424	£4.98
1/2"	4"	1 1/8"	320 kg	WIR425	£5.45
8 mm	100 mm	21 mm	150 kg	WIR426	£3.93
10 mm	100 mm	21 mm	250 kg	WIR427	£3.97
12 mm	100 mm	28 mm	320 kg	WIR429	£4.99



**Short Shank Dynamo Eye Bolts** These eye bolts are primarily designed to go into tapped holes. The manufacturer's SWL will only apply if the tap depth is the full threaded length plus

one half the diameter. The ultimate load is four times the manufacturer's vertical SWL. Suitable for vertical loads only. Self-colour.

Short Shank Dynamo Eye Bolts				code	price
thread Ø	thread length	int. eye Ø	vertical SWL		
3/8"	3/4" BSW	13/16"	5 cwt	WIR420	£6.10
1/2"	1" BSW	1 1/8"	10 cwt	WIR421	£2.86
8 mm	18 mm	21 mm	150 kg	WIR419	£1.90
10 mm	18 mm	21 mm	250 kg	WIR422	£1.54
12 mm	18 mm	21 mm	320 kg	WIR423	£1.95

## COMMERCIAL FOLDED AND WELDED EYE BOLTS

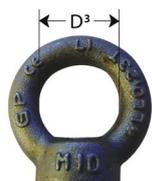


**Folded and Welded Eye Bolts** A commercial quality straining eye bolt suitable for light duty non-lifting applications. Supplied with nut and washer. Zinc-plated.

Folded and Welded Eye Bolts				code	price
thread Ø	L [nom length +/- 5%]				
1/4"	6"			FIX3075	£1.38
5/16"	6"			FIX3073	£1.21
3/8"	6"			FIX3071	£1.38

Other sizes available to order up to 18" x 3/8".

## STEEL EYE NUTS



**Eye Nuts** Made from C15 carbon steel to Din 582 with a safety factor of 4:1. Other sizes available to order. Self-colour.

Eye Nuts	thread Ø	D3	WLL	code	price
M6		20 mm	70 kg	WIR17306	£1.23
M8		20 mm	140 kg	WIR17308	£1.86
M10		25 mm	230 kg	WIR17310	£2.44
M12		30 mm	340 kg	WIR17312	£2.99

## STAINLESS STEEL EYE BOLTS



**Small Stainless Steel Eye Bolts** Smart collared eye bolt from AISI 304 marine-grade stainless steel ideal for securing small handrail or display wires.

Small SS Eye Bolts			Min BL	code	price
thread Ø	thread length	int. eye Ø	kgf		
M6	50 mm	13 mm	1,300 kg	WIR370650	£7.81
M6	100 mm	13 mm	1,300 kg	WIR370600	£8.20
M8	50 mm	15 mm	2,400 kg	WIR370850	£8.80
M8	100 mm	15 mm	2,400 kg	WIR370800	£10.52



**Short Shank Stainless Steel Eye Bolts** Manufactured to Japanese Industrial Standard [JIS B 1168] from AISI 316 marine-grade stainless steel.

Short Shank SS Eye Bolts			Min BL	code	price	
thread Ø	thread length	int. eye Ø	kN	kgf		
M6	10 mm	15 mm	8.2 kN	835 kg	WIR8316SS	£1.31
M8	15 mm	20 mm	14.5 kN	1,478 kg	WIR8318SS	£1.53
M10	18 mm	25 mm	22.6 kN	2,303 kg	WIR83110SS	£2.41
M12	22 mm	30 mm	32.6 kN	3,323 kg	WIR83112SS	£3.63



**Long Shank Stainless Steel Eye Bolts** Made from AISI 316 marine-grade stainless steel. Supplied with nut and washer.

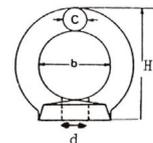
Long Shank SS Eye Bolts			Min BL	code	price	
thread Ø	thread length	int. eye Ø	kN	kgf		
M6	60 mm	15 mm	8.2 kN	835 kg	WIR812660SS	£1.60
M8	80 mm	20 mm	14.5 kN	1,478 kg	WIR812880SS	£1.72
M10	100 mm	25 mm	22.6 kN	2,303 kg	WIR81210100SS	£2.84
M12	120 mm	30 mm	32.6 kN	3,323 kg	WIR81212120SS	£4.71



**Stainless Steel Eye Bolts with Ring** Made from AISI 316 marine-grade stainless steel. Supplied with nut and washer.

SS Eye Bolts with ring			Min BL	code	price	
thread Ø	thread length	int. ring Ø	kN	kgf		
M6	74 mm	35 mm	7.0 kN	713 kg	WIR8136100SS	£1.60
M8	60 mm	45 mm	12.4 kN	1,264 kg	WIR8138100SS	£2.39
M10	90 mm	50 mm	19.4 kN	1,977 kg	WIR81310150SS	£3.83

## STAINLESS STEEL EYE NUTS



**Stainless Steel Eye Nuts** Made to Din 582 from AISI 316 marine-grade stainless steel.

SS Eye Nuts			Min BL	code	price	
thread Ø	H	b	kN	kgf		
M6	28 mm	16 mm	6.2 kN	632 kgf	WIR103206	£1.15
M8	33 mm	20 mm	8.2 kN	836 kgf	WIR103208	£1.20
M10	42 mm	25 mm	13.5 kN	1,376 kgf	WIR103210	£2.08
M12	51 mm	30 mm	20 kN	2,039 kgf	WIR103212	£3.25

## SPECIALITY EYE BOLTS



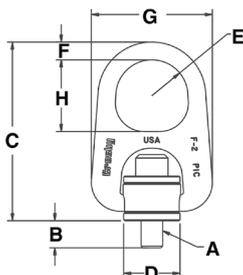
**Starpoint VRS F** Often referred to as "Pink Ladies". The pull on most eye bolts has to be restricted to the plane of the eye but the Starpoint VRS adjusts through 360° to align with the direction of pull. The star-shaped design and striking fluorescent pink powder coating clearly distinguishes it from other eye bolts. Each bolt has a clear WLL

indication for the most unfavourable load direction. Made from high tensile and annealed forged material 1.6541. 100% electromagnetic crack detected to EN 1677-1. With a 4:1 design factor. Refer to flints.co.uk/downloads for data sheets.

- ✓ Ideal for bridle applications as there is no need for shims
- ✓ Safest option for hanging points when the final pull direction can not be pre-determined
- ✓ Clearly visible pink marking for reassurance
- ✓ Rated to the most unfavourable load

Starpoint VRS-F	thread Ø	WLL	weight	code	Tradeline
VRS-F-M10	M10	400 kg	100 g	WIR7104029	£37.08
VRS-F-M12	M12	750 kg	200 g	WIR7101313	£45.76

## HOIST RINGS



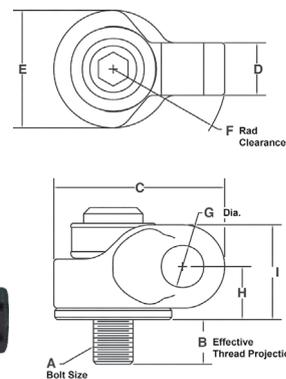
**Crosby® HR-1000M Heavy Lift Swivel Hoist Rings** This heavy duty hoist ring will self-adjust to the load direction without compromising the WLL. The larger eye on this ring will allow for a bigger component to connect than a typical eyebolt - eg the user could easily hook on a chain hoist, without needing additional components. RFID equipped for easy identification and security for sites with the necessary infrastructure. Individually stamped with Crosby® or "CG", PIC [Product Identification Code], WLL, and recommended torque value for traceability and ease of use. They are also individually proof tested to 2.5 x stated WLL. We've opted to stock two sizes, but all Crosby® products are available to order. Please note, the full thread length must be fully engaged with the work piece, rather than passed through and secured with a nut - they should be fitted using a torque wrench set to the recommended torque. The user should always follow manufacturer's assembly and safety guidance.

HR 1000 Hoist Rings	dimensions [mm]								WLL [5:1]	weight	torque
size [A]	B	C	D	E(r)	F	G	H				
M12	15.5	162	49.8	31.8	19.1	107	63.5	1050 kg	1.5 kg	38 Nm	
M20	30.5	162	49.8	31.8	19.1	107	63.5	2150 kg	1.6 kg	136 Nm	

HR 1000 Hoist Rings	code	list	price
M12	CRO1068325	£200.72	£194.63
M20	CRO1068343	£203.84	£198.13

For torque wrenches see page 174

Shown here with a Crosby shackle in place



**Crosby® HR-1200M Side Pull Hoist Rings** The primary benefit of using these is that the user can gain extra height when positioning a work piece compared to a top mounted ring; they are rated at 100% WLL for angles up to 90°. Simply use a shackle to connect to a wire rope/sling, passing the pin through the ring for maximum security and loading. Crosby® recommend using their own red pin shackles (page 181) and we have listed the recommend sizes and codes below. Individually stamped with a PIC [Product Identification Code] for material traceability, along with the WLL. They are individually proof tested to 2.5 x stated WLL. We've opted to stock three sizes, but all Crosby® products are available to order. Please note, the full thread length must be fully engaged with the work piece rather than passed through and secured with a nut - they should be fitted using a torque wrench set to the recommended torque. The user should always follow manufacturer's assembly and safety guidance.

HR 1200 Side Pull Rings	dimensions [mm]								WLL [5:1]	weight	torque
size [A]	B	C	D	E	F	G	H	I			
M8	16.9	49	18.3	25.4	39.6	20.3	21.6	36.3	300 kg	1.5 kg	10 Nm
M10	16.9	49	18.3	25.4	39.6	20.3	21.6	36.3	400 kg	1.5 kg	16 Nm
M12	17.2	75.4	24.6	50.8	54.1	23.6	27.2	45.5	1000 kg	1.5 kg	38 Nm

HR 1200 Side Pull Rings	code	list	price
Crosby compatible shackles			
M8	2 t CRO2096 / 3.25 t CRO2097	CRO1067803	£122.73 £119.15
M10	2 t CRO2096 / 3.25 t CRO2097	CRO1067807	£124.80 £121.21
M12	3.25 t CRO2097 / 4.75 t CRO2109	CRO1067811	£147.68 £143.35

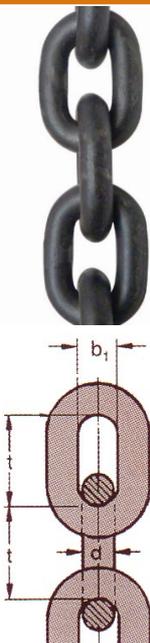
To see the full spec and pricing of the compatible shackles recommended by Crosby® see page 181. For torque wrenches see page 174

# CHAIN PRODUCTS

## Chain Grades

Chain comes in various grades. Before high-grade steels were available it was found that a chain made from 1" diameter mild steel would break at 30 tons. A mild steel chain became known as Grade 30 chain. A chain made to the same dimensions from Grade 60 steel would break at 60 tons – twice as strong. Nowadays most lifting chain is Grade 80, although even higher grades are available. One problem with these high-grade chains is that they would be susceptible to hydrogen embrittlement if they were galvanised. This is why most anchor chains which need to be galvanised are still made from grade 30 or grade 40 steel [although grade 70 galvanised chain is obtainable – please ask our Rigging Manager for details]. Due to the reliability of modern manufacturing the safety factor on lifting chains has been reduced to 4:1. Lifting chains will have the grade embossed on every 20th link of every metre.

## GRADE 80 LIFTING CHAIN



**Grade 80 Alloy Chain [according to DIN EN 818-2]** This chain is made from heat-treated alloy steel and is recommended for overhead lifting purposes. Flints stocks nominal 8 mm Grade 80 chain but we can supply other sizes to orders from nominal 6 mm to nominal 26 mm. The chain is hard to cut so we supply it in selected lengths with a range of accessories to fit. We can also supply ready-made chain systems with a shortening clutch so that onsite adjustments to the chain length can be quickly and simply made. The chain may be used at temperatures from -40°C to +200°C without effect on the strength. The chain is a natural black colour and finished with a glossy varnish. It must not be zinc-plated or galvanised. Supplied with certification.

SAFETY	Min Breaking Load	Safety Factor	WLL
	8,000 kg	4:1	2,000 kg

### Grade 80 Alloy Chain Nominal Thickness 8 mm

SPECIFICATION: Dimension 'd': 8 mm. Dimension 't': 24 mm. Dimension 'b': 10.8 mm. Compliance: DIN EN 818-2. Colour: Natural black with glossy varnish. Weight per metre: 1.5 kg.

Grade 80 Alloy Chain	length	WLL	code	price
	1 m	2,000 kg	WIRCH881	£9.27
	2 m	2,000 kg	WIRCH882	£18.51
	3 m	2,000 kg	WIRCH883	£28.46
	5 m	2,000 kg	WIRCH885	£46.27
	10 m	2,000 kg	WIRCH8810	£92.75
Bundle	50 m	2,000 kg	WIRCH8850	£425.85
Drum	200 m	2,000 kg	WIRCH88200	£1,278.67

## Why choose chain?

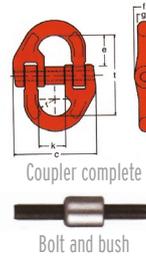
Chain is very robust and will withstand harsh treatment. Unlike wire or rope it will self-store in a very small area and it doesn't require careful coiling or winding onto a reel. Assemblies can be easily made up using specially designed fittings which do not need expensive machines or lengthy training to fit. Modern chains are very strong and reliable. Choose chain whenever you need a lifting assembly to perform reliably in tough conditions.

## GRADE 80 LIFTING CHAIN ACCESSORIES



**Shortening Clutch** This Grade 80 clutch is fitted directly to the chain and allows chains to be quickly adjusted in length. It is especially easy to handle and user-friendly. You can purchase the shortener part only, or order made-up chains with a shortener and Masterlinks at each end. We stock short [5 links] pieces of Grade 80 nominal 8 mm chain especially for attaching shorteners. The shortener is supplied with hardened dowel and securing pins.

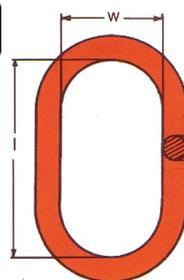
Shortening Clutch	WLL	code	price
Shortener only	2,000 kg	WIRCH88EK	£54.52
2 m assembly	2,000 kg	WIRCH88EK2	£100.65
3 m assembly	2,000 kg	WIRCH88EK3	£108.21
5 m assembly	2,000 kg	WIRCH88EK5	£123.53



**Coupling Link** This Grade 80 link is used to join chains or to join chains to Masterlinks or Eye Hooks. Supplied complete with bolt and bush [although these can also be purchased separately].

Coupling Link	WLL	code	price
Coupler complete	2,000 kg	WIRCH88VG	£11.09
Spare bolt and bush	2,000 kg	WIRCH88VGB	£6.34

## MASTERLINKS



**Masterlinks Grade 80 Size 8** Available to take your own couplers or shackles. Conforms to DIN 5688-8. Supplied with certification. SPECIFICATION: Dimension 'd': 16 mm. Dimension 'w': 60 mm. Dimension 't': 110 mm. Colour: red-coated.

Masterlink	WLL	code	price
	2,500 kg	WIRCH88A16	£7.27

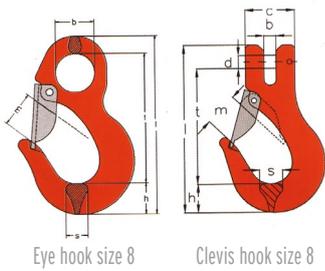


**Crosby Masterlinks A344** Made from alloy steel, quenched and tempered, then proof-tested at 2.5 times Working Load Limit [4:1]. Each link has an identification code for traceability. Masterlinks are used to create linked assemblies, such as multi-legged slings. Supplied with certification. Use 4:1 factor for chain.

## SAFETY

Masterlinks A344	WLL 5:1	WLL 4:1	code	price
13 x 120 x 60 mm	2.5 t	2.12 t	CRO34413	£13.35
17 x 160 x 90 mm	4 t	3.15 t	CRO34417	£17.36
19 x 160 x 90 mm	6.5 t	5.3 t	CRO34419	£26.42

**GRADE 80 HOOKS**



**Eye Hooks and Clevis Hooks Grade 80 Size 8**  
Available either as an eye hook or with a clevis fitting to go straight onto your Grade 80 nominal 8 mm chain.

Eye Hooks and Clevis Hooks	WLL	code	price
Eye hook size 8	2,000 kg	WIRCH88SOB	£13.04
Clevis hook size 8	2,000 kg	WIRCH88SGB	£14.83



**Crosby Eye Chain Hooks with Latch M-315A** Made from forged alloy steel, quenched and tempered, then proof tested at 2.5 times Working Load Limit. Also meets proposed ASTM and Euronorm standards for Grade 80 chain fittings. Features large throat opening and integrated heavy-duty latch.

Eye Chain Hooks With Latch M-315A					code	price
chain size	LxW	throat	eye ø	WLL		
6 mm	114 x 66 mm	20.6 mm	20 mm	1.12 t	CROS315A6	£22.03
7-8 mm	156 x 89 mm	27.4 mm	28 mm	2 t	CROS315A8	£30.57
10 mm	200 x 111 mm	36.1 mm	36 mm	3.15 t	CROS315A10	£50.51

See also the stainless steel chain grab hooks ↴.



**Stainless Steel Eye Chain Hooks** Allows a temporary hauling line to be attached anywhere along a length of short link nominal 8 mm chain [which will only accept shackles on the final links]. Widely used on anchor chains to prevent snubbing by attaching a length of stretchy nylon rope which takes the strain while a loop of slack chain hangs below. Now available with a plunger. See also shortening clutches [see previous page].

Chain Hooks	chain size	slot width	Min BL	code	price
Standard	8 mm	10 mm	2,800 kg	WIR871	£14.00
Plunger	8 mm	10 mm	1,600 kg	WIR2984	£23.04

**CROSBY CONNECTING LINKS**



**Crosby "Missing Link" Replacement Links 6-335** Made from forged steel, quenched and tempered. Integral rivets join the two halves. After the connection is made the rivets must be peened. These joining links are not suitable for Grade 80 or 100 chain or for overhead lifting purposes. Meets or exceeds the performance requirements of US Fed. Spec. RRC-271D, Type 11, except for those provisions required of the contractor. Often used to extend or join anchor chains.

Crosby "Missing Link" Replacement Links					code	price	10+
chain size	L x W	WLL					
8 mm	42.9 x 29.5 mm	0.89 t	CROG3358	£13.34	£12.47		
10 mm	52.5 x 35.1 mm	1.25 t	CROG33510	£13.86	£12.51		

Visit [arthurbeale.co.uk](http://arthurbeale.co.uk) for more marine products.

**GRADE 30 & 40 CHAIN**



**Short Link Chain DIN 766 Grade 30 & 40** These chains are welded, tested and certified and are suitable for general purposes – typically moorings. The short links mean that it is not possible to shorten the chain using shackles. Our 60 m length is fitted with an oversized end link. SPECIFICATION: Chain size: 8 mm. Inside link size [l x w]: 24 mm x 10 mm. Weight per metre: Grade 30 1.35 kg, Grade 40 1.4 kg.

Short Link Chain	BL	WLL	length	code	price
Grade 30 self-colour	32 kN	800 kg	per m	WIR872	£9.90
Grade 40 galvanised	40.2 kN	1000 kg	per m	WIRAQUA408	£6.50
Grade 40 galvanised	40.2 kN	1000 kg	60 m	WIRAQUA40860L	£367.90

Other sizes and types are available to order.

**LONG LINK CHAIN**



**Long Link Welded Chain**

Please note that the link size specifies the diameter of the wire and then the inside length of the link. MRL = maximum recommended load. Available black japanned or bright zinc-plated. Use short link Grade 80 chain for lifting purposes.

Long Link Welded Chain		code	per m	code	per m	price
link size	MRL	black		bright zinc-plated	per m [from qty]	
2.5 x 19 mm	30 kg	WIR823	£1.65	WIR803	£1.65	£1.49 [30 m+]
3 x 21 mm	50 kg	WIR825	£2.17	WIR805	£2.17	£1.96 [30 m+]
4 x 19 mm	100 kg	WIR827	£3.20	WIR807	£3.20	£2.88 [30 m+]
4 x 26 mm	85 kg	WIR829	£3.32	WIR809	£3.32	£2.99 [30 m+]
5 x 28 mm	130 kg	WIR831	£4.22	WIR811	£4.22	£3.80 [25 m+]
6 x 33 mm	140 kg	WIR833	£5.77	WIR813	£5.77	£5.20 [15 m+]
6.5 x 36 mm	150 kg	WIR835	£5.98	WIR815	£5.98	£5.39 [15 m+]

**DECORATIVE CHAIN**



**Polythene Chain** A lightweight display chain.

Polythene Chain	code	per m	25 m+
White [8 x 45 mm]	WIR34476WC	£2.81	£2.15
Black [8 x 45 mm]	WIR34476JC	£2.81	£2.15



**Single Jack Chain** An open-link steel chain, formed in a figure eight. Bright zinc-plated. Used principally for weighting the bottom pocket of theatre drapes and cloths.

Single Jack Chain	length	approx wt	code	price
8 gauge [4 mm]	10 m	2.8 kg [per 10 m]	WIR861	£19.95
12 gauge [2.5 mm]	10 m	1.1 kg [per 10 m]	WIR862	£11.85

**Decorative Brass Chains**  
See page 253

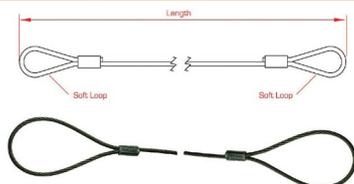


# SAFETY BONDS

## Safety Bonds

Used as a fail-safe should the primary suspension fixing fail. Use for all suspended fixings, including lighting and sound equipment, particularly where items are suspended over people's heads. Try to ensure there is as little slack in the bond as possible as the loads given are based on static loads rather than dropped loads. A 3 mm Ø soft loop will pass through the hole in the Electro Kabuki. See Safety Lanyards for personal protection [pages 333 - 335]. See Small Tool Lanyards [page 336].

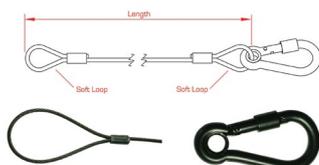
## GENERAL PURPOSE BONDS



**General Purpose Bond** These black wire rope assemblies can be fitted with your own connector to perform a wide range of functions.

connectors	wire Ø	length	WLL	code	price
N/A	3 mm	600 mm	100 kg	DOUT2849001	£4.21
N/A	4 mm	600 mm	175 kg	DOUT2852001	£7.03

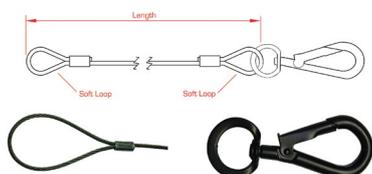
## ACCESSORY BOND WITH CARBINE



**Accessory Bond with Carbine** These popular lightweight bonds are fitted with a captive eye carbine hook. Designed for lightweight lighting accessories.

connectors	wire Ø	length	WLL	code	price
One M6 x 60	2 mm	600 mm	20 kg	DOUT2841001	£9.08

## ACCESSORY BOND WITH SWIVEL



**Accessory Bond with Swivel** These shorter lightweight bonds are fitted with a swivel hook. Designed for lightweight lighting accessories.

connectors	wire Ø	length	WLL	code	price
One M6 x 60	2 mm	600 mm	5 kg	DOUT2840001	£7.56

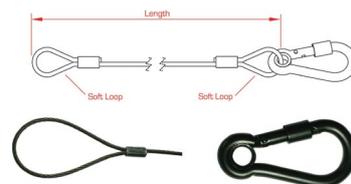
## SAFETY CHAINS



**"Safety" Chains** Black enamelled 21 x 3 mm chain fitted with a spring hook at one or both ends. Suitable for lightweight items only, use CE marked accessory or safety bonds for heavier items.

Safety Chains	length	code	price
Spring hook one end	600 mm	FHS121	£2.22
Spring hook both ends	600 mm	FHS121D	£3.35

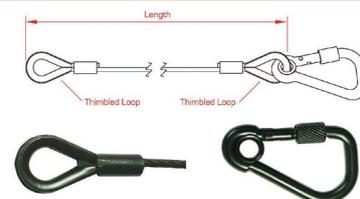
## SAFETY BONDS WITH CARBINES



**Safety Bond with Carbine** These 3 mm wire bonds are fitted with a captive eye carbine hook at one end or both ends.

Safety Bond with Carbine	connectors	wire Ø	length	WLL	code	price
One carbine hook		3 mm	600 mm	15 kg	DOUT22001	£4.66
Two carbine hooks		3 mm	600 mm	15 kg	DOUT22101	£7.03

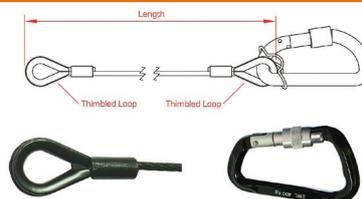
## SAFETY BONDS WITH MOVING LIGHT HOOK



**Safety Bond with Moving Light Hook** These 4 mm wire bonds are fitted with a captive asymmetric Moving Light Hook.

Safety Bond with Moving Light Hook	connectors	wire Ø	length	WLL	code	price
One moving light hook		4 mm	600 mm	36 kg	DOUT2844001	£23.58
One moving light hook		4 mm	1,000 mm	36 kg	DOUT2844501	£24.83

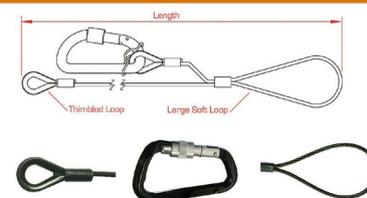
## TV SPEC BONDS



**TV Spec Bond with Karabiner** These heavier wire bonds are fitted with a captive karabiner at one end. They conform to BBC TV 168A.

TV Spec Bond with Karabiner	connectors	wire Ø	length	WLL	code	price
Karabiner		4 mm	700 mm	50 kg	DOUT2820501	£28.37
Karabiner		5 mm	700 mm	75 kg	DOUT2830501	£29.39

## TV SPEC BONDS WITH LARGE LOOP



**TV Spec Bonds with Karabiner [large loop]** These heavier wire bonds are fitted with a captive karabiner on the tail of a large loop. They conform to BBC TV 168A.

TV Spec Bond with Karabiner [large loop]	connectors	wire Ø	length	WLL	code	price
Karabiner		4 mm	480 mm	50 kg	DOUT2820001	£27.02
Karabiner		5 mm	480 mm	75 kg	DOUT2830001	£27.75

# FIBRE ROPES

## Fibre Ropes

For most theatre operations rope is used in some form. The rope may be of natural fibre, man-made fibre or wire rope.

Natural fibre ropes have traditionally been used in "Hemp House" theatres, i.e. to fly scenery above a stage where there is no counterweight system and all lifting is done by direct manual effort. It should be noted that the word "hemp" is often misused. Although in the past ropes made from hemp were normally used, it is more common nowadays to use either "flax hemp" or manila. Sisal is an inferior rope and rarely used. British Standards cover the manufacture and use of manila ropes. Use of man-made fibre ropes, such as polyester, is widespread in many applications where previously natural fibre ropes would have been used. Polyester is resistant to oil, chemicals, and changes in ambient temperature and humidity and is smoother to the touch than manila, which has led it to becoming a preferred counterweight line.

The most common application using two types of rope is in counterweight flying systems where the load is suspended by wire rope attached to a counterweight cradle which is restrained to move vertically on the stage side wall. The movement of a balanced counterweight set is by manual hauling of a fibre rope attached to the counterweight top and bottom. Wire ropes are normally used for all power-operated systems such as scenery and lighting hoists. Beware of using ropes made from different materials or of differing sizes of the same material in the same lifting assembly, as the stretch of the rope varies with the material from which it is made. This may result in an unsafe situation, depending on the safe working load of the weakest material.

Natural fibre ropes should comply with BS EN 698, Grade 1 special quality manila or equivalent. Synthetic ropes should comply with BS EN 697 [polyester]. The use of polyamide [nylon] and polypropylene ropes for flying is not recommended as they are susceptible to changes in humidity and temperature.

Load bearing ropes used for "hemp" or counterweight flying should be not less than 16 mm diameter, be of 3-strand construction and be free from serious defects arising from previous use or other cause. Smaller sizes of rope may be used for other purposes e.g. trick lines. Ropes should be stored protected from damp, heat, and the effects of sunlight [either directly or through glass]. The hanging of ropes on wooden or cast cleats permits adequate ventilation.

Where ropes are terminated in a loop or thimble, the splicing shall conform to good commercial practice i.e. not less than **3\*** full tucks for natural rope and **4\*** full tucks for synthetic ropes, which shall be against the lay of the rope, each with all the yarns in the strand. [\*Please note that the Lifting Equipment Engineers Association recommends 4 full tucks for natural ropes and five full tucks for most artificial ropes].

All ropes should be in one continuous length and free from joints. Any free end of rope should be whipped to prevent unlaying.

All ropes and any associated equipment should have an identification and the safe working load marked thereon and be subject to inspection and registration in accordance with safe practice and the appropriate regulations, if any. See our Rope Label System [page 207].

All ropes should have a factor of safety of not less than **8** based on the maximum rope tension when related to the minimum breaking load of the rope.

This information is based on the ABTT Code of Practice for Flying.



**Flax Hemp** The price of real hemp is so high that our manufacturers have changed to using a flax yarn. The strength of this rope is similar to real hemp and it has the same soft feel. Flax hemp is much easier to handle than manila and is therefore the natural rope of choice for hauling lines on counterweight cradles. When the front cloth of *The Lion King* rises, the flyman is hauling on our 22 mm flax hemp. See also our 4-strand hauling line below. Certification: BS EN ISO 1181:2004

Flax Hemp		code	per m	code	per 220 m
diameter	breaking strain				full coil
12 mm	1,120 kg	ROP304	£1.86	ROP304D	£255.07
16 mm	1,900 kg	ROP305	£3.36	ROP305D	£472.01
18 mm	2,350 kg	ROP306	£3.81	ROP306D	£561.66
20 mm	2,910 kg	ROP307	£4.51	ROP307D	£688.40
22 mm	3,490 kg	ROP308	£5.10	ROP308D	£735.51
24 mm	4,140 kg	ROP309	£6.43	ROP309D	£950.97

See our Eye Splicing Service [page 206].



**Manila Rope** These 3-strand ropes are manufactured to BS EN ISO 1181:2004 which has replaced BS EN 698, Grade 1. The ropes of 16 mm and above are suitable for hand-hauled flying in theatres and for control lines on counterweight cradles. Manila is hard on the hands and tends to leave small fibre splinters in soft skin. Flax hemp [see above] is a softer option if the ropes are to be used frequently. Manila has about one-third the strength of polyester but it will not melt when left near a hot lamp [burns at 711° F]. Manila has poor resistance to shock loads because of its low stretch properties. The natural appearance of the rope makes them useful for set dressings.

Manila Rope		code	per m	code	per 220 m
diameter	breaking strain				full coil
6 mm	350 kg	ROP150	£0.43	ROP150D	£39.12
8 mm	545 kg	ROP151	£0.67	ROP151D	£71.71
10 mm	705 kg	ROP153	£0.81	ROP153D	£91.63
12 mm	1,065 kg	ROP155	£1.17	ROP155D	£149.97
14 mm	1,450 kg	ROP157	£1.45	ROP157D	£171.72
16 mm	2,030 kg	ROP159	£2.54	ROP159D	£264.91
18 mm	2,440 kg	ROP160	£3.13	ROP160D	£312.87
20 mm	3,250 kg	ROP161	£3.21	ROP161D	£384.60
22 mm	3,860 kg	ROP163	£3.50	ROP163D	£387.95
24 mm	4,570 kg	ROP165	£3.79	ROP165D	£474.20

See our Eye Splicing Service [page 206].

See page 216 for the Big Block 32 Pulley

## Why 220 m?

220 metres is 120 fathoms which was the British Navy's minimum requirement to anchor a ship. Ropes are still made on "Rope Walks" that are 120 fathoms long.



**Counterweight Hauling Rope** This is a 4-strand rope sometimes referred to as "Shroud Laid" rope. It will be found to be slightly firmer than 3-strand rope and it presents a smoother and rounder outside surface which can be helpful in rope locks or if traction is required around a pulley sheave. Ironically this rope comes in 200 m coils, not sure why!

✓ Ideal for counterweight hauling lines and climbing ropes

Counterweight Hauling Rope		code	per m	code	per 200 m
Ø	breaking strain weight				full coil
20 mm	2,610 kg 316 g/m	ROP3074	£4.63	ROP3074D	£648.92

## COTTON ROPE



**Cotton Rope** A lightweight soft 3-strand rope often used for decorative purposes. It can easily be dyed [page 29] and flame-proofed [page 70]. Cotton rope is rather stretchy due to its soft lay up and is not normally used for lifting purposes. It is, however, very comfortable to handle and so it is very popular with aerialists. Some traditional small boats still like to use cotton mainsheets.

See also our specialist aerial splicing [page 206].

- ✓ Very soft to handle
- ✓ Excellent decorative rope

Cotton Rope	code	per m	code	per 55 m
diameter				full coil
12 mm	ROP405	£1.65	ROP405D	£75.63
18 mm	ROP407	£3.35	ROP407D	£162.48
24 mm	ROP409	£5.45	ROP409D	£265.00

Cotton Rope	code	per m	code	per 110 m
diameter				full coil
28 mm	ROP410	£4.15	ROP410D	£358.15
32 mm	ROP411	£5.50	ROP411D	£475.55

Also see Barrier Rope [page 205] for an alternative soft 3-strand decorative rope.

For paper rope see page 95

## ARTIFICIAL HEMP



**Artificial Hemp** A natural coloured 3-strand synthetic rope with a similar feel to hemp but the strength and rot resistance of synthetics. This type of artificial hemp is made from spun polypropylene with a natural hemp colour. It is UV resistant, does not rot, floats on water and is easy to splice.

Specifications: Melting point: 165-175 °C. Resistance to short term heat: 80 °C.

- ✓ Easy to splice
- ✓ Economical
- ✓ Floats

Artificial Hemp	code	per m	code	per 100 m
diameter				full reel
6 mm	ROP190	£0.31	ROP190D	£26.07
8 mm	ROP191	£0.47	ROP191D	£42.34
10 mm	ROP195	£0.70	ROP195D	£58.29
12 mm	ROP192	£1.02	ROP192D	£86.35
14 mm	ROP193	£1.27	ROP193D	£105.74
16 mm	ROP194	£1.58	ROP194D	£133.37
18 mm	ROP196	£2.00	ROP196D	£166.95
20 mm	ROP1965	£2.52	ROP1965D	£208.70
24 mm	ROP197	£3.51	ROP197D	£297.22

For Historic 3 mm Twine on 15 m reels see page 204.

### The Biggest Difference between Natural and Artificial Ropes?

Apart from the obvious, there is a very fundamental difference. Natural fibres are short, generally only a few inches long. The ropes are made by twisting these together, there is no glue, just the friction between the fibres providing the strength. Artificial ropes use continuous fibres running the length of the rope.

See page 216 for the Big Block 32 Pulley

## Low-Load Pulley for Large-Diameter Ropes!



**Big Block 32** This brilliant new pulley has been made especially for us by Barton Marine [see their other excellent pulleys from page 202]. Quite often when working on stage the designer requires a much larger rope than is actually required in regards to the weight it has to lift - to make it look more 'real', or to exaggerate the perceived weight. As such, a heavy duty pulley is not necessarily required,

and the expense of one not justified, thus this pulley was born!

- ✓ Up to 32 mm rope capacity
- ✓ Swing Cheeks; allows the block to inserted onto pre-rigged lines and the over large hole will take any connector.
- ✓ Economical
- ✓ Good for all large diameter ropes [page 193]

Specification: takes up to 32 mm Ø rope. WLL 225 kg [4:1 safety factor]. 316 grade stainless steel with a "Spectro" anodised aluminium sheave. CE marked.

Big Block 32	max rope Ø	WLL	code	price
sheave Ø: 72 mm	32 mm	225 kg	FHSSC32	£118.62

### Taking Rope from a Coil



The inside of a new coil is in the form of a round tunnel. At one end of the tunnel is the inside end of the line. This inside end always comes out first, usually from the bottom of the tunnel and up through the tunnel. Reach through the tunnel until you find the end, and determine on which end to set the coil so the line will uncoil in a counterclockwise direction. It can be hard to find the end but it will be there. It is

well worth getting this right!

Reach in, draw the end up through the tunnel, and the entire coil will run off without a kink. The important point to bear in mind is that when you pull on the inside end, the line must uncoil in a counterclockwise direction or it will end up in a mess!

You must always coil in a clockwise direction and uncoil in a counterclockwise direction.

### ...and Coiling 3-Strand Rope

As you coil a rope it will encourage a slight twist. Sometimes, if the rope is long, these twists will build up and the rope will get tighter and tighter until it buckles or kinks. This happens when the rope is coiled the wrong way. Right hand lay rope [and virtually all rope is right hand lay] must be coiled in a clockwise direction. This will open up the lay slightly and prevent it from misbehaving. See our videos on youtube/flintstheatre. There are other methods, such as the gasket coil (this is the preferred technique of Julian Anderson who teaches the ABTT Bronze Course Knot & Splicing day), or the figure-of-eight coiling method. Regardless of which method you use, just make sure it's kink-free!

**3-STRAND POLYESTER**



**Classic 3-Strand Polyester** This is a wonderful rope, soft in feel, easy to coil, natural coloured with all the advantages of modern materials. Made from matt polyester worsted yarn which provides an historic look and excellent grip.

- ✓ A well behaved rope with a soft hand
- ✓ A joy to handle
- ✓ A good choice for use onstage by actors

Classic 3-Strand Polyester [01172]		code	per m	code	per 100 m
diameter	breaking strain				full reel
6 mm	350 kg	ROP117206	£0.74	ROP117206D	£59.81
8 mm	730 kg	ROP117208	£1.08	ROP117208D	£88.06
10 mm	1,100 kg	ROP117210	£1.65	ROP117210D	£136.66
12 mm	1,300 kg	ROP1172112	£2.06	ROP1172112D	£172.14

Larger diameters available to order



See our Eye Splicing Service [page 206].

**Left or Right Hand Lay**  
Put the rope in your right palm and a right hand lay rope will point in the direction of your thumb. Easy.



**Black 3-Strand Polyester** This is a 100% pure polyester rope that is very easy to splice, extremely tensile and abrasion resistant and will not stiffen up. Available in very large diameters. Conformity: DIN 3331/EN 697

- ✓ Working stretch greater than 15%
- ✓ Very easy to splice
- ✓ Heat set
- ✓ Pure deep black
- ✓ Soft to handle, easy to coil
- ✓ Good choice for spliced barrier ropes etc.

Black 3-strand polyester [00111]		code	per m	code	per 100 m
diameter	breaking strain				full reel
4 mm	400 kg	ROP11104	£0.59	ROP11104D	£34.30
6 mm	800 kg	ROP11106	£0.85	ROP11106D	£72.15
8 mm	1,400 kg	ROP11108	£1.34	ROP11108D	£107.19
10 mm	2,000 kg	ROP11110	£1.92	ROP11110D	£153.85
12 mm	2,600 kg	ROP11112	£2.38	ROP11112D	£212.25
14 mm	3,600 kg	ROP11114	£2.94	ROP11114D	£256.85
16 mm	5,000 kg	ROP11116	£4.45	ROP11116D	£339.02
18 mm	6,000 kg	ROP11118	£4.75	ROP11118D	£380.00
20 mm	7,000 kg			ROP11120D	£452.01
24 mm	10,500 kg			ROP11124D	£654.15
30 mm	14,800 kg			ROP11130D	£917.89

Also see Barrier Rope [page 205]. Our Pipe and Large Rope Cutter [page 309] will cut through ropes between 24 and 42 mm diameter.

**Need a pulley for a large diameter rope?**

See the Big Block 32 [page 216]



**BRAIDED (KERNMANTLE) ROPES**

**Braided or Kernmantle?**

They are basically both the same thing. This type of rope construction consists of a core [German "kern" = core] protected by a sheave [German "mantel" = shell]. The core generally provides the strength while the sheave offers protection. They work well with climbing gadgets and tend to coil up easily. Braided ropes are the preferred type for industrial rope access and sport climbing. The main drawback is that they are rather difficult to splice compared to 3-strand ropes.



**Black Herkules** A very resilient multi-functional polyester rope of the highest quality, very durable and low stretch. Cover: spin dyed 1:1 plaited polyester. Core: High tenacity braided polyester. A very popular hauling rope.

- ✓ Working stretch is less than 5%
- ✓ Absolutely non-kinking
- ✓ Excellent adhesion to winch drums
- ✓ Withstands hard winch usage
- ✗ Knot holding not quite as good as our matt polyester

Herkules [01550]		code	per m	code	per 100 m
diameter	breaking strain				full reel
8 mm	1,600 kg	ROP155008	£1.75	ROP155008D	£142.85
10 mm	2,500 kg	ROP155010	£2.45	ROP155010D	£199.95
12 mm	3,500 kg	ROP155012	£3.69	ROP155012D	£309.11
16 mm	5,000 kg	ROP155016	£6.89	ROP155016D	£541.67

Other sizes from 4 mm to 28 mm are available to order by the full reel.

**Why buy your ropes from Flints?**



You will be joining thousands of clients who source their rope from us. Flints sells thousands of metres of rope every week! We are extremely discerning regarding the quality of the ropes that we supply and we have the buying power to specify that the rope is made to suit the exacting needs of our industry. The rope you buy from us will be of a consistent quality. We are able to negotiate on price to pass on real value. Typically our rope is much cheaper than buying from marine suppliers and the quality is absolutely the best. Our main manufacturers have over 100 years of experience and are DIN EN 9001:2000 certified and approved. They're able to produce ropes to tolerances of 0.1 mm or better, with heat treatment within +/-1°C. You can be assured of the best quality with real value.

**Which Knot to use?**

Any knot will reduce the strength of your rope. It is generally agreed that the Figure-of-Eight Loop is one of the strongest knots giving around 75% of the strength of the rope. The Clove Hitch gives around 60% and the Bowline fails between 50% and 60% [scarily it's been recorded to fail as low as 30% in some higher tech ropes]. Anyone working backstage should be able to fluently tie a Bowline and Clove Hitch (secured with an additional half hitch) as the industry standard knots. Be aware that other factors could have a greater effect on the rope's strength, and the reductions stated here are not applicable to all ropes. Tying off your rope around a large diameter smooth cylinder will have little effect on its strength but tying onto a karabiner or anything that forces the rope into a tight bend will weaken the rope. So called "High-Tech" ropes [page 202] should also be treated with caution and never knotted, but always terminated with a spliced eye.



### Matt Black Braided Polyester

A very strong multipurpose rope which is comfortable to handle and easy to coil. The ropes that we supply have a matt cover which, although more expensive than shiny polyester ropes, considerably adds to comfort and grip and it also helps to ensure that knots do not accidentally work loose. Polyester is marginally less strong than nylon but it does have better



chafe resistance, less stretch, and it does not weaken when wet. Synthetic ropes are not ideally suited for permanent dead hanging of equipment in theatres as the rope might weaken if brought into contact with hot lamps or if a fire occurred. Available in pure black or [unflecked] white and now also in classic hemp colour. The 8 mm x 8-plait rope is the ideal hauling line for 3-Way Track, Unitrack, and Unirail tab tracks. Use 6 mm x 8-plait in Halls T60 tracks.

Conformity: BS 4928 DIN EN 697.

Flints can eye splice the 16-plait braided ropes, please see page 206 for prices.

- ✓ Comfortable to handle
- ✓ Matt black finish or pure white
- ✓ Fantastic value
- ✓ Low working stretch – less than 7%
- ✓ Unaffected by moisture
- ✓ Excellent chafe resistance
- ✓ Very good electrical insulation
- ✓ Wide range of sizes
- ✓ Easy to coil
- ✓ Unflecked finish
- ✓ Long-lasting durability
- ✓ Will not rot
- ✓ Good knot holding
- ✓ Very good strength
- ✓ Very good UV resistance
- ✓ Resistant to acid

Also available as Small Cords [page 204].

Our best-selling rope!



### Polyester Ropes in Pure Colours

Flints can supply blue, yellow, green and red matt polyester. These ropes are made especially for us and are pure colour without the usual marker flecks so they can be used for digital keying effects. We can have other diameters made but subject to minimum quantity restrictions. Please phone for details.

Matt Black Polyester		code	per m	code	per 100 m	10+	
diameter	plait	breaking strain			full reel	reels	
6 mm	8	520 kg	ROP120	£1.14	ROP120D	£80.09	£71.70
8 mm	8	1,000 kg	ROP122A	£1.40	ROP122AD	£105.35	£95.68
8 mm	16	1,000 kg	ROP122	£1.40	ROP122D	£105.35	£95.68
10 mm	16	1,900 kg	ROP124	£2.19	ROP124D	£180.21	£163.55
12 mm	16	2,400 kg	ROP126	£2.69	ROP126D	£220.26	£200.09
14 mm	24	2,900 kg	ROP128	£4.22	ROP128D	£346.64	£314.62
16 mm	24	3,500 kg	ROP130	£5.58	ROP130D	£466.77	£421.71
20 mm	24	5,300 kg	ROP134	£6.83	ROP134D	£560.63	£512.18



### Pure Matt White Polyester Rope

The Matt Braided Polyester Ropes are also stocked in pure unflecked white. Yacht ropes normally have coloured marker flecks on them but Theatre Designers like their white ropes white. Flints has these ropes specially made.



Pure white rope...

Matt White Polyester		code	per m	code	per 100 m	10+	
diameter	plait	breaking strain			full reel	reels	
6 mm	8	520 kg	ROP120W	£1.14	ROP120WD	£80.09	£71.70
8 mm	8	1,000 kg	ROP122AW	£1.40	ROP122AWD	£107.45	£97.66
8 mm	16	1,000 kg	ROP122W	£1.40	ROP122WD	£107.45	£97.66
10 mm	16	1,900 kg	ROP124W	£2.19	ROP124WD	£180.21	£163.55
12 mm	16	2,400 kg	ROP126W	£2.69	ROP126WD	£220.26	£200.09
14 mm	24	2,900 kg	ROP128W	£4.22	ROP128WD	£346.64	£314.62
16 mm	24	3,500 kg	ROP130W	£5.58	ROP130WD	£466.77	£421.71
20 mm	24	5,300 kg	ROP134W	£6.83	ROP134WD	£560.63	£512.18

Coloured Polyester Ropes		code	per m	code	per 100 m	10+	
Ø	plait colour	breaking strain			full reel	reels	
8 mm	16 Blue	1,000 kg	ROP122B	£1.53	ROP122BD	£126.39	£111.06
	Yellow	1,000 kg	ROP122Y	£1.53	ROP122YD	£126.39	£111.06
	Green	1,000 kg	ROP122G	£1.53	ROP122GD	£126.39	£111.06
	Red	1,000 kg	ROP122R	£1.53	ROP122RD	£126.39	£111.06
10 mm	16 Blue	1,900 kg	ROP124B	£2.40	ROP124BD	£197.73	£177.95
	Yellow	1,900 kg	ROP124Y	£2.40	ROP124YD	£197.73	£177.95
	Green	1,900 kg	ROP124G	£2.40	ROP124GD	£197.73	£177.95
	Red	1,900 kg	ROP124R	£2.40	ROP124RD	£197.73	£177.95



### Classic Polyester Braided

All the advantages of a modern braided rope but in a traditional natural colour. The outer braid is made from matt polyester yarn which gives excellent grip. The core is plaited polyester. The 20 mm Ø would make for an excellent counterweight line.

- ✓ Traditional appearance
- ✓ Easy to handle
- ✓ Excellent grip

Classic Polyester [00173]		code	per m	code	per 100 m	
diameter	plait	breaking strain			full reel	
6 mm	16	520 kg	ROP117306	£0.83	ROP117306D	£68.34
8 mm	16	1,000 kg	ROP117308	£1.39	ROP117308D	£111.04
10 mm	16	1,900 kg	ROP117310	£2.24	ROP117310D	£181.99
12 mm	24	2,400 kg	ROP117312	£2.76	ROP117312D	£222.73
14 mm	24	2,900 kg	ROP117314	£3.53	ROP117314D	£287.77
16 mm	24	3,500 kg	ROP117316	£4.94	ROP117316D	£400.78

Larger diameters available to order

### Problems with rope sizes?

Take care when choosing a rope to fit existing pulleys. Rope diameters will reduce when a load is applied. Short lengths of 3-strand rope will expand when cut off a coil as the tension is released. Natural fibre ropes will sometimes vary in dimensions slightly from batch to batch. If you think the rope that you need is going to be a close fit please seek advice or ask for a sample before placing an order.

## HIGH TECH ROPES



**Technora 12 Plait Rope** A modern para-aramid fibre rope widely used on camera dollies for accurate positioning.

- ✓ Eight times stronger than steel (weight for weight)
- ✓ Extremely low stretch – ideal for accurate positioning.
- ✓ Does not burn or melt
- ✓ Survives brief exposure up to 400°C.
- ✗ Degrades rapidly when exposed to UV light

Technora Rope		code	per m	code	per 100 m
diameter	breaking strain				full reel
6 mm	2600 kg	ROP15806	£3.93	ROP15806D	£333.15
8 mm	4000 kg	ROP15808	£6.04	ROP15808D	£512.18
10 mm	6300 kg	ROP15810	£9.31	ROP15810D	£789.75



**Dyneema® D-Pro** With this technical line you will achieve optimised breaking strengths with minimal creep due to the Liros Heat Stretch System. Resistance to abrasion, low weight, and ease of splicing are features that make this line the optimum for any application where very high strength and very low stretch are desired. Black.

- ✓ Good choice for high load tab tracks or scenery carriers as it has no outer cover to cause slippage on rope clamps
- ✓ Working stretch less than 1.3% therefore no whiplash
- ✓ Generally higher breaking strength than wire rope with minimal weight
- ✗ Not suitable for knots - must be terminated with a spliced eye

Dyneema® Pro [01505] [E0148]		code	per m	code	per 100 m
diameter	breaking strain				full reel
1 mm	195 kg	ROP150501	£0.72	ROP150501D	£50.03
1.5 mm	230 kg	ROP1505015	£0.78	ROP1505015D	£59.30
2 mm	410 kg	ROP150502	£0.99	ROP150502D	£80.07
3 mm	950 kg	ROP150503	£1.49	ROP150503D	£123.72
4 mm	1,300 kg	ROP150504	£2.26	ROP150504D	£188.68
5 mm	2,600 kg	ROP150505	£3.31	ROP150505D	£275.94
6 mm	4,300 kg	ROP150506	£5.42	ROP150506D	£454.34
8 mm	5,300 kg	ROP150508	£7.05	ROP150508D	£597.42
10 mm	9,000 kg	ROP150510	£10.47	ROP150510D	£822.30



**Matt Black Dyneema® Rope [polyester cover]** These matt pure black Dyneema® ropes have exceptional strength with a low stretch of less than 1.5%. They are covered with a high quality matt 16-plait polyester cover so that they are comfortable to handle. Unlike Kevlar, these ropes are not prone to catastrophic failure and can be run around sheaves with a diameter just five times the rope diameter. The low stretch properties can be very helpful to avoid sagging return lines on long tab tracks.

Dyneema® Ropes		code	per m	code	per 100 m
diameter	breaking strain				full reel
3 mm	400 kg	ROP433	£1.25	ROP433D	£102.68
6 mm	1,000 kg	ROP436	£2.64	ROP436D	£221.68
8 mm	1,500 kg	ROP438	£4.36	ROP438D	£317.26
10 mm	2,400 kg	ROP4310	£6.17	ROP4310D	£530.04

### A Word of Warning

High Tech ropes are immensely strong but that doesn't necessarily mean they are a better choice for all applications. If a falling weight is arrested by a nylon or polyester rope, the rope will stretch and absorb a great deal of the shock loading.

If a falling weight is arrested by a Dyneema® line there will be virtually no stretch and huge impact forces are liable to break the line or tear out the anchor point. I have seen many examples of "weaker" ropes successfully arresting falling weights while much "stronger" Dyneema® ropes have failed.

On the plus side, there will be no whiplash which is why many tug drivers are choosing Dyneema® for their tow lines. So choose Dyneema® when the loads are constant and the lack of stretch is advantageous.

High tech ropes can be useful because of the smaller diameter to strength ratio, provided their limitations are taken into account.

Generally these ropes should be treated as one would treat wire ropes and only terminated with a spliced eye. If in doubt as to the suitability of the rope for the application, check.

### Dynamic, Semi-Static or Static?

Ropes used for industrial access, climbing and fall arrest can be classified as three types:

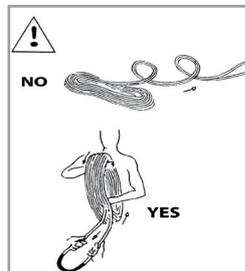
- Dynamic = elongation at break above 40%
- Semi-Static = elongation at break 35 - 40%
- Static = elongation at break below 35%

As nylon [polyamide] is the most stretchy rope it is used almost exclusively as dynamic and semi-static lines. But nylon in its yarn state stretches only 16 - 27% so extra stretch is added by braiding and by heat treatments to ensure a 40% stretch is achieved.

The stretch is an important safety factor as the G-force of a falling object can be roughly calculated by the fall distance divided by the arrest distance. Therefore a person falling 2 m being arrested by a nylon rope which stretched 200 mm would be subjected to a G-force of 10 but if the rope was Dyneema® with just 2 mm stretch the G-force would be 1,000 and possibly fatal.

Dynamic and semi-static lines are classed as PPE [Personal Protective Equipment] Category 3, C-type inspection. They must be made by an ISO 9001 registered company.

### Uncoiling Hanks



courtesy of Beal Ropes

Climbing and industrial access ropes are often supplied as hanks. Be careful because the method of manufacture and hanking varies with different manufacturers. Some have made them more user-friendly but normally if you just grab a new hank of a climbing rope and throw it on the floor you will be in for a very unpleasant surprise! You will end up with a kinked-up mess which could take an hour to sort out. Always read

the instructions before unwrapping the rope. Generally, the way to uncoil a new hanked climbing rope is to slip both your arms through it and then unwind it as if it is rotating on a drum. You will need two people. Don't forget that many semi-static ropes require soaking before they are unbound. Read the instructions!

For demo videos of coiling techniques visit our YouTube channel – <http://www.youtube.com/FlintsTheatre> or simply scan the QR code



## INDUSTRIAL ROPE ACCESS

NEW TYPE



### Beal Dynamic Apollo 11mm diameter

This popular industrial rope is manufactured to the exacting standards you would expect. Supplied as 50 m hanks. They are constructed to withstand an "F2" fall [page 335]. Dynamic ropes are also designed to reduce the impact of a fall. UIAA norm states the impact must be less than 1,200 daN – this rope will transmit 840 daN. EN 892.



**Cow's Tails** create anchor lanyards [Cow's Tails] for the attachment of the user's harness to an anchor point. Check with the harness manufacturer which harness points are suitable for cow's tails. Must not be used to make a fall arrest lanyard in conjunction with an energy absorber. Knots used must have a minimum static strength of 15 kN. Tests show a correctly tied Figure-of-Eight knot gives a minimum static strength in excess of 15 kN. Other knots may not meet the 15 kN strength.

Dynamic Rope			code	price
diameter	type	colour	weight length	
11 mm	Rope	Red	5 g/m 50 m	ROPBC11A50R £116.38
11 mm	Cow's Tail	can vary	330 g 4 m	ROPLICT4A £24.26
11 mm	Cow's Tail	can vary	410 g 5 m	ROPLICT5A £27.84



PPE



### Semi-Static

These ropes are ideal for fixed rigging used exclusively for

descender-descent and ascender-ascent. Minimum elasticity is desirable yet the ropes are semi-static to protect against "F1" falls [page 335]. Soak the ropes before use and dry [expect 5% shrinkage]. The ropes are constructed from 100% nylon [polyamide]. Suitable for use with the ASAP Mobile Fall Arrester [page 337]. Conformity: EN 1891 Type A. Breaking load: 3,263 kgf [3,200 daN]. Breaking load with Figure-of-Eight knot: 2,141 kgf [2,100 daN].

Semi-Static Rope			code	price
type	colour	length		
11 mm Ø	Industry	White	50 m	ROPBCST1150 £108.26
	Intervention	Black	50 m	ROPBCSTN1150 £136.42
	Intervention	Black	100 m	ROPBCSTN11100 £267.94
	Intervention	Black	200 m	ROPBCSTN11200 £535.88

PPE



### Orange Rescue Rope

Beal's bright orange Rescue rope. Highly visible semi-static rope designed especially for easy location in rescue situations. This rope features a polyester sheath. Conformity: EN 1891 Type A. SPECIFICATION: Breaking load: 3,000 daN [kg]. Strength with sewn terminations: 2,400 daN [kg]. Weight: 65 g per metre.

Rescue Rope		length	code	price
10.5 mm Ø		50 m	ROPBCSR105050	£122.77

## SASH CORDS

### Sash Cord

Originally made to counterbalance sash windows. Sash cords were made of natural jute but they were sometimes waxed to help prevent rot. The stiff waxed type was not suitable for stage use. Years ago there wasn't much choice when it came to small cords and jute sash was very popular. Then black cotton "Sash" arrived to fill a need for a black small cord. Pure black polyester "Sash" is now readily available. Polyester is much stronger than jute and less stretchy than cotton. It will not rot but it is more expensive. Matt black polyester sash is listed on page 201. The 6 mm size [ROP120] is the equivalent of No 4, and the 8 mm size [ROP122A] is the equivalent of No 6. So now there's a choice!



**Jute Sash Cord** A natural coloured multipurpose cord suitable for non-load bearing applications. No 6 is the standard cord for throw lines. Widely used in tab tracks [Halls T60 uses No 4] although many people now prefer to use matt polyester [page 201]. Please note: to find the

approximate diameter of the cord add 2 mm to the size of rope quoted [e.g. No 4 sash is approximately 6 mm diameter]. Some clients prefer to order their sash cord in traditional hanks as they find it easier to divvy up the cord amongst the crew. We also stock eight 12.5 m hanks joined to make 100 m. The size 8 is now available in BLACK.

Jute Sash Cord	code	per 100 m
No 4 Jute Sash	ROP042MD100	£27.15
No 6 Jute Sash	ROP044MD100	£44.00
No 8 Jute Sash	ROP046MD100	£53.08
BLACK No. 6 Jute Sash	ROP060BD100	£34.15

8 hanks [100 m - 8 x 12.5 m hanks]	code	price
Joined Hanks of No.6 Jute Sash	ROP044JSJHK	£59.22



### Black Cotton Sash Cord

A very soft natural cotton braided cord dyed black. Rather stretchy but soft to handle. See also 8 mm Matt Black Polyester [page 201].

Black Cotton Sash Cord	code	per m	code	per 100 m
No 6 Cotton Sash	ROP052M	£1.31	ROP052MD100	£91.71



Petzl ASTRO@ BOD FAST

### Working at Height?

To see our full range of harness, ascenders, rope grabs, lanyards and fall arrest equipment, see our Working at Height section on page 319.



Petzl RIG

**CORDS AND STRINGS**



**Nylon Cord** A very strong braided cord. Useful for trip lines and lacing. Nylon has high stretch characteristics when under heavy load. If stretch could pose a problem then choose polyester below or Dyneema® [page 202]. Ends can be sealed with a hot knife. Available in black or white. Polyamide and nylon are two names for the same material. NB: the breaking strain is 10% less when wet.

Nylon Cord	black code	white code	10+
diameter	breaking strain [when dry]	100 m reel	100 m reel
1 mm	35 kg	ROPNC10B £14.66	ROPNC10W £14.66
1.5 mm	40 kg	ROPNC15B £17.40	ROPNC15W £17.40
2 mm	100 kg	ROPNC20B £18.99	ROPNC20W £18.99
2.5 mm	140 kg	ROPNC25B £20.54	ROPNC25W £20.54
3 mm	180 kg	ROPNC30B £25.31	ROPNC30W £25.31
3.5 mm	260 kg	ROPNC35B £28.00	ROPNC35W £28.00
4 mm	340 kg	ROPNC40B £29.98	ROPNC40W £29.98

For extreme use with constant loads we list pure Dyneema® with a higher breaking strength than wire of the same diameter and with a stretch of less than 1.3% [page 202].



**Matt Polyester Cord** These matt polyester cords which have less stretch than nylon and hold their knots perfectly. They make ideal ties for lacing, tying up cables and general use where natural string or sash line would not be strong enough. Available in black or white. Conformity: EN 697.

Matt Polyester Cord	code	per m	code	per 100 m
diameter	colour	breaking strain		full reel
3 mm	Black	110 kg	ROP117	£0.65
	White	110 kg	ROP117W	£0.65
4 mm	Black	170 kg	ROP118	£0.78
	White	170 kg	ROP118W	£0.78
5 mm	Black	300 kg	ROP119	£0.81
	White	300 kg	ROP119W	£0.81



**Boxes of Coloured Polyester Line** Handy boxes of 2 mm or 3 mm diameter brightly coloured polyester line which is very UV resistant, will not stiffen up and is very flexible. Each box has an assortment of red, yellow, green, black and blue. We also sell the 3 mm cords as individual reels.

Box of Ten Assorted Coloured Lines	code	price
diameter	reel length	
2 mm	30 m	ROP10402 £53.81
3 mm	15 m	ROP10403 £64.14

Coloured Polyester Line	code	price	
diameter	colour	reel length	
3 mm	Black	15 m	ROP1043188 £7.20
	White	15 m	ROP1043228 £7.20
	Red	15 m	ROP1043171 £7.20
	Blue	15 m	ROP1043010 £7.20
	Green	15 m	ROP1043086 £7.20
	Yellow	15 m	ROP1043059 £7.20

**NATURAL STRINGS**



**Sisal** A useful traditional ball of string. How long is a ball of string? Twice the distance from one end to the centre.

Sisal String	approx. length	size	code	price
	33 m	250 g ball	ROP058	£2.79
	330 m	2.5 kg ball	ROP055	£12.58



**Tarred Marlin** A wonderful dark brown natural twine which smells of old ships. Heaven. We've sourced the same quality but at a much lower price. See below for Historic Cord.

Tarred Marlin	diameter	size	code	price
Whipping Twine	approx 1 mm	250 g ball	ROP250WT	£14.40
Serving Twine	approx 3 mm	250 g ball	ROP250ST	£14.40

**3-STRAND POLYESTER CORD**



**3-Strand Polyester Cord** Hemp performance, but softer, more weather resistant, and with a higher load performance. Made from spun polyester. Ideal for whipping, lashing and model boat rigging. This is a 3mm version of the Classic 3 Strand Polyester Rope [page 200].

3-Strand Polyester Cord	code	price	10+
diameter	reel length		
3 mm	10 m	ROPHC3N10	£6.79

**FISHING LINE**



**Flints Nylon Monofilament Fishing Line** Use for suspending when wire isn't appropriate and you want the thread to be inconspicuous. Can also be used for fishing. Natural nylon colour.

Fishing Line	breaking strain	code	price	
diameter	kg	lb	reel length	
0.30 mm	4	8.8	100 m	ROPFL03 £1.58
0.60 mm	14	30.8	100 m	ROPFL06 £1.85
1.20 mm	48	105.8	100 m	ROPFL12 £2.05

**BRAIDED LOOPS**



**Braided Loops** These loops are made from black 8 mm polyester braided cord. They are 450 mm long [circumference 900 mm]. When used with a Clummet® they are very useful for keeping your ropes and cables organised. Just trap a loop under the Clummet®, draw it through the coil of rope to be hung up and then hook the loop back over the Clummet®. For Clummet® see page 149.

Braided Loop	code	price
diameter	EWL	
8 mm	450 mm	FHS006LOOP £3.45

## BARRIER ROPES



**Barrier Rope** Soft textured staple fibre polypropylene rope specially made for use as decorative barriers. We now only stock the 24 mm Ø.

Barrier Rope	colour	code	price
per m	Bright Red	ROP420BR	£5.67
	Wine Red	ROP420WR	£5.67
	Green	ROP420V	£5.67
	Royal Blue	ROP420RB	£5.67
	Black	ROP420N	£5.67
	Natural	ROP420E	£5.67
per 25 m coil	Bright Red	ROP420BRD	£106.57
	Wine Red	ROP420WRD	£106.57
	Green	ROP420VD	£106.57
	Royal Blue	ROP420RBD	£106.57
	Black	ROP420ND	£106.57
	Natural	ROP420ED	£106.57



**Barrier Rope Fittings and Standards** Easy to fit good quality fittings to make up rope barriers for theatre foyer and museum use.



End Fittings	code	price
Brass hook for 24 mm	ROP420BH	£6.01
Chrome-plated hook for 24 mm	ROP420BHC	£6.53
1 m high ball topped brass-plated standard	ROPBWS32	£77.17
1 m high ball topped chrome-plated standard	ROPBWS32C	£71.66
Brass eye plates [for wall fixing]	ROPBRS2322	£4.19
Chrome-plated eye plates [for wall fixing]	ROPBRS2322C	£4.19

## ECONOMY ROPE AND STAKES



**Rope and Stakes** Economy grade polypropylene rope suitable for fencing off outdoor areas at festivals and show grounds. Two coil sizes.

The stakes are steel and sold singly. To complete the job you may need Club Hammers [page 297] and Line Marking Chalk Sprays [page 68].

Rope and Stakes	coil size	code	price	10+	
10 mm Ø	Blue Rope	220 m	ROPBC220	£72.02	-
	Blue Rope	30 m	ROPBC30	£14.04	-
	Stake	-	ROPSTAKE	£5.25	£4.71



Take a look at Rescue Tape [page 279].

## SHOCK CORD LOOPS

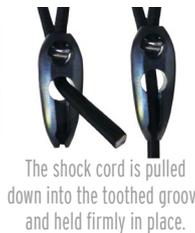


Best-selling product

**Spanfixes – shock cord loops** These loops of shock cord with a nylon hook at one end are hugely popular. They are perfect for stretching projection screens but also useful for

awnings, banners and cloths. The elastic will exert a constant tension giving a totally wrinkle-free cloth even under variable heat, humidity and weather conditions. The loops are made from 5 mm diameter shock cord and measure 250 mm end to end. They will stretch by 100% [+/-10%]. In black or white. Supplied in bags of 10

Shock Cord Loops	code	code	10+	100+			
Ø	length	black	bag of 10	white	bag of 10		
5 mm	250 mm	ROP090	£9.53	ROP090W	£9.53	£8.10	£7.21



**Spaniflex – adjustable shock cord loops** A quickly adjustable black shock cord loop. Made from 5 mm shock cord approx. 500 mm long. Will make a maximum loop of 200 mm. Useful for touring situations when the distance between the cloth and the eyelet can be variable.

Spaniflex	open length	code	bag of 10	10+ bags
5 mm Ø	500 mm approx.	ROP090S10	£13.30	£11.90

We can supply custom Bungee Straps made to your requirements!

## BUNGEE SHOCK CORD



**Bungee Shock Cord** Highly elastic rubber with excellent stretch characteristics. The cover is braided out of abrasion resistant and highly resilient polyester. Core from high quality latex rubber. Available in black or white. When the Dangerous Sports Club were on trial for bungee jumping off the Clifton Suspension Bridge the judge was undecided whether to give them a suspended sentence or a long stretch. Supplied by the metre or in a full drum which is 100 m.

Bungee	code	per m	code	per m	code	100 m	code	100 m
Ø	black		white		black	full drum	white	full drum
3 mm	ROP072M	£0.35	ROP072	£0.35	ROP072MD	£29.00	ROP072D	£29.00
5 mm	ROP074M	£0.49	ROP074	£0.49	ROP074MD	£39.00	ROP074D	£39.00
7mm	ROP076M	£0.85	ROP076	£0.85	ROP076MD	£59.00	ROP076D	£59.00
8 mm	ROP078M	£0.98	ROP078	£0.98	ROP078MD	£79.00	ROP078D	£79.00
10 mm	ROP080M	£1.30	ROP080	£1.30	ROP080MD	£89.00	ROP080D	£89.00

Other sizes and colours available to order. Please phone for details.

## BUNGEE CLIPS



**Bungee Clips** Two styles of black clip to terminate your bungee. Type A is held with a knot which hides in the recess and Type B has a collar that clips into place to neatly secure the bungee.

Clips	style	bungee size	code	price
	Knot Type A	5 - 6 mm	ROP085	£0.62
	Knot Type A	7 - 8 mm	ROP086	£0.67
	Collar Type B	5 - 6 mm	ROP081	£0.85
	Collar Type B	7 - 8 mm	ROP083	£0.99

# SPLICING

## SPLICING SERVICE

### Splicing Service

Flints can hand splice 3-strand and braided ropes. Our splices are carried out to a very high standard and are in accordance with the Lifting Equipment Engineers Association's recommendations and the rope manufacturer's advisory notes. Natural fibre ropes are slightly more costly to splice because of the requirement to whip all the tails whereas artificial ropes can be sealed with a hot knife. Try to avoid the need for splices at each end of a rope, especially matched pairs. It is very difficult to splice rope to exact lengths and some settling can occur. If Flints is making up sets of spliced lines we will cut them from the same coil or batch of coils. Flints can also make up wire rope drifts with full certification.

**All Splices** For every splice you will need to add the cost of the rope plus one metre for each splice and the cost of the Thimble chosen [page 173].



**Splices in Natural Fibre Ropes** This covers splices in manila, flax and cotton ropes. Splices in ropes up to and including 16 mm Ø will have four full tucks. All tails will be whipped and the thimble secured with two lashings. Splices in ropes over 16 mm Ø will have four full tucks plus an additional tuck with at least 50% of the yarn and all the tails whipped.

Natural Fibre Splicing	strands	code	price
Up to and including 16 mm Ø	three	SPLICENF16	£8.00
16 mm to 24 mm Ø	three	SPLICENFL	£12.00
20 mm Ø	four	SPLICECHR	£15.00
Aerialist splice in cotton	three	SPLICECRA	£20.00



**Splices in Artificial Fibre 3-Strand Ropes** This covers splices in 3-strand artificial hemp, classic polyester and black polyester. Splices in ropes up to and including 16 mm Ø will have five full tucks. All tails will be fused back with a hot knife and the thimble secured with two lashings. Splices in ropes over 16 mm Ø will have five full tucks plus an additional tuck with at least 50% of the yarn. All the tails will be fused with a hot knife.

Artificial 3-Strand Splicing	strands	code	price
Up to and including 16 mm Ø	three	SPLICEAF16	£6.00
16 mm to 24 mm Ø	three	SPLICEAFL	£8.00



**Splices in Braided Ropes** This covers splices in braided ropes [matt polyester, classic polyester, Herkules and Dyneema® Pro] but excludes 8-plait ropes. The ropes will be spliced in accordance with the manufacturer's instructions. We can also arrange sewn terminations for climbing ropes – please ask our Rigging Manager.

Braided Rope Splicing	material	code	price
8 mm to 12 mm Ø	polyester	SPLBR812	£10.00
12 mm to 20 mm Ø	polyester	SPLBR1220	£12.00
3 mm to 10 mm Ø	Dyneema® Pro	SPLBRDP	£6.00

## SPLICING GEAR

**Splicing Equipment** Splicing 3-strand ropes is relatively easy. If you can find a knowledgeable person to show how it is done, then that is the best way to learn, but if no one is available then why not purchase one of our splicing books such as "Knots Step by Step" by Des Pawson [MBE]. Books are listed on page 377.



**Whipping Twine** Black, white or natural waxed twine in two sizes. For the heavier natural tarred twines which are more suitable for decorative work reminiscent of old ships [page 204].

Whipping Twine	Ø	reel	code	price
Whipping twine [medium] white	1 mm	30 m	ROP200M	£4.54
Whipping twine [heavy] white	1.5 mm	20 m	ROP200L	£4.18
Whipping twine [heavy] black	1.5 mm	20 m	ROP200LB	£4.60
Whipping twine [medium] natural	0.8 mm	41 m	ROP200N08	£6.16



**Palms and Needles** Left- and right-handed leather palms with a needle-proof section for forcing through heavyweight materials or ropes. The needles are proper sailmaker's needles capable of heavy work. Whipping threads are often drawn through a beeswax cake to waterproof and seal the thread. Right-handed people tend to use right-handed palms.



Palm and Needles	code	price
Sailmaker's Palm [left hand]	ROP201	£10.44
Sailmaker's Palm [right hand]	ROP201R	£10.44
Sailmaker's Needles [Pack of 5 assorted]	ROP202	£6.15
Sailmaker's Needles [Pack of 22 assorted]	ROP2025	£19.59
Beeswax Cake [for waterproofing thread]	ROP206	£6.77



**Marlin Spikes** A solid steel spike for opening up tight ropes.



**Currey Spike** For stabbing naan bread plus a useful shackle key.



**Swedish Fids** These fids are hollow so that strands can be passed through the gap while the fid is still inserted.



**Selmas** are special hollow needles from Norway for splicing braided ropes. Supplied in sets of four to suit ropes up to about 12 mm. Also see "Knots, Splices and Ropework" for detailed splicing instructions [page 377].

Jag kommer från Sverige...

...men vi kommer fra Norge!

Fids and Spikes	size	code	price
Marlin Spike	6"	ROP212	£15.86
Marlin Spike	10"	ROP213	£18.85
Currey Spike	73/4"	ROP211	£12.71
Swedish Fid	63/4"	ROP203	£8.51
Swedish Fid	111/4"	ROP204	£12.70
Selmas [set of 4]	4 - 10 mm	ROP1435000	£52.05

## SPLICING KIT



**Splicing Kit** We have put together this handy kit supplied in a Flints Canvas Zipper Bag. The kit comprises of Knots Step by Step, a right- or left-hand sailmaker's palm, a 6" Swedish fid, beeswax, a pack of 5 sailmaker's needles, a reel of 1 mm whipping twine, a length of braided rope to practice knots, a length natural 3-strand rope, and a length of 3-strand artificial hemp to practise splicing.



Splicing Kit	price	code	price	code	price
if bought separately		right-hand		left-hand	
Kit	£62.38	FHSSPLR	£45.00	FHSSPLL	£45.00



### Liros Rigger's Bag

A high spec splicing kit with all the tools and accessories necessary to complete braided and 3-strand splices.

All packed in a handy special zipper bag, includes:

1 x Liros Whipping needle	1 x Swedish Fid
1 x Liros splicing CD	1 x Liros wet notes book
3 x Splicing needles [5.5, 7.5, 10 mm]	1 x Liros brochure
1 x Liros tape	1 x Dyneema® whipping twine
1 x Pen	1 x Lighter

Liros Rigger's Bag	code	Tradeline
	ROPLRB	£99.98

Also see Knot Books [page 377] and Ditty Bags [page 325].

## EQUIPMENT MANAGEMENT SYSTEM



### Equipment Management System

I know you are all mega organised and could quickly lay your hands on the certificate of conformity for that lanyard you bought last year. I'm sure all your harness inspection records are neatly filed so you won't

be needing to purchase this splendid Equipment Management System which resolves every problem associated with recording and storing the essential data needed to comply with LOLER regulations.

Equipment Management System	code	Tradeline
	BKSEMS	£51.00
Extra booklets for multi-users	BKSEMBS	£3.59

Why not buy a robust and well-designed Ortlieb Bag [page 326] to look after your PPE?

## HOT KNIVES



**Hot Knife** This industrial quality hot knife heats up quickly to cut and seal the ends of artificial ropes. Fitted with a light to illuminate the cutting area. The blade is also available as a separate item. 240 V AC.

Hot Knife for Rope	code	price
Knife complete with blade	ROPHOTKK	£119.30
Knife blade only [Type R]	TOLHSGB	£23.00



### Economy Hot Knife

A economical hot knife supplied complete with a blade ideal for cutting modern synthetic ropes. Packed with a hex key and wire brush. 220 V AC 50 Hz. Power: 60 W. Power lead length: 2.5 m. Weight: 1.5 kg

Hot Knife for Artificial Rope	code	list	price
Knife complete with blade	ROPC857	£124.09	£107.30
Knife blade only [Type R]	ROPC857B		£17.44

## ADHESIVE-LINED HEAT SHRINK



### Adhesive-Lined Heat Shrink Tubing

We found that conventional heat shrink tubing would eventually slip off the rope, especially

manila, and we got into the habit of applying a squirt of UHU glue to secure it. Now we stock this heat shrink tubing with a hot melt glue inside. As you heat it the glue melts and the tubing shrinks by four times to form a really secure termination. Ideal for sealing the ends of natural ropes without needing to whip them. Also great for preventing water ingress to electrical terminations. Use a hot air gun to shrink it [page 282]. Choose a size plenty big enough, you will struggle to get a 32 mm diameter shrink over a 32 mm rope but it will go nicely onto a 24 mm rope.

✓ Great for securing webbing loops to tools for lanyard attachment points. See also the Ergodyne Squids® system on page 336

Adhesive-Lined Heat Shrink	code	per m	Tradeline
diameter	shrinks to		6 m+
12 mm	3 mm	ROPDWA123	£4.77
24 mm	6 mm	ROPDWA246	£7.90
32 mm	8 mm	ROPDWA328	£10.40
			£4.05
			£6.72
			£8.84

Also see Rescue Tape [page 279] and the Ergodyne Squids® system on page 336.

## ROPE LABELLING



### Rope Labelling Pack

This useful kit provides a special white tape and clear heat shrink to enable the ends of ropes to be clearly marked, especially when they are cut from a reel. It is designed for use with the dynamic and

semi-static ropes listed above but would be suitable for any ropes around 10 mm diameter. Enough for 50 labels. Also see Rescue Tape [page 279].

Rope Labelling Pack	code	price
	ROPBRE	£13.33

# WEBBING

## WEBBING



**Webbing** Black or white polyester webbing for reliable performance and excellent abrasion resistance. Polyester has lower stretch than nylon and maintains its strength when wet.

Webbing		code	per m	code	per 100m	
width	colour	breaking strength			full reel	
25 mm	Black	1,500 kgf	ROP25	£0.90	ROP25D	£74.80
	White	1,500 kgf	ROP25W	£0.80	ROP25WD	£66.85
38 mm	Black	3,000 kgf	ROP38	£1.74	ROP38D	£145.50
	White	3,000 kgf	ROP38W	£1.56	ROP38WD	£131.10
50 mm	Black	5,000 kgf	ROP50	£1.69	ROP50D	£110.85
	White	5,000 kgf	ROP50W	£1.69	ROP50WD	£110.85

Also see Webbing Links and Seddon Links [page 164] and Ratchet Straps and Tie Off Webbing [page 359].

## WEBBING FITTINGS



**Stainless Steel Bridge** Neat bridges for holding webbing in place.

Stainless Bridge		code	price
webbing width			
25 mm		ROP0596	£1.44
40 mm		ROP0597	£2.03
50 mm		ROP0598	£2.36

## TREEFIX CABLE WRAPS



**TreeFix Cable Wrap** Durable Rubber Cable wraps that can be used again and again. Great alternative to single use cable ties. Available in 80 mm, 160 mm & 230 mm

TreeFix Cable Wrap		code	price
80 mm		GENTFW08	£5.71
160 mm		GENTFW16	£24.50
230 mm		GENTFW23	£10.68

## BUCKLES



**Quick Release Buckles**  
 This type suits 40 and 50 mm webbing. The quick release button is on the top.



This buckle is a side squeeze type and takes 25 mm webbing. Both the buckles are black.

Quick Release Buckles		code	list	price
webbing width	approx. breaking strain			
25 mm [side squeeze]	97 kg	ROP5131K		£0.80
40 mm [top release]	300 kg	ROP1958	£8.63	£8.63
50 mm [top release]	300 kg	ROP1960	£10.41	£9.64



For 40 mm webbing. For 50 mm webbing.

**Stainless Steel Flat Buckles** 3 bars and 2 slots.

Stainless Steel Flat Buckles		code	price
webbing width	thickness		
40 mm	3.2 mm thick	ROP0810	£5.19

# ROPE TIDIES

## ONE WRAP



Personal favourite!

**One Wrap** This is one of the most useful products in the catalogue. It is a hook and loop fastener that is double sided so it will stick to itself. Cut it to any length to make reusable cable ties. Use it around folded cloths, sorting extension leads etc. Available on rolls or by the metre. Amazingly useful. Black.

One Wrap	code	per m	reel code	per 25 m
16 mm wide	GEN244	£1.65	GEN244D	£33.04
20 mm wide	GEN245	£1.90	GEN245D	£38.91
25 mm wide	GEN246	£2.11	GEN246D	£46.74
50 mm wide	GEN248	£3.52	GEN248D	£85.65

## CABLE TIES



**Cable Ties** Self-extinguishing nylon 6.6. Working temperature from -40° to +85°. Available in black and natural. Remarkable value.

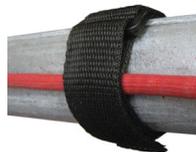
Cable Ties	code	price	code	price	10+
	black	pack of 100	natural	pack of 100	
100 x 2.5 mm	GEN233	£0.64	GEN233N	£0.64	£0.45
200 x 4.8 mm	GEN232	£1.95	GEN232N	£1.95	£1.55
300 x 4.8 mm	GEN231	£3.80	GEN231N	£3.80	£2.85
370 x 7.6 mm	GEN234	£8.76	GEN234N	£8.76	£6.30
780 x 9 mm	GEN235	£19.60	GEN235N	£19.60	£17.85



**Releasable Cable Ties**  
 Finger latch to release for re-use. Black.

Releasable Cable Ties	code	price	10+
	black	pack of 100	
200 x 4.8 mm	GEN232R	£3.85	£3.50
370 x 7.6 mm	GEN234R	£8.35	£7.45

## WRAP BACK TIES



**Wrap Back Ties** Fed up with nylon cable ties blocking stage tracks? Fed up with cutting your hands on the sharp edges left from nylon ties or with peeling sticky tape from your shoes? Why not try our wrap back ties. They

have a hook-and-loop fastener which is reposition-able, reusable, and more environmentally sound. They are kinder on the cables [especially data and fibre optic cables] and hands. Also useful for tidying air hoses, extension leads and hemp lines. Flints has these made in two useful sizes: Small – ideal for fixing cables to flying bars. Large – ideal for tidying hoses etc. Black.

Wrap Back Ties	code	price
Small size [300 mm long x 25 mm wide]	GEN241	£3.95
Large size [400 mm long x 25 mm wide]	GEN242	£3.95

**To protect your rope from chafe why not purchase a short length of Plastic Tubing for use on fairleads or when the rope leads over rough edges [page 362].**

## General Pulley Information

The breaking load of pulleys is normally determined by attaching the head fixing of the block to one end of a testing machine while both legs of a U-bolt [or a loop of rope] are placed over the sheave and attached to the other end of the machine. The machine then pulls apart the head and the sheave until it fails. If the pulley fails at 1,000 kg then that is generally the manufacturer's stated breaking load.

**However**, if you attach the head of the pulley to your theatre grid and reeve a rope through it and attach one end to a **1,000 kg weight** on the floor you will need to **exert 2,000 kg headload** to actually lift the weight because it will require a 1,000 kg pull while still suspending a 1,000 kg weight. Therefore, to determine a safe working load, Flints would recommend that the breaking load is immediately halved and then divided by eight [which is the ABTT code for wire rope]. For example: For our popular Opera Web Block, which would fail at 2,500 kg on a test bed, we give a working load limit of 156 kg [ $2,500 \div 2 = 1,250 \div 8 = 156$  kg]. The WLL is more than you would want to haul by hand but considerably below the breaking load.

Marine equipment tends to state the safe working load as half the breaking load, other suppliers use different calculations. We have tried to clarify the situation in this catalogue by giving the information as clearly and boldly as we can in the special safety boxes.

## Choosing the correct pulley size

To obtain the maximum working life, strength and the least friction the pulley sheave diameter should be at least 8 times the diameter of the rope. In the case of wire ropes the sheave diameter should ideally be 30 times the diameter of the wire. However, there are many applications where these large diameter sheaves would be completely impractical in which case choose a pulley that fits the job but take into account a shorter working life and reduced breaking load. Regularly inspect the rope or wire for signs of wear. Be careful when choosing pulleys to fit fibre ropes. Rope diameters can vary, three-strand ropes often reduce in diameter when under load but can exceed their stated diameter when not under tension.

## Bearings or not

Bearings are necessary to obtain highly efficient blocks. Small pulleys with bearings were originally developed for land yachts by Harken where there was a need for extremely rapid rope movement with low friction.

Choose blocks with bearings when your rope needs to run very fast or when a series of blocks are being used together and the combined friction will build up. The maximum rolling load on bearings is often below a plain bearing block.

Generally, a plain bearing is either a plain hole or a hole lined with a brass or Oilite bush. For most uses they are perfectly adequate and for pulleys subjected to long periods just supporting a static load they are the preferred choice. They are generally stronger, more reliable and cheaper.

**It is important that any equipment purchased for lifting purposes is selected by a person competent to do so.**

## Is it a Block or is it a Pulley?

They're sometimes called "blocks" and sometimes "pulleys"; and sometimes both in the same paragraph. Halls and Doughty products are made up of multiple sheaves [aka "pulleys"] that rotate independently and when put with end plates are "blocks". "Block" is also used in marine environments, see the Barton pages [page 211]. "Pulley" is the short version of "pulley block". We'll keep using both terms so no one feels left out.

## Fun and Games Ordering Pulleys

It all seems quite simple. You choose your blocks and you choose your brackets and place the order. That is fine until you order a 1-way pulley, a 2-way pulley and a 3-way pulley and two parallel mounting brackets and one across-mounting bracket. We need to know which pulley has which bracket! So in an ideal world this is what we would like:

Please supply:

One off: 1-way 150mm wire block DYNL8228 c/w DYNL8273 parallel mount

One off: 2-way 150mm wire block DYNL8229 c/w DYNL8273 parallel mount

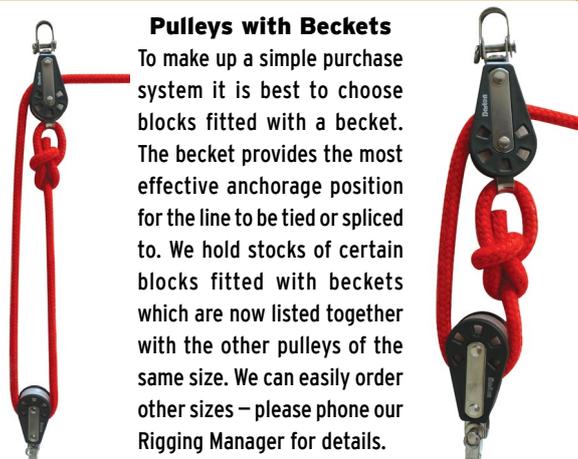
One off: 3-way 150mm wire block DYNL8230 c/w DYNL8270 across mount

Probably best to leave us a mobile number too!



## Pulleys with Becketts

To make up a simple purchase system it is best to choose blocks fitted with a beckett. The beckett provides the most effective anchorage position for the line to be tied or spliced to. We hold stocks of certain blocks fitted with becketts which are now listed together with the other pulleys of the same size. We can easily order other sizes – please phone our Rigging Manager for details.



## Reverse Shackles

It's all about the pin. These products have a removable pin and shackle.

The pin and shackle dismantled.



The pin placed like this allows the block to move at a 90° angle to the sheave.



The pin placed like this allows the block to move in-line to the sheave.



# MINI PULLEYS



Single

Double

Upright



**Single and Double Mini Pulleys** Invaluable as guides for small trip lines. The pulleys can be secured with a small shackle [4 mm pin], Dyneema or polyester cord or even cable ties for light loads. The axles are hollow so they can be fixed with a screw for side mounting purposes. We also have a small upright block. Made from 316-grade stainless steel with acetal sheaves.



## SAFETY

Breaking Load
275 kg

Mini Pulleys	sheave Ø	rope Ø	weight	code	price
Single	16 mm	2 - 5 mm	5 g	PUL530	£4.72
Double	16 mm	2 - 5 mm	10 g	PUL533	£8.93
Upright	16 mm	2 - 5 mm	7 g	PUL534	£10.69

## MINI PULLEYS FOR WIRE ROPE OR CORD



Single

Double

Triple



**16 mm High Tension Blocks** This High Tension range is made from 316-grade stainless steel throughout giving incredible strength to weight ratios. The ball race is machined using the latest CNC technology which ensures absolute consistency in production. Ideal for use with 4 mm Dyneema Pro [page 202] or flexible wire ropes. Shackle pin: Ø 4 mm.

## SAFETY

Breaking Load
400 kg

- ✓ Maximum sheave efficiency
- ✓ Minimum friction for all high load applications

High Tension 16	sheave Ø	rope Ø	weight	code	price
Single	16 mm	2 - 4 mm	11 g	HA4568	£19.24
Double	16 mm	2 - 4 mm	25 g	HA4569	£41.17



Single

Double

Triple

**25 mm High Tension Blocks** A larger and stronger version of the 16 mm blocks listed above. These incredible lightweight blocks are perfect for use with highly technical lines such as Dyneema Pro [page 202] or flexible wire ropes. Shackle pin: Ø 5 mm.

## SAFETY

Breaking Load
750 kg

- ✓ Amazing strength with virtually no weight

High Tension 25	sheave Ø	rope Ø	weight	code	price
Single	25 mm	2 - 5 mm	25 g	HA4379	£22.83
Double	25 mm	2 - 5 mm	54 g	HA4679	£49.73



**Mini Upright Block** A small stainless steel block with a 25 mm diameter chromed brass sheave designed for small wire ropes or high tech ropes such as Dyneema. Useful for model theatre grids and working props. The maximum wire size is 4 mm [although the ABTT would have something to say about running a 4 mm wire around a 25 mm sheave!] The manufacturers only state the breaking load of a similar pulley in the range which is 950 kg. The breaking load of this pulley is dependent on the fixings through the lugs.

Mini Upright Block	code	price
sheave Ø		
25 mm	PULSS0108	£13.57



**Brass Sheave Block** A small stainless steel and brass block which can be mounted by means of a Pad Eye [page 190] or shackle. Useful for guiding small wire ropes or can be used inverted to act as bobbins along catenary wires. The axle is a removeable clevis pin so the pulley can be dismantled and inserted into wires.

## SAFETY

Breaking Load	Safety Factor	WLL
750 kg	2 to 1	375 kg

Brass Sheave Block	code	price
sheave Ø		
45 mm	BAR91300	£21.44



**High Load Wire Rope Block** Side cheeks are made from 316-grade stainless steel. The brass sheave runs on a stainless steel centre bush. A useful pulley for unobtrusive guiding of small wire ropes, such as awning rigging etc.

## SAFETY

Breaking Load	Safety Factor	WLL
1300 kg	2 to 1	650 kg

High Load Wire Rope Block	code	price
sheave Ø		
Fixed eye 45 mm	BAR91301	£32.02



**Aluminium Wire Rope Cheek Block** Side cheeks are made from marine-grade aluminium grey anodised for durability. The sheaves are precision turned from aluminium bar which is then silver anodised. They run on nylon bearings to reduce friction under load. The rivets are 316-grade stainless steel. A similar pulley in this range has a break load of 1,750 kg but the strength of this

block will depend on its fixings. For maximum strength, fixings should pass through the hollow centres of the rivets. Fastening diameter: 5 mm. Base size: 103 x 53 mm.

Aluminium Wire Rope Cheek Block	code	price
sheave Ø		
51 mm	BAR91650	£64.02

For a full range of Rope Cheek Blocks see pages 212, 217 - 220.

# BARTON PULLEYS

## Barton Pulleys

This range of tough lightweight blocks is made from the highest quality materials to ensure ultimate efficiency and long working life. The plain brass bearing ensures free running even under high loads. They are available with a swivel head or a reverse shackle which allows the block to be fixed in parallel or at right angles. Blocks can also be supplied with ball bearing sheaves to order.

I can personally vouch for the reliability of these Barton blocks as I have used them in demanding applications on my yacht for well over 20,000 nautical miles over the last 21 years with no failures or even signs of wear.

And I'm not the only one impressed. In the German magazine *Die Yacht* they tested Barton Size 4 and a Barton Cruiser block against 14 other blocks from eight leading manufacturers. Both the Barton blocks finished in the top five and the Barton Cruiser block won overall for "its smooth running under maximum load and attractive price". *Voiles et Voiliers* magazine was also full of praise "both Barton pulleys were least expensive on offer, yet performed most satisfactorily under load". A sad note in the reports was that many of the blocks by other leading manufacturers failed well below the manufacturer's stated breaking load. Well done Barton!

Made in Whitstable!

## SMALL BARTON BLOCKS

UP TO 550 KG BREAKING LOAD



Single fixed eye



Double swivel



Triple fixed eye



Single fitted with becket



**Size 0 Blocks** A strong and lightweight range of blocks for use with lines up to 5 mm. Fitted with plain bearings for greater load capacity and good static loading.

SPECIFICATION: Sheave size: 20 x 8 mm. Max rope Ø: 5 mm.

### SAFETY

Breaking Load	Safety Factor	WLL
550 kg	2 to 1	275 kg

Size 0 Blocks	weight	code	price
Single Fixed Eye	13 g	BARN00110	£5.60
Single Swivel	20 g	BARN00130	£16.06
Single Swivel with Becket	25 g	BARN00131	£17.40
Double Fixed Eye	37 g	BARN00210	£14.28
Double Swivel	46 g	BARN00230	£23.93
Double Swivel with Becket	47 g	BARN00231	£25.53
Triple Fixed Eye	55 g	BARN00310	£23.83
Triple Swivel	60 g	BARN00330	£32.59
Triple Swivel with Becket	64 g	BARN00331	£33.91

## MEDIUM-DUTY YACHT BLOCKS

UP TO 1,500 KG BREAKING LOAD



Single fixed eye



Double swivel



Triple swivel



Fitted with becket



**Size 1 Blocks** Hugely popular general purpose blocks. Flints holds very large stocks of these pulleys. Swivels now fitted with mini shackle for easy attachment.

SPECIFICATION: Sheave size: 30 x 12 mm. Max rope Ø: 8 mm.

See also page 216 for economical Cloth Stretching Runners.

### SAFETY

Breaking Load	Safety Factor	WLL
710 kg	2 to 1	355 kg

Size 1 Blocks	weight	code	price
Single Fixed Eye	33 g	BARN01110	£7.77
Single Swivel	43 g	BARN01130	£12.79
Single Swivel Becket	51 g	BARN01131	£15.68
Double Fixed Eye	59 g	BARN01210	£12.92
Double Swivel	67 g	BARN01230	£23.17
Triple Fixed Eye	80 g	BARN01310	£19.93
Triple Swivel	89 g	BARN01330	£22.80



**Size 2 Blocks** The slightly larger sheave diameter on these blocks will help reduce friction and rope wear. Choose them in preference to Size 1 blocks for more demanding applications.

SPECIFICATION: Sheave size: 35 x 12 mm. Max rope Ø: 8 mm.

### SAFETY

Breaking Load	Safety Factor	WLL
740 kg	2 to 1	370 kg

Size 2 Blocks	weight	code	price
Single Fixed Eye	40 g	BARN02110	£9.68
Single Swivel	48 g	BARN02130	£14.21
Single Swivel Becket	56 g	BARN02131	£17.26
Double Fixed Eye	76 g	BARN02210	£15.12
Double Swivel	84 g	BARN02230	£26.22
Double Swivel Becket	92 g	BARN02231	£29.27
Triple Fixed Eye	115 g	BARN02310	£27.56
Triple Swivel	108 g	BARN02330	£29.55



**Size 3 Blocks** SPECIFICATION: Sheave size: 45 x 13 mm. Max rope Ø: 10 mm.

### SAFETY

Breaking Load	Safety Factor	WLL
800 kg	2 to 1	400 kg

Size 3 Blocks	weight	code	price
Single Fixed Eye	60 g	BARN03110	£11.09
Single Swivel	73 g	BARN03130	£15.62
Double Fixed Eye	111 g	BARN03210	£18.71
Double Swivel	119 g	BARN03230	£29.66
Triple Fixed Eye	142 g	BARN03310	£29.11
Triple Swivel	162 g	BARN03330	£34.93



**Size 5 Blocks** Great value and capable of handling up to 12 mm diameter ropes. SPECIFICATION: Sheave size: 54 x 17 mm. Max rope Ø: 12 mm.



**SAFETY**

Breaking Load	Safety Factor	WLL
1,500 kg	2 to 1	750 kg

Size 5 Blocks	weight	code	price
Single Swivel	197 g	BARN05130	£36.14
Single Reverse Shackle	178 g	BARN05120	£25.02
Single Swivel with Becket	220 g	BARN05131	£40.76
Double Swivel	274 g	BARN05230	£45.00
Double Reverse Shackle	274 g	BARN05220	£36.36
Double Swivel with Becket	300 g	BARN05231	£48.80
Triple Swivel	490 g	BARN05330	£53.69
Triple Reverse Shackle	382 g	BARN05320	£43.92

**HEAVY-DUTY YACHT BLOCKS**

UP TO 2,500 KG BREAKING LOAD



Single swivel



Double reverse shackle



Triple reverse shackle

This range of rugged quiet high load blocks are made from injection moulded side plates with all load-bearing components in 316-grade stainless steel. The acetal sheaves run smoothly under extremely high loads on a stainless steel centre pin with a brass bush. Ball bearing versions are available to order.



**Size 6 Blocks** SPECIFICATION: Sheave size: 64 x 17 mm. Max rope Ø: 12 mm

**SAFETY**

Breaking Load	Safety Factor	WLL
2,000 kg	2 to 1	1,000 kg

Size 6 Blocks	weight	code	price
Single Swivel	227 g	BARN06130	£50.47
Single Reverse Shackle	206 g	BARN06120	£34.27
Double Reverse Shackle	325 g	BARN06220	£44.09
Triple Reverse Shackle	449 g	BARN06320	£52.97



**Size 7 Blocks** Toughest yacht pulleys we hold in stock. Capable of demanding work. SPECIFICATION: Sheave size: 70 x 20 mm. Max rope Ø: 14 mm

**SAFETY**

Breaking Load	Safety Factor	WLL
2,500 kg	2 to 1	1,250 kg

Size 7 Blocks	weight	code	price
Single Swivel	354 g	BARN07130	£63.16
Single Reverse Shackle	308 g	BARN07120	£41.83
Double Reverse Shackle	461 g	BARN07220	£52.02
Triple Reverse Shackle	616 g	BARN07320	£62.42

**UPRIGHT YACHT BLOCKS**



**Upright Yacht Blocks** A range of well-made, quiet, upright blocks which are competitively priced and will give years of reliable service. Please note that the breaking loads given below will depend on the strength of the fixings.

Fastenings: 4 off 5 mm Ø on all sizes.

Upright Blocks	sheave Ø	max rope Ø	Min BL	code	price
Single Size 1	30 mm	8 mm	710 kg	BARN01150	£16.48
Double Size 1	30 mm	8 mm	710 kg	BARN01250	£20.56
Single Size 3	45 mm	10 mm	800 kg	BARN03150	£20.83
Double Size 3	45 mm	10 mm	800 kg	BARN03250	£28.42
Single Size 4	54 mm	12 mm	1,500 kg	BARN04150	£30.58
Double Size 4	54 mm	12 mm	1,500 kg	BARN04250	£43.35

For more Upright Blocks, see pages 210 and 217 - 220.

**SIDE MOUNTING CHEEK BLOCKS [Single & Double]**



**Side Mounting Turning Blocks [Cheek Blocks]** These economical quiet and tough blocks can be mounted directly to timber, steel or alloy

BARN01160 looks like this...all the others look like this.

battens. Supplied with a plastic base shield to isolate dissimilar metals [necessary in salt water environments]. Flints has some of these blocks specially made for us as doubles.

Fastenings: 5 mm Ø on all sizes except size 1 which requires 4 mm Ø.

Side Mounting Turning Blocks [Cheek Blocks]	code	price
max rope Ø base plate Size No. of sheaves BL		
8 mm 55 x 30 mm 1 single 710 kg	BARN01160	£7.32
8 mm 79 x 43 mm 2 single 740 kg	BARN02160	£14.39
8 mm 79 x 43 mm 2 double 740 kg	BARN99554	£11.79
10 mm 92 x 52 mm 3 single 800 kg	BARN03160	£16.99
10 mm 92 x 52 mm 3 double 770 kg	BARN99556	£19.66
12 mm 107 x 66 mm 4 single 1,500 kg	BARN04160	£25.11
12 mm 107 x 66 mm 4 double 1,260 kg	BARN99557	£27.92

For more Cheek Blocks, see pages 210 and 217 - 220.

**Changes to the Barton Pulley Range**

A few years ago Barton updated their range of pulleys. The new pulleys are still manufactured in the UK, and have been developed to meet the existing design endurance and reliability. With a sleek dark graphite sheave, they look stylish and clean in situ. The specifications are not significantly different from previous ranges, though in some cases the WLL is improved, and the weight reduced. See also the BIG BLOCK 32 on page 216 for large diameter ropes. NB: The Size 4 blocks have now transitioned to Size 5 blocks - except for the side-mounted cheek blocks - it's all a bit complicated!

Flints have swapped out the ranges from the old design to the new style. We can still order the old style if required so please don't hesitate to get in touch and we will do our best to ensure you get what you need.



# HAULING PULLEYS

## SNATCH BLOCKS



**Snatch Blocks** The sides of these blocks hinge open allowing them to be inserted into previously rigged lines making them useful for brailing purposes. The rugged blocks that we supply are excellent value. We now stock a smaller version for ropes up to 12 mm Ø. See also the Petzl Rescue Pulley [page 215].

### SAFETY

Safety Factor 2 to 1		Breaking load WLL	code	price
Fitted with	max rope Ø			
Stainless D shackle	16 mm	1,300 kg 650 kg	BARCW1451	£72.74
Stainless snap shackle	16 mm	1,100 kg 550 kg	BARCW1452	£96.86

### Snatch Blocks

Fitted with	max rope Ø
Stainless D shackle	16 mm
Stainless snap shackle	16 mm

## ROPE ORGANISERS



**Rope Organisers** Useful for tidying up complicated rope arrangements and for guiding ropes into clutches. Fixings should go through the axle of the sheaves with 6 mm machine screws [not supplied]. Takes rope up to 12 mm diameter and the sheaves are grooved to accept wire as well.

Rope Organisers	max rope Ø	weight	code	price
4-way	12 mm	171 g	BAR584	£60.52

For other ways to organise your rope why not look at One Wrap [page 279], and Clummetts With Loops [page 149].

## SNATCHET BLOCKS



**Harken Snatchet Block** Harken quality pulley with combined carabiner. Two versions available; one is ratcheting, one is not! Snatchet pulleys can be inserted into the middle of an existing rig eliminating the need to take the load off a loaded line and rerig. The ratcheting version can grip loaded hauling lines to help relieve the operator of much of the strain!

Specification: Height: 72 mm. Width: 146.5 mm. Weight: 178 g. Maximum line Ø: 14 mm. Breaking load: 38 kN. Maximum working load: 10 kN

Harken Snatchet Block	code	price
Ratcheting	HARSN65R	£206.25
Non-Ratcheting	HARSN65	£178.13

See the new **BIG BLOCK 32** on page 216 for large diameter ropes!

## TACKLE



Buy both for 15% less



Fiddle swivel becket with cams



Fiddle swivel

**Quadruple Purchase Tackle** Tackles can solve many lifting problems. They are much faster than hand winches and more economical. This tackle arrangement will give a quadruple purchase. The sheaves we have selected are fitted with ball races to reduce friction. They can be supplied with or without adjustable angle cam-locks to temporarily hold the load. A useful general purchase tackle.

SPECIFICATION: Sheave size: 44 mm & 70 mm x 17 mm. Max rope Ø: 12 mm [10 or 12 mm preferred].

### SAFETY

Breaking Load	Safety Factor	WLL
2,000 kg	2 to 1	1,000 kg

Tackle with Rope Lock	weight	code	price
Fiddle Swivel Becket Cam with bearings	554 g	BARN16631	£112.47
Fiddle Swivel with bearings	346 g	BARN16430	£78.24
Both together [15% less]		BARRKITN1	£141.48
Tackle without Rope Lock		code	price
Fiddle Swivel Becket with bearings	358 g	BARN16431	£81.35
Fiddle Swivel with bearings	346 g	BARN16430	£78.24
Both together [15% less]		BARRFKITN2	£118.39

## JAG SYSTEM



Jag Pulley CE EN 12278



Jag Traxion CE EN 567

**Jag System** This hauling kit provides optimal efficiency and compactness. The mesh cover prevents the hauling line from getting tangled. The sheaves are mounted on sealed ball bearings for extra efficiency. A versatile 4:1 advantage system allows for easy pickoffs, makes a releasable anchor, or provides tension in a system. When coupled with an I'D descender [page 339] it makes a reversible rescue kit to pickoff and rescue a victim. Extremely compact – the smallest version has a collapsed length of just 320 mm [1000 mm extended]. The Jag System comes with two Am'D Triact-Lock auto-locking karabiners. The pulleys are also available for individual purchase so that longer hauling systems can be made. SPECIFICATION: Sheave Ø: 25 mm. Max rope Ø: 11 mm. Rope supplied: 8 mm. Efficiency: 91%.

### SAFETY

Breaking Load	Safety Factor	WLL
16 kN	2.66 to 1	6 kN

Jag System	length collapsed	extended	weight	code	price
Complete System	320 mm	1000 mm	610 g	PETP044AA00	£177.50
Complete System	340 mm	2000 mm	805 g	PETP044AA01	£192.50
Complete System	400 mm	5000 mm	1460 g	PETP044AA02	£232.00
Jag Pulley alone			120 g	PETP45	£51.50
Jag Traxion alone			145 g	PETP54	£87.00

**HARKEN® HEXARATCHETS [Industrial & Marine]**



The rigger's favourite!

**Harken® Hexaratchets** These popular ratchet blocks will grip loaded hauling lines to relieve the operator of much of the strain. The design of the sheave is such that when the rope is eased off it will slide around the sheave without the sheave turning. Hence a hefty lantern can be lifted and held in place without having to hold the full weight. It gives an 8:1 advantage with a 180° wrap. These blocks do NOT lock the rope so the load can be gently lowered against the fixed sheave.

**Industrial** version [HAR441549] is individually marked and supplied with instructions. Conformity: EN1315.

**Marine** version [HAR1549] is not certified.

- ✓Very popular with professional riggers
- ✓Now fully certified and individually marked
- ✓The set screw in the 3-way head [ ] allows the head to be fixed parallel, at right angles or to freely swivel

SAFETY	Breaking Load	Safety Factor	WLL
	20 kN	4 to 1	5 kN [509 kgf]

Harken® Hexaratchet	code	list	Tradeline
type sheave Ø max rope Ø turns			
Industrial 76 mm 14 mm clockwise	HAR441549	£197.44	£184.24
Marine 76 mm 14 mm clockwise	HAR1549	£192.07	£178.39

**SELF-JAMMING**



**Pro Traxion P51A** For effective and comfortable haulage of heavy loads, the rope grab provides temporary relief for the operator. Fitted with a large diameter sheave with sealed ball bearings and a side-opening plate for insertion onto ropes. The rope gripping cam has inclined teeth which operate on even icy ropes. If

you are working onstage and your ropes get icy then I reckon you have cause to moan.

Takes ropes from 8 - 13 mm Ø. CE EN 567, NFPA 1983 Technical Use. Efficiency: 95%

SAFETY	Working Load Limit	Working Load Limit of grab
	2 x 2.5 kN = 5 kN headload	2.5 kN [254 kgf]

Petzl Pro Traxion P51A	max rope Ø	weight	code	price
sheave Ø: 38 mm	13 mm	265 g	PETP51A	£93.45



91% efficient and just 85 g!

**Micro Traxion** An ultralight compact progress capture pulley which is 50% lighter and smaller than the Mini Traxion. Ideal for work and rescue kits. Designed for crevasse rescue, hauling and self-rescue. It can also be used as an emergency ascender. The aluminium sheave is fitted

with sealed ball bearings giving a remarkable 91% efficiency.

SPECIFICATION: Takes ropes from 8 - 11 mm Ø. CE EN 567, UIAA. Efficiency: 91%

SAFETY	Working Load Limit	Working Load Limit of grab
	2 x 2.5 kN = 5 kN headload	2.5 kN [254 kgf]

Petzl Micro Traxion	max rope Ø	weight	code	price
sheave Ø: 25 mm	11 mm	85 g	PETP53	£62.34

**OPERA WEB BLOCK™**



Hugely popular and great value!

**Opera Web Block** Flints designed this block to meet the need for a pulley which can be quickly rigged to flying bars for the purpose of hoisting lanterns and sound equipment into position before their final fixing. It is not acceptable under current health and safety legislation to carry items up a Tallelescope, ladder or tower. By rigging this quick block, items can be raised into position by a crew member at stage level. The pulley is simply passed through its own tested CE marked web [EN 566] and it is ready to use. The sheave is fitted with a Delrin® ball race for low friction even at high loads. There is a

becket underneath so that purchase arrangements can be made. It will take 14 mm rope but we would recommend hauling with 10 or 12 mm Matt Braided Polyester Rope [page 201]. A very useful and popular bit of kit at a competitive price.

SAFETY	Breaking Load	Safety Factor	WLL
	2,500 kg	16 to 1	156 kg

Opera Web Block	max rope Ø	code	price	Tradeline 10+
sheave Ø: 70 mm	14 mm	PUL99002	£43.47	
£39.18				

**BARTON RATCHET BLOCK 55MM**



**Barton Ratchet Block 55mm** 55mm Ratchet Block from Barton made from high density nylon and glass fibre reinforced polymer with a high level of UV protection. Internal components are made from marine grade 316 stainless steel and the 12 faced aluminium sheave is anodised in gunmetal silver.

SAFETY	Breaking Load	Safety Factor	WLL
	1,200 kg	4 to 1	300 kg

Barton Ratchet Block	max rope Ø	code	price
sheave Ø: 55 mm	11 mm	BAR90500	£43.47

# PULLEYS TO EN 12278

## LARGE PRUSSIK PULLEY



**Large Single Prussik** We stock this pulley primarily to be used with the ALF - Auto Locking Fall Arrest Pulley [page 338] but it has many other heavy-duty uses. The large diameter sheave holds ropes apart which can be useful in hauling applications. Conformity: EN 12278.

SAFETY	Breaking Headload Limit
	70 kN [7,138 kgf]

Large Prussik Pulley	max rope Ø	weight	code	price
sheave Ø: 75 mm	16 mm	440 g	SAFRP066	£42.96

## RESCUE BLACK



**Rescue Black P50AN Pulley** With pivoting side plates so it can be inserted anywhere along a rope [see also Snatch Blocks page 213]. This is the most advanced rescue pulley, made for professionals. It will accept up to three karabiners and the sealed ball bearing yields a maximum

efficiency of 95%. Designed for heavy loads and intensive use. The side plates are clearly marked showing both the WLL for the head [8 kN] and the WLL for the individual lines [4 kN]. Individually tested. Conformity: CE EN 12278, NFPA 1983 General Use.

SAFETY	Breaking Headload	Safety Factor	Working Headload
	3,669 kgf	4.5 to 1	815 kgf

Petzl Rescue P50AN	rope Ø	weight	code	price
sheave Ø: 38 mm	7 - 13 mm	185 g	PETP50AN	£48.00

## OSCILLANTE



**Oscillante Side Swing Pulley**

A useful and very popular pulley for emergency use. Designed for occasional use when hauling or in a pulley system. Good strength to weight ratio. Nylon sheave and aluminium side plates.

Conformity: CE EN 12278, UIAA  
SPECIFICATION: WLL: 4 kN [2 kN on one rope end] Min BL: 15 kN. Efficiency: 71%.

SAFETY	Working Headload Limit
	407 kgf

Oscillante Side Swing	rope Ø	weight	code	price
sheave Ø: 25 mm	7 - 11 mm	42 g	PETP02A	£13.24

## FIXE



**Fixe Pulley Black** A pulley with fixed side plates to allow very quick installation onto a rope and karabiner. Ideal for use with any oval-shaped karabiner such as the OK Screw-lock Karabiner [page 185]. Compact and lightweight. Conformity: CE EN 12278, UIAA. SPECIFICATION: WLL: 5kN. Efficiency: 71%.

SAFETY	Working Headload Limit
	509 kgf

Fixe Pulley	rope Ø	weight	code	price
sheave Ø: 21 mm	7 - 13 mm	90 g	PETP05WN	£19.30

## TRANSPORT



Tandem



Tandem Speed



**Tandems** In-line double pulleys for use as transport pulleys on ropes or cables. They can operate at speeds of up to 10 m/s. Great for adventure parks. Individually tested. Conformity: CE EN 12278.

**Tandem** is designed for fibre ropes up to 13 mm Ø with a maximum working efficiency of 71%.

**Tandem Speed** has stainless steel sheaves with sealed ball bearings and can be used on wire ropes up to 12 mm Ø [or fibre ropes up to 13 mm Ø] with a maximum working efficiency of 95%.

SAFETY	Breaking Load	Safety Factor	Safe Working Load
	2,446 kgf	2.4 to 1	1,019 kgf

Tandem Pulleys	max fibre Ø	max wire Ø	code	price
Tandem	12 mm	n/a	PETP21	£37.41
Tandem Speed	13 mm	12 mm	PETP21SPE	£54.51

# OTHER PULLEYS

## SASH WINDOW



**Sash Window Pulley** Designed for raising and lowering window sashes but have hosts of other uses. The cast iron sheave is mounted in a steel housing. Takes No.6 Sash Cord [page 203].

SPECIFICATION: Sheave Ø: 45 mm. Face plate: 25 x 111 mm. Face - back dimensions: 46 mm.

Sash Window Pulley	code	price
	DOR066	£4.15

## CLOTH STRETCHING PULLEYS



**Cloth Stretching Pulley** Occasionally when stretching a cloth or gauze between two vertical wires it is preferable to use pulleys to run along the wires rather than Gauze Hanks [page 138]. This quiet smooth-running pulley has a removable clevis pin so it can be inserted onto made-up wires. Its weight and lack of friction helps the cloth fly in. The clevis pin can go straight through a well-placed eyelet in the cloth but, if there are no eyelets, why not take a look at Holdons [page 138] and Spaniflex, the useful adjustable bungee loops [page 205]?



**F**

Cloth Stretching Pulley	code	price	Tradeline
	BARN99115	£5.58	50+ £5.09

## WOODEN BLOCKS



As used on Treasure Island

Double with becket

**Traditional Ash Blocks** These blocks are strong, simple and functional. They are often used for period set dressings. Bindings are heavy-gauge stainless steel with a fixed eye head. Sheaves are a generous size made from Tufnol running on a stainless steel spindle. The shell is high quality ash formed into a smooth oval shape and varnished. SPECIFICATION: Sheave Ø: 50 mm. Suits rope sizes: 10 - 12 mm.

Other sizes for ropes up to 26 mm diameter are available to order.

### SAFETY

Safety Factor 2 to 1

Ash Blocks [Type AH088]	Breaking load	SWL	code	price
Single	3,500 kg	1,750 kg	PUL0610	£88.19
Single with becket	3,500 kg	1,750 kg	PUL0611	£95.51
Double	4,000 kg	2,000 kg	PUL0612	£118.50
Double with becket	4,000 kg	2,000 kg	PUL0613	£134.52

## LARGE DIAMETER ROPE PULLEYS



**Big Block 32** This brilliant new pulley has been made especially for us by Barton Marine [see their other excellent pulleys from page 211]. Quite often when working on stage the designer requires a much larger rope than is actually required in regards to the weight it has to lift - to make it look more 'real', or to exaggerate the perceived weight. As such, a heavy duty pulley is not necessarily required, and the expense of one not justified, thus this pulley was born!

- ✓ Up to 32 mm rope capacity
- ✓ Swing Cheeks; allows the block to inserted onto pre-rigged lines and the over large hole will take any connector.
- ✓ Economical
- ✓ Good for all large diameter ropes [page 198]

Specification: takes up to 32 mm Ø rope. WLL 225 kg [4:1 safety factor]. 316 grade stainless steel with a "Spectro" anodised aluminium sheave. CE marked.

Big Block 32	max rope Ø	WLL	code	price
sheave Ø: 72 mm	32 mm	225 kg	FHSSC32	£118.62

# HALL STAGE PULLEYS

## Which Hall Stage Pulley to use when?

Equipment used for suspending loads which are not over people are usually certified with a safety factor of 5:1; in these circumstances think of using the good value DL-Lite Range. When suspending loads over people, generally an 8:1 safety factor is used and recommended by the ABTT, then the Dynaline Range would be suitable. These pulley ranges are marked with a SWL and replace the familiar old Classic Style blocks on all sizes over 100 mm. The Classic Style blocks are still available in the smaller sizes for fibre ropes [and in size 75 mm 1-way for 4 mm wire rope]; and they remain popular for lighter applications.

### HALLS CLASSIC STYLE BLOCKS

#### Halls recommended sheave sizes

A 38 mm diameter sheave takes fibre ropes up to 6 mm.

A 50 mm diameter sheave takes fibre ropes up to 10 mm.

A 75 mm diameter sheave takes fibre ropes up to 14 mm.

A 75 mm diameter sheave takes wire ropes up to 4 mm.\*

\*Many of the other pulleys can also be supplied with sheaves with wire rope profiles – please ask our Rigging Manager for details.



**Awning Pulleys 245** Capable of being mounted to a variety of fixing points, this pulley type solves a variety of problems. It can be fixed via a shackle to eyebolts, girder clamps or chain, and always self-adjusts to find the correct pulling angle, regardless of irregular fixing points.

Awning Pulleys	1-way	2-way	3-way	4-way
38 mm	HAL235 £26.76	HAL236 £37.43	HAL237 £52.94	HAL238 £70.20
50 mm	HAL240 £30.40	HAL241 £47.10	HAL242 £65.55	HAL243 £82.24
75 mm	HAL245 £63.40	HAL246 £97.30	HAL247 £141.24	HAL248 £184.32

**Awning Pulley for Wire Rope** This pulley takes 4 mm wire using an 18:1 D:d ratio. A pulley for 5 mm is available on special order.

Awning Pulleys	1-way	price
75 mm	HAL08278	£73.93



**Side Fixing Pulleys 244** A useful pulley with a variety of uses. Fixed to the wall it is used for curtain tracks, safety curtain releases and scenery track lines. It can be used on the floor to divert ropes or it can be fixed to scenery for effect lines.

Side Fixing Pulley	1-way	2-way	3-way
38 mm	HAL220 £26.76	HAL221 £37.53	HAL222 £52.94
50 mm	HAL225 £30.40	HAL226 £47.10	HAL227 £65.55
75 mm	HAL230 £61.50	HAL231 £95.40	HAL232 £139.34



**Ceiling Fixing Pulley 183** Intended for use either as a ceiling, wall or timber fixing pulley. These pulleys have bolted angle iron supports which are more substantial than the upright pulleys listed below.

Ceiling Pulley	1-way	2-way	3-way	4-way
75 mm	HAL170 £79.89	HAL171 £94.82	HAL172 £131.44	HAL173 £164.34



**Upright Guide Pulleys 243** A general purpose pulley with a variety of uses. Used principally for curtain track diverters or for release or operating cables.

Upright Pulley	1-way	2-way	3-way	4-way
38 mm	HAL200 £26.76	HAL201 £37.43	HAL202 £52.94	HAL203 £70.20
50 mm	HAL205 £30.40	HAL206 £47.10	HAL207 £65.55	HAL208 £82.24
75 mm	HAL215 £61.50	HAL216 £95.40	HAL217 £139.34	HAL218 £182.42

### HALLS DYNALINE PULLEYS



**Dynaline Pulleys** This purposeful range are all ball raced with sealed bearings and a Nylacastmoly Nylon 6 sheave. They have 5 mm thick steel side plates. In three diameters with hemp and wire profiles. Conformity: BS 7905-1:2001, BS 6570:1986.

#### Ordering protocol

To order or price up, select the number of grooves needed and the diameter of the sheaves, then choose your mounting option. Dynaline pulleys have a comprehensive choice of mounting options [see next page]. Pulleys will be supplied to you assembled. When ordering for more than one line please be aware that the sheave will be a single block with multiple grooves. All the wires must be reeved in the same direction. If you have a special need to have wires contra-rotating please phone and ask for our Rigging Manager as we may be able to arrange it by using multiple single sheaves. We need to know which pulley has which bracket! So in an ideal world this is what we would like:

Please supply:

One off: 1-way 150mm wire block DYNL8228 c/w DYNL8273 parallel mount

#### SAFETY

Ø	Breaking Headload	Safety Factor	Safe Working Load
100 mm	1,000 kg	8 to 1	125 kg
150 mm	2,000 kg	8 to 1	250 kg
200 mm	4,000 kg	8 to 1	500 kg

**Basic Pulley Blocks** Choose your basic Dynaline block from below. Larger multiples are available. For mountings see the next page.

Dynaline Pulley 100 mm	fibre code	price	wire code	price
sheave Ø	no of grooves	12 mm Ø fibre	4 mm Ø wire	
100 mm	1	DYNL8242	DYNL8221	£58.87
100 mm	2	DYNL8243	DYNL8222	£85.06
100 mm	3	DYNL8244	DYNL8223	£104.68
100 mm	4	DYNL8245	DYNL8224	£143.94
Dynaline Pulley 150 mm	fibre code		wire code	
sheave Ø	no of grooves	18 mm Ø fibre	6 mm Ø wire	
150 mm	1	DYNL8249	DYNL8228	£91.60
150 mm	2	DYNL8250	DYNL8229	£117.77
150 mm	3	DYNL8251	DYNL8230	£170.11
150 mm	4	DYNL8252	DYNL8231	£209.38
Dynaline Pulley 200 mm	fibre code		wire code	
sheave Ø	no of grooves	24 mm Ø fibre	6 mm Ø wire	
200 mm	1	DYNL8256	DYNL8235	£111.53
200 mm	2	DYNL8257	DYNL8236	£148.10
200 mm	3	DYNL8258	DYNL8237	£219.56
200 mm	4	DYNL8259	DYNL8238	£266.68

**HALLS DL-LITE PULLEYS**



**DL-Lite Pulleys** The DL-Lite pulleys are significantly cheaper than the Dynaline pulleys and where the higher safety factor is not required, the DL-Lite pulleys offer a great alternative whilst still giving the security of a known and certified load capacity. DL-Lite pulleys use an oil-impregnated Nylacastmoly Nylon 6 sheave over a CDS tube. They have 3 mm thick steel side plates compared to the 5 mm thick steel side plates of the Dynaline – hence the “Lite” in their name. In two diameters with hemp profiles for 12 and 18 mm fibre rope or wire profiles for 4 and 6 mm wire rope. Larger multiples are available, just give us a ring.

Conformity: BS 7905-1:2001, BS 6570:1986. The test and product design conformity certification can be found on the download section of Flints’ website.

**Ordering protocol**

To order or price up, select the number of grooves needed and the diameter of the sheaves, then choose your mounting option. DL-Lite pulleys use the same comprehensive choice of mounting options ➡ as the Dynaline Pulleys. Pulleys will be supplied to you assembled. When ordering for more than one line please be aware that the sheave will be a single block with multiple grooves. All the wires must be reeved in the same direction. If you have a special need to have wires contra-rotating please phone and ask for our Rigging Manager as we may be able to arrange it by using multiple single sheaves. We need to know which pulley has which bracket! So in an ideal world this is what we would like:

Please supply:

One off: 2-way 150mm wire block HAL13014 c/w DYNL8273 parallel mount

**SAFETY**

Ø	Breaking Headload	Safety Factor	Safe Working Load
100 mm	750 kg	5 to 1	150 kg
150 mm	750 kg	5 to 1	150 kg

**Basic Pulley Blocks** Choose your basic DL-lite block from below and add your preferred brackets ➡ .

DL-Lite Pulley 100 mm Ø		fibre code	price	wire code	price
sheave Ø	no of grooves	12 mm Ø fibre		4 mm Ø wire	
100 mm	1	HAL12996	£40.40	HAL13008	£35.90
100 mm	2	HAL12997	£65.42	HAL13009	£65.42
100 mm	3	HAL12998	£87.22	HAL13010	£98.14
100 mm	4	HAL12999	£119.94	HAL13011	£130.86

DL-Lite Pulley 150 mm		fibre code	price	wire code	price
sheave Ø	no of grooves	18 mm Ø fibre		6 mm Ø wire	
150 mm	1	HAL13002	£60.61	HAL13012	£52.33
150 mm	2	HAL13003	£109.94	HAL13014	£91.60
150 mm	3	HAL13004	£150.47	HAL13015	£130.86
150 mm	4	HAL13005	£174.48	HAL13016	£183.20

**DYNALINE & DL-LITE MOUNTING OPTIONS**

All the brackets will be fitted to your pulleys unless requested otherwise.

**Fixing Angles** These pairs of angles bolt onto your chosen block to convert them into ceiling or grid blocks.



**Ceiling Fixing Angle** Simply, a pair of 50 x 50 x 250 mm angles with flanges drilled with 11 mm Ø holes at 210 mm centres.



**Grid Fixing Angles** Unfortunately, these 50 x 50 x 425 mm angles are only drilled to accept the block so they either need drilling onsite, welding in place, or we can arrange for them to be pre-drilled if you supply hole centres.

Angle Iron Adaptors [pairs]	length	code	pair
Ceiling Fixing	250 mm	DYNL8265	£41.16
Grid Fixing [no hook bolts]	425 mm	DYNL8263	£46.48
Grid Fixing + 4 hook bolts	425 mm	DYNL8264	£47.80



Shown attached to pulley

**Side Mounting Plates** Converts your Dynaline or DL-Lite pulley into a side-mounted pulley to act as a winch return or wall-mounted block. These plates require countersunk bolts to fit the block so it is best to ask for the side plates to be assembled to your choice of pulley.

Side Mounting Plates	code	price
To fit 100 mm	DYNL8267100	£17.32
To fit 150 mm	DYNL8267150	£17.32
To fit 200 mm	DYNL8267200	£17.32



**Across Mounting** Converts your Dynaline or DL-Lite pulley so that it can be attached to a bar at right angles.

Across Mounting Kit code	price
38 mm Ø	DYNL8269 £32.74
48 mm Ø	DYNL8270 £33.10
60 mm Ø	DYNL8271 £27.59



**Parallel Mounting** Converts your Dynaline or DL-Lite pulley so that it can be attached parallel to a bar.

Parallel Mounting code	price
38 mm Ø	DYNL8272 £32.38
48 mm Ø	DYNL8273 £38.11
60 mm Ø	DYNL8274 £31.77



**Awning Eye** Converts your Dynaline or DL-Lite pulley to an awning pulley which can be secured with a shackle to an eyebolt or suitable ring. Awning blocks will cant to the correct position regardless of the pulling angle. The side plates on this block are slightly different to those described left and on the previous page so these blocks must be ordered as made up units. They can be priced by adding the cost of the Awning Block Kit to the pulley units listed left or on page 217. Made to order.

Awning Eye code	price
DYNL8268	£36.65

# DOUGHTY PULLEYS

## Doughty Medium and Heavy-Duty Pulleys

Doughty introduced this updated heavy-duty range of pulleys a couple of years ago. Both the Doughty pulley systems are of modular construction. Sheaves can be ordered for fibre or wire rope and various fixing arrangements can be supplied fitted to your block. All Doughty pulleys are assembled to order by Doughty., and Certificates of conformity can be issued if required.

## DOUGHTY MEDIUM-DUTY PULLEYS



**Doughty Medium-Duty Pulleys** The sheaves are plain bearing lubricated nylon and are profiled grooved for either fibre or wire rope.

Conformity: BS 7905-1:2001, BS EN ISO 12100:2010

### Ordering protocol

When ordering for more than one line please be aware that the system is modular: single sheaves will be put together as a double, triple or quadruple. Should you require your sheaves to operate in reverse directions please phone us and we will advise on a way of achieving your objective. When you are ordering we need to know which pulley has which bracket! So in an ideal world this is what we would like:

Please supply:

One off: 2-way 100mm fibre block DOUT42837 c/w DOUT42870 girder bracket

### SAFETY

Breaking Headload	Safety Factor	Safe Working Load
450 kg	3 to 1	150 kg

**Basic Pulley Blocks** Choose your basic medium-duty block from below and add your preferred brackets ➡.

Medium-Duty Pulleys 100 mm Ø		fibre code	price	wire code	price
sheave Ø	no of sheaves	12 mm Ø fibre		4 mm Ø wire	
100 mm	1	DOUT42836	£48.24	DOUT42800	£48.24
100 mm	2	DOUT42837	£91.35	DOUT42801	£91.35
100 mm	3	DOUT42838	£134.40	DOUT42812	£134.40
100 mm	4	DOUT42839	£177.44	DOUT42813	£177.44

Medium-Duty Pulleys 150 mm Ø		fibre code	price	wire code	price
sheave Ø	no of sheaves	18 mm Ø fibre		6 mm Ø wire	
150 mm	1	DOUT42846	£82.86	DOUT42820	£82.86
150 mm	2	DOUT42847	£155.35	DOUT42821	£155.35
150 mm	3	DOUT42848	£229.63	DOUT42822	£229.63
150 mm	4	DOUT42849	£302.94	DOUT42823	£302.94

Medium-Duty Pulleys 180 mm Ø		fibre code	price	wire code	price
sheave Ø	no of sheaves	18 mm Ø fibre		6 mm Ø wire	
180 mm	1	DOUT42855	£111.35	DOUT42830	£111.35
180 mm	2	DOUT42856	£210.36	DOUT42831	£210.36
180 mm	3	DOUT42857	£309.42	DOUT42832	£309.42
180 mm	4	DOUT42858	£408.57	DOUT42833	£408.57

## DOUGHTY MOUNTING OPTIONS

Doughty pulleys can no longer be supplied without the brackets, so please specify requirements when ordering



### Multibeam Girder Brackets

Pair of 50 x 50 x 5 mm angle brackets universally drilled and suitable for mounting your pulleys to grids with hook bolts or coach screws. Picture shows brackets mounted – the price is just for the brackets.

Multibeam Girder Brackets	length	code	price
Multibeam Bracket [pair]	270 mm	DOUT42885	£51.59
Multibeam Bracket [pair]	450 mm	DOUT42886	£59.88



**Multifix Brackets** Pair of 30 x 30 x 3 mm angle brackets 150 mm long universally drilled and slotted.

**Multifix Brackets with Across Mounting** Supplied with 48 mm diameter U-bolts to fit across a bar. NB: if you require the pulleys to run parallel with the tube you will need the parallel tube version shown below.

Multifix Brackets	code	price
Brackets [pair]	DOUT42860	£14.32
Brackets + 48 mm Ø U-bolts [set]	DOUT42861	£18.46



### Multifix Brackets with Parallel Tube Plates

Consists of the brackets listed above but fitted with a plate so that the pulley can be mounted parallel to the bar.

Multifix Brackets with Parallel Tube Plates	code	price
Brackets [pair] + 48 mm Ø U-bolts + plate	DOUT42890	£49.63



**Girder Brackets** A drilled and slotted pressed channel supplied with M12 Lindapters to fit RSJ's. [Can be fitted to the pulleys of your choice on request]. For single or double sheave setups, just 1 is required, for triple or quad, 2 are required.

Girder Brackets with Lindapters	length	code	price
3" - 6" beams	270 mm	DOUT42870	£48.49
6" - 12" beams	450 mm	DOUT42872	£55.43



**Side Plates** Converts your chosen block to a side mounted version ideal for wall mounting.

Side Plates	code	price
To fit 100 mm basic pulley	DOUT42897	£41.72
To fit 150 mm basic pulley	DOUT42898	£48.24
To fit 180 mm basic pulley	DOUT42899	£56.18



**Awning Eye** A casting to convert basic pulleys to awning blocks. These castings have now been reduced in width to 16 mm so that they will take a Crosby 1 t bow or D shackle. They can be fitted to singles, doubles or triples but will be positioned to one side on double blocks which makes the block cant over slightly when loaded. Made to order.

Awning Eye	code	price
	DOUT42865	£20.74

**DOUGHTY HEAVY-DUTY PULLEYS**



**Doughty Heavy-Duty Pulleys** The sheaves are constructed of MOS 2 nylon with ball races for smooth friction-free operation. The side plates are 5 mm thick steel to provide an immensely strong construction. The design has been tested to a stringent 10:1 ratio. As standard, the blocks are made up from single-, double- and triple-grooved sheaves with the quadruple being assembled from two doubles. 5-way blocks are made from a triple and a double. Should you require your sheaves to operate in reverse directions please phone us and we will advise on a way of achieving your objective. Conformity: BS 7905-1:2001, BS EN ISO 12100:2010

**Ordering protocol**

When you are ordering we need to know which pulley has which bracket! So in an ideal world this is what we would like:  
Please supply:  
One off: 3-way 100mm wire block DOUT42903 c/w DOUT42997 side mounting plate

**SAFETY**

Ø	Breaking Load	Safety Factor	Safe Working Load
100 mm	2,000 kg	10 to 1	200 kg
150 mm	4,000 kg	10 to 1	400 kg
200 mm	6,000 kg	10 to 1	600 kg

**Basic Pulley Blocks** To order, firstly choose your basic block then select one of the fittings shown alongside ➔.

Heavy-Duty Pulleys 100 mm Ø		fibre code	price	wire code	price
sheave Ø	no of grooves	12 mm Ø fibre*		4 mm Ø wire*	
100 mm	1	DOUT42931	£90.68	DOUT42901	£90.68
100 mm	2	DOUT42932	£127.35	DOUT42902	£127.35
100 mm	3	DOUT42933	£164.03	DOUT42903	£164.03
100 mm	4	DOUT42934	£200.73	DOUT42904	£200.73
100 mm	5	DOUT42935	£237.42	DOUT42905	£237.42

**NB:** due to an unfortunate positioning of the bracket fixing bolts the 100 mm diameter pulleys can only be used with the bracket uppermost. All the other sizes below can be reeved either way.

Heavy-Duty Pulleys 150 mm Ø		fibre code	price	wire code	price
sheave Ø	no of grooves	18 mm Ø fibre*		6 mm Ø wire*	
150 mm	1	DOUT42941	£142.80	DOUT42911	£142.80
150 mm	2	DOUT42942	£179.71	DOUT42912	£166.40
150 mm	3	DOUT42943	£224.67	DOUT42913	£224.67
150 mm	4	DOUT42944	£269.63	DOUT42914	£269.63
150 mm	5	DOUT42945	£322.80	DOUT42915	£322.80

Heavy-Duty Pulleys 200 mm Ø		fibre code	price	wire code	price
sheave Ø	no of grooves	18 mm Ø fibre*		6 mm Ø wire*	
200 mm	1	DOUT42951	£194.92	DOUT42921	£194.92
200 mm	2	DOUT42952	£247.03	DOUT42922	£247.03
200 mm	3	DOUT42953	£299.14	DOUT42923	£299.14
200 mm	4	DOUT42954	£351.25	DOUT42924	£351.25
200 mm	5	DOUT42955	£413.95	DOUT42925	£413.95

\*See the next page for information regarding D:d ratios.

**DOUGHTY HEAVY-DUTY MOUNTING OPTIONS**

Doughty pulleys can no longer be supplied without the brackets, so please specify requirements when ordering



One 225 mm Multi Beam Bracket

**Multibeam Brackets** A pair of universal drilled [13 mm Ø for M12] and slotted angle brackets. They can be used for upright, wall or ceiling fixings or used with 48 mm Ø U-bolts or half couplers to clamp to scaffold tubes. These brackets are tested to 600 kg WLL using the worst case of bolts utilising the end holes only.

Multibeam Bracket	length	code	price
	fits beams		
Multibeam Bracket [pair]	225 mm	3 - 6" DOUT42990	£58.57
Multibeam Bracket [pair]	450 mm	6 - 12" DOUT42995	£57.48



U-bolt and saddle.

**U-Bolt and Saddle** For use on the Multibeam Brackets to attach pulleys at right angles to 50 mm diameter tubes. 8 mm material. For more U-bolts and J-bolts see page 239.

U-Bolt and Saddle	code	price
U-bolt and saddle [see also page 239]	DOUT56900	£1.86



**Side Mounting Plates** Allows the blocks to be mounted against walls or on the floor to act as winch return pulleys. The price is for the mounting plate only. See also the Low Level Return Pulley [page 222]. Made to order with required block

Side Mounting Plates	code	price
Side Mounting Plate for 100 mm Ø	DOUT42997	£24.12
Side Mounting Plate for 150 mm Ø	DOUT42998	£27.30
Side Mounting Plate for 200 mm Ø	DOUT42999	£30.53



**Awning Profile** For use on the single, double and triple blocks only. Provides a centralised fixing point for a shackle enabling the pulley to cant to the desired position. Hole: Ø 16.5 mm for up to 2 t shackles. Made to order with required block.

Awning Profile	code	price
Awning Profile for 100 and 150 mm single	DOUT42984	£30.92
Awning Profile for 100 and 150 mm double	DOUT42985	£32.94
Awning Profile for 100 and 150 mm triple	DOUT42986	£35.99
Awning Profile for 200 mm single	DOUT42987	£29.71
Awning Profile for 200 mm double	DOUT42988	£30.92
Awning Profile for 200 mm triple	DOUT42989	£35.63

**See the BIG BLOCK 32 on page 216 for large diameter fibre ropes!**

**Do you climb vertical ladders for your work? Have a look at the ALF Auto Locking Fall Arrest Pulley [page 338].**

# SHEAVES

## Choice of Sheave

There is the "ideal world" and there is the "real world" and sadly they are often quite a long way apart.

**Wire Ropes** The Association of British Theatre Technicians state that the diameter of a wire rope sheave [D] should be 30 times the diameter of the wire being used [d]. This ratio is referred to as the D/d ratio. In fact, there are a whole series of factors which will affect the pulley sheave choice. With a D/d ratio of 30, using a flexible wire rope you should expect to get about 93% of the wire's strength and a good service life. In a theatre grid there should be adequate space for large diameter sheaves. However, on a small piece of scenic machinery this may be impractical. A D/d ratio of 18 will still provide 90% of the wire's strength but the working life will be reduced. This is generally regarded as the lowest ratio that should be used. It enables a 5 mm wire to run around a 90 mm diameter sheave at 90% of its WLL for a reduced lifecycle. If smaller ratios are used, both the WLL's and the design life will need to be substantially reduced. Apart from the D/d ratio [the larger the better] it is important that the wire is correctly supported in the sheave's groove. If the groove is too tight the wire will be crushed and if it is too open then the inner strands of the wire will take higher loads. The wire may also become unstable, rolling from side to side until it jumps out of the groove in disgust. The correct groove diameter should be just 5% greater than the wire diameter. The groove angle is open to some debate. In the USA groove angles are 30°, in Germany 45°, in the UK 52° and the international standard is 60°. Flints' sheaves [FHS codes] have groove angles of 50°. The fleet angle of the wire entering a sheave must not exceed 5°. The pulleys must run freely. A sheave with bearings will be more efficient than a plain bearing sheave but plain bearings [they are either just holes or sleeved holes] are a good choice if the sheave is to remain under a static load for long periods.

**Fibre Rope Sheaves** The minimum D/d ratio for fibre rope sheaves is generally regarded as 8 to 1 [with the exception of certain aramid fibres]. The rope should be supported in a round groove about 10% bigger than the rope diameter. Avoid using V grooves which will cause damage and add extra friction to the rope.

Measuring the diameter of fibre ropes is not an exact science. A three strand rope will expand when it is cut off its coil and then reduce when under load. It may be worth ordering a sample pulley on a "sale or return" basis to check your rope is a good fit. Chafe will always be the major enemy so you should ensure any side plates are either clear of the rope or at least have smooth radiused edges.

## ACETAL RESIN SHEAVES



**Acetal Sheaves** An economical series of plain bearing sheaves ideally suited to polyester ropes. Updated to reflect the new dark grey sheaves seen on the new Barton pulleys [page 211].

Acetal Resin Sheaves				code	price
∅	width	bore	max rope ∅		
35 mm	12 mm	8 mm	8 mm	BARN64804	£1.47
45 mm	12 mm	8 mm	10 mm	BARN64809	£1.99
64 mm	18 mm	13 mm	12 mm	BARN64814	£6.28
71 mm	19 mm	13 mm	14 mm	BARN64816	£9.11



**Ultralegere** A very small and ultra-lightweight sheave often used to convert symmetrical karabiners [Petzl OK page 185] into emergency rescue pulleys. Nylon. Min BL: 1 kN. Weight: 10 g.

Ultralegere Sheave				code	price
∅	width	bore	max rope ∅		
40 mm	20 mm	14.8 mm	7 - 13 mm	PETP00A	£4.67

## NYLON SHEAVES



### Nylon Sheaves with Bearings

[Nylon with Molybdenum Disulphide] These excellent nylon sheaves are designed for 5 and 6 mm wire ropes. Nylon has better impact and corrosion resistance and are much lighter than cast iron sheaves. They are excellent value. Fitted with bearings with side shields for free running. Widely used for the construction of stage machinery such as lift units etc. We have utilised large 20 mm bore bearings in the heavy-duty 230 mm sheaves [FHS070] so that they can be used in multiple groups on strong, large diameter, axles. All the wire grooves are the nominal wire ∅ plus 5%. The groove angle is 50°. Maximum permissible fleet angle: 5°.

Sheaves with Bearings for Wire Ropes				code	price
∅	width	bore	wire ∅		
50 mm	18 mm	12 mm	5 mm	FHS063	£26.15
100 mm	18 mm	12 mm	6 mm	FHS065	£30.34
150 mm	18 mm	12 mm	6 mm	FHS066	£35.44
230 mm	28 mm	20 mm	6 mm	FHS070	£60.90

See page 247 for nylon rollers with plain, V or round grooves

### Nylon Sheaves without Bearings

The lubricated nylon used in these sheaves allows them to run freely and quietly on a plain bore. More economical than sheaves with bearings but with slightly more resistance. On rare occasions a squeak may occur requiring a little lubrication to solve. These sheaves are a good choice for applications where there may be prolonged periods of static load. Also available grooved for fibre ropes. See also Bar Divertor Sheaves [page 147].

Sheaves without Bearings for Fibre Ropes				code	price
∅	width	bore	fibre rope ∅		
100 mm	25 mm	12 mm	12 mm	DOURPUL100	£17.33
150 mm	25 mm	12 mm	18 mm	DOURPUL150	£24.47
180 mm	25 mm	12 mm	18 mm	DOURPUL180	£40.57

See also Rope Return Sheaves on the next page.

## NYLON BOW ROLLERS



**Black Nylon Bow Roller** Useful for guiding large diameter ropes, tripes or hoses. See also page 247 for other Nylon Rollers.

Nylon Bow Roller			code	price
∅	width	bore		
75 mm	79 mm	12 mm	PUL9186	£54.67

## MINIATURE SHEAVES

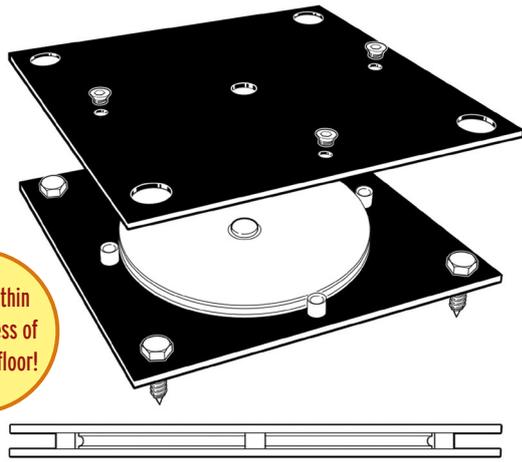


**Mini Cassette** A very small but high load stainless steel sheave with stainless balls in a polypropylene cage. These small free-running sheaves are ideal for special effects using 1.5 or 2 mm stainless wire rope or nylon cords.

Mini Cassette			code	price
∅	width	bore		
25 mm	6 mm	8 mm	PUL531	£16.55

# SPECIALIST PULLEYS & TEMPORARY COUNTERWEIGHTS

## LOW LEVEL RETURN



Mounts within the thickness of a plywood floor!

**Low Level Return Pulley** A 230 mm diameter aluminium sheave grooved to take 6 mm wire rope mounted in between two 300 mm square plates so that the overall thickness is just 18 mm. Fitted with an Oilite bush bearing and nylon side washers. These pulleys were designed by Flints to act as return pulleys for our truck winches and can be mounted within the thickness of a 19 mm ply floor. Fixings: four M10 coach screws which are accessed through large diameter holes in the top plate but are hidden within the 18 mm depth when tightened down.

SPECIFICATION: Sheave Ø: 230 mm. Thickness: 18 mm. Max wire rope Ø: 6 mm.

Low Level Return Pulley	weight	code	price
Whole assembly	4.9 kg	FHS503	£111.50
Sheave only	868 g	FHS504	£44.65

## ROPE LOCK FRAME



### Rope Lock Frame

This substantial rope lock frame has a return sheave for a 20 - 22 mm hauling line. The frame can be supplied with or without a rope lock to lock off the hauling line.

Fitted with angles drilled with 13 mm Ø holes for bolting down to the stage.

SPECIFICATION: Length: 400 mm [outer edge of angles]. Depth: 300 mm. Height: 500 mm [excluding rope lock]. Sheave Ø: 230 mm. Fixings: M12 bolts or coach screws [sold separately].

Rope Lock Frame	code	price
Including rope lock	FHS107K	£518.45
Excluding rope lock	FHS107P	£389.25
Return sheave only	FHS106	£198.00

## COUNTERWEIGHT CRADLES

F



### Temporary Counterweight Cradle [Double or single purchase]

A temporary counterweight cradle capable of taking 22 x 10 kg tongue and tongue counterweights giving an overall weight 250 kg. The cradle has been designed to be capable of converting to double purchase with the addition of our Header Sheave [FHS105S] and our Return Sheave [FHS106].

The main wires can be secured directly to two M12 high tensile machine screws which will pass through the eye of any standard thimble. The fibre rope hauling line attaches directly to the M20 bolts which also act as axles when the system converts to double purchase. This design make a very neat fixing point for both the wires and the hauling line.

The guide wires can be threaded through the 10 mm Ø chamfered holes [390 mm hole centres] or, if the wires cannot be threaded, they can be attached to the holes by means of a twisted shackle [WIR1628SS] in which case the wire centres will be 430 mm.

SPECIFICATION: Length: 424 mm. Width: 150 mm. Height: 1,565 mm. Sheave Ø: 230 mm. Weight: 35 kg.

SPECIFICATION HEADER SHEAVE: Nylon MDS sheave grooved for 4 x 6mm wires plus a central groove for 20-22 mm Ø rope. Sheave Ø: 230 mm..

Temporary Counterweight Cradle	code	price
Single purchase	FHS113	£319.00
Double purchase	FHS113DP	£765.60
Counterweight 10 kg [see page 153 for bulk deals]	FHS109	£39.90
Twisted shackles for guide wires [four needed]	WIR1628SS	£2.14
Header sheave only	FHS105S	£235.20
Rope return sheave only	FHS106	£198.00

**Header Block** is no longer listed for purchase. Contact us for specials.

**Divertor Block** is no longer listed for purchase. Contact us for specials.

# ROPE LOCKS & CLUTCHES

## THEATRE ROPE LOCKS

### Theatre Rope Locks

These traditional flyrail rope locks are used to clamp the counterweight hauling line once the balanced flying bar has been finally positioned. They are not designed to act as brakes on unbalanced bars.



**Lever Rope Lock with Steel Jaws** Handles 20 mm diameter three- or four-strand ropes. On this version the lever is raised to lock the rope.

SPECIFICATION: Rope centre to mounting channel: 90 mm. Mounting channel size: 100 x 50 mm. Fixings: 2 x M10 bolts at 94 mm centres.

Lever Locks with Steel Jaws  
Steel Jaws [up to lock]

code price  
HAL267 £189.10

Tradeline  
10+  
£173.25



**Lever Rope Lock with Polyurethane Jaws** Handles 20 mm diameter three- or four-strand ropes. The polyurethane jaws have been designed to reduce damage to the hauling lines. On this version the lever is pushed down to lock the rope. It also has a clip to secure the handle in the free running position. Proof-tested to 100 kg using four-strand hemp.

SPECIFICATION: Rope centre to mounting channel: 90 mm. Mounting channel size: 100 x 50 mm. Fixings: 2 x M10 bolts at 94 mm centres.

Lever Locks with Polyurethane Jaws  
Polyurethane Jaws [down to lock]

code price  
ROPPJ1 £220.10

Tradeline  
10+  
£201.65

**Flints can supply a 20 mm Counterweight Hauling Rope made from four-strand flax. It is slightly firmer than three-strand rope and presents a smoother and rounder outside which can be helpful in rope locks [page 198].**



**Rope Lock** Designed to lock hauling lines together to prevent cradle movement. Suitable for ropes up to 20 mm diameter. Larger sizes can be made to order subject to quote and minimum order quantity - please ask.

SPECIFICATION: Length: 315 mm. Width: 145 mm. Finish: Black powder coated.

Rope Lock

weight  
1,372 g

code price  
FHS04220 £63.93

Tradeline  
10+  
£49.99

## ROPE CLUTCHES

### Rope Clutches

In any operation involving suspended items using clutches Flints would recommend ropes are finally secured onto a cleat to avoid any chance of accidental release.



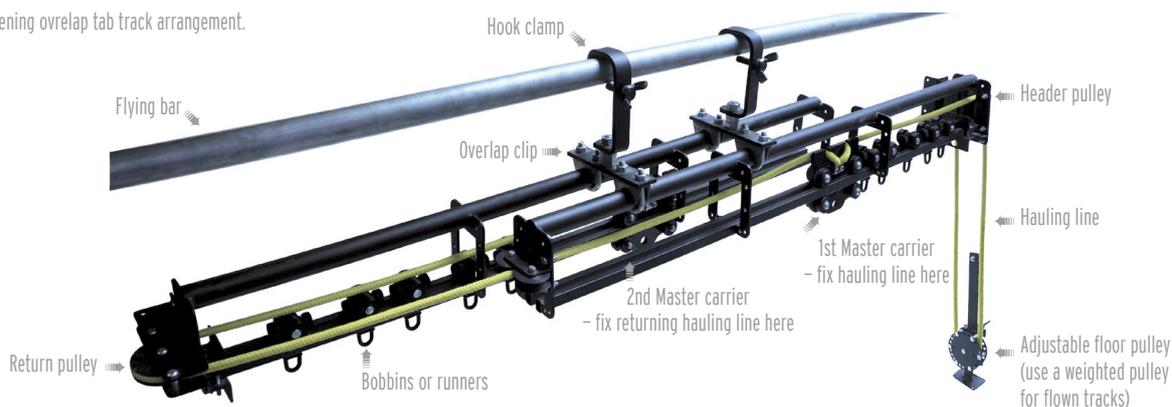
**Barton DO 550 Rope Clutches** Designed to offer a holding power of up to 550 kg and to control braided ropes up to 12 mm diameter. It requires little effort to use the clutches thanks to the ergonomically-designed handle and bolt-together construction, which also allows for ease of servicing.

All three clutches utilise a "true clutch" mechanism which enables lines to be easily and accurately adjusted with maximum grip and minimal slippage when in locked position. Each clutch also allows steady and accurate release under load, with the specially designed teeth to reduce wear on ropes. The clutches have been produced using high-grade plastic components coupled with marine-grade aluminium cams and bases, resulting in lightweight products that provide exceptional strength and are extremely durable even in the harsh marine environment. Competitively priced. Length: 133 mm. Height: 68 mm.

DO 550 Rope Clutches

	weight	code	price
Single	343 g	BAR81500	£63.85
Double	544 g	BAR81501	£117.19

Typical centre opening overlap tab track arrangement.



## Tab Track Terminology

At first glance a tab track may appear complicated but all the components from each manufacturer have basically the same functions. We have described them below to help you choose but, if you prefer, just phone us and we will calculate all your component needs.

**Bobbins or Runners** These run along the track, normally on small wheels, and carry the drapes. Generally, they are spaced at around 250 – 300 mm apart.

**Rearfold Runners** Runners with an attachment that grips the control line [until offstage] to enable a cloth to move off stage without gathering from the leading edge. Only normally used with painted cloths.

**Master Runners** The master runner is the lead runner. It will normally have a clamping plate to grip the control cord. For a centre opening track you will need two master runners. Clamp the handline to one runner, then thread it around the return pulley at the end of the track and clamp the returning part of the cord to the other master runner. Even if the drapes are just to be pulled along it is wise to have a master runner at the leading edges as this runner will take a greater strain than ordinary bobbins. Alternatively, mount two ordinary bobbins close together to share the strain.

**Overlap Arms** Some master runners will take an overlap arm which allows centre opening drapes to overlap. The alternative is to overlap the tracks but to do this you will need overlap clips plus offset plates to ensure the hook clamps align with the flying bar.

**Header Pulley** This double sheave vertically aligns pulley bolts to the operator end of the track. Sometimes two designs are available, one for overlap tracks and one for single tracks.

**Return Pulley** Horizontal pulley bolted to the far end of the track.

**Floor Pulley** These pulleys are fixed to the floor and the sheave can be adjusted to put tension in the cord. If your track needs to fly out then choose a foot-stirrup pulley or a weighted pulley. If you choose a weighted pulley ensure that you use a polyester handline and that regular checks are made to guard against chafe.

**Handline** Tracks take 6 or 8 mm diameter handlines. Nowadays most people choose matt black polyester line rather than jute sash. If you are using a weighted pulley do not use jute sash. For the track to operate the line needs to be tied [or clamped] to form a loop. The best place to do this is just behind a master carrier rope clamp as this position never has to pass through a pulley.

## How to Cord Up a Tab Track

Position the assembled track at a comfortable working height. The cording principle is based on a long loop of cord, the loop being formed by clamping both the ends onto the "Cord End Master Carrier". If the track is "centre opening" then the other "slave" master carrier will be clamped to the returning cord. To cord a typical centre opening track, position the master carriers in the "Tabs Closed" position [centre stage]. Loosely tie or clamp one end of the cord onto the "Cord End Master Carrier" and thread the cord around the horizontal return pulley then back along the track passing through the rope clamp on the "slave master carrier". Loosely tighten the clamp plate and continue with the cord to the header pulley. Take it over the header pulley, around the foot-stirrup or floor-mounted pulley and back over the other sheave on the header pulley and finally back to the "Cord End Master Carrier". Ensure you have the correct drop for the floor mounted pulley and then loosely clamp the rope in place. Don't chop off the excess just yet! Take the track to its operational position. Try the track to ensure it is corded correctly then tighten the rope clamps and cut off the excess cord. [Based loosely on an extract from the Unitrack Manual].

## Sound Advice

Modern steel scenery clad in 4 mm ply can act as a sounding board and may amplify any track noise if the track is directly attached to the steel. "L" shaped corners in scenery such as pelmets or soffits also have an amplifying effect and should be avoided if possible.

## Shipping

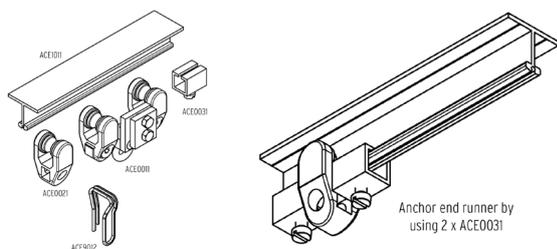
We used to have problems shipping lengths between 3 and 6m long, however these are now largely resolved, but it's worth noting a 3 m length has the benefit of being able to fit into most Transit-sized vans. We carry 2 m lengths as standard in our hire stock which can be joined using Joint Sets.

For full details of our delivery services see page 384.

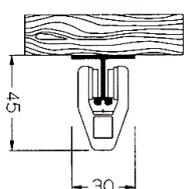


**Cording Unitab** Although Unitab is not supplied as a corded system it is easy to adapt it by using a Barton Cheek Block as the return pulley [BARN02160] and a Barton Double Upright Block [BARN01250] as the header pulley [page 212]. A Barton Single Pulley tied off to a ring plate can substitute as an economical adjustable floor pulley.

# LIGHTWEIGHT TRACKS



**ACE Track System** This smart black extruded aluminium track is designed to be the equivalent of a heavy-duty domestic track but with the reliability, performance and ease of installation that is expected of industrial products. Recommended for small venues, pubs and clubs. The runners are smooth running and robust. This track is not generally sold as a corded system so the curtains are pulled manually. However, the master carrier is fitted with a cord clamp so the ingenious among you could purchase some 4 mm cord and some Barton Yacht Blocks [page 212] and make a serviceable system. The track is generally screwed to a timber batten and it has a clever V groove in the top flanges to neatly position your drill bit making the task quick and easy. Choose your type of screw carefully as there isn't an abundance of clearance between the bobbins and the underside of the flange, see left. 90° curved track sections can be supplied down to a radius of 250 mm [but this is the very tightest radius and 500 mm is preferable].



- ✓ Small neat black profile
- ✓ Simple smooth running system
- ✓ Can be supplied with curved track sections
- ✓ Ideal for clubs, hotels, and restaurants
- ✓ Good choice for studio/classroom blackout curtains
- ✓ Excellent for drapes fitted to scenery
- ✗ Not really suitable for touring [unless fixed to scenery]
- ✗ Not normally supplied corded [but see below ↓ ]

## ACE Track

ACE Track	code	price
Straight Track up to 6 m long	ACE1011	per m £30.72
Curved Track 90° section 250 mm radius [tight]	ACE1041	£118.59
Curved Track 90° section 500 mm radius	ACE1061	£118.59
Curved Track 90° section 1 m radius	ACE1081	£118.59
Joint Pins	ACE9115	£0.32
Endstop and Curtain Anchor	ACE0031	£6.50

## ACE Runners



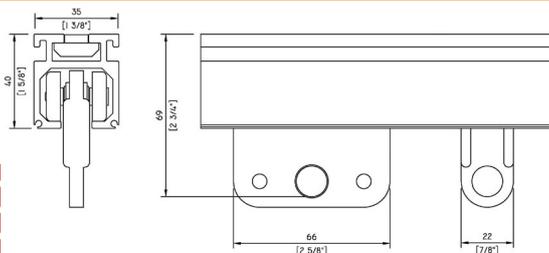
ACE Runners	code	price
Standard Runner [WLL 2 kg Space at 250 mm]	ACE0021	£4.09
Master Runner [with cord clamp]	ACE0011	£41.98
S-Hooks [for use with rufflette tapes]	ACE9012	£1.40

## ACE Mounting

ACE Mounting	code	price
Ceiling Mount*	ACE8021	£20.22

\*Generally ACE is just screwed directly to a suitable substrate.

# MEDIUM-DUTY TRACKS



**Triple E 2Way** This well proven track from Triple E is designed for lightweight curtains and can be used instead of domestic tracking to provide the reliable service expected from Triple E products. The track is available in lengths up to 6.1 m [20ft] and can be provided pre-rolled for curved installations. 2Way has a continuous suspension slot along the top to take Triple E fittings, or it can be screwed directly to a soffit by using ceiling clips. The track is quickly joined with a steel plate and grub screws locating in the top slot while two roll pins provide alignment of the running surfaces, see left. The runners are designed to take ties or twin hooks but steel wire hooks are also available for use with Rufflette tapes. This track is not available as a corded version.

Joint detail



- ✓ Smart good looks - can be custom powder coated on request.
- ✓ Ideal for pubs, clubs and small performance venues
- ✓ Good choice for cycloramas in small photographic, TV and drama studios, and exhibition or office environments.
- ✓ Use it for "on scenery" drapes
- ✓ Can take up to 88 kg Uniform Distributed Loads at 1 m centres
- ✗ Not available corded
- ✗ Not suitable for touring

Simple good looks

## 2Way Track

2Way Track	code	price
Straight Track up to 6 m long black [per m]	EEE2W01B	£27.30
Straight Track up to 6 m long silver [per m]	EEE2W01S	£18.72
Curved Track 90° section 750 mm radius black	EEE2W01BC75090	£81.14
Curved Track 90° section 750 mm radius silver	EEE2W01SC75090	£75.27
Curved Track 90° section 1 m radius black	EEE2W01BC100090	£86.91
Curved Track 90° section 1 m radius silver	EEE2W01SC100090	£81.14
Curved Track special to order black [per m]	EEE2W01BC	£39.31
Curved Track special to order silver [per m]	EEE2W01SC	£37.75
Joint Plate with two pins	EEE2W05	£9.40
Endstop [black]	EEE2W24	£7.97

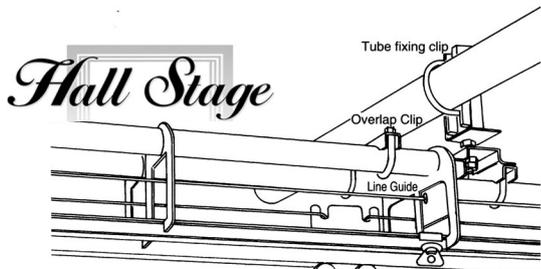


## 2Way Runners

2Way Runners	code	price
Standard Runner [WLL 15 kg space at 250 mm]	EEE2W06P	£4.29
Ball Raced Runner [WLL 15 kg space at 250 mm]	EEE2W06C	£7.80
Master Runner [WLL 30 kg no cord clamp]	EEE2W07W	£22.07
Wire S-Hooks [for use with Rufflette tapes]	EEE2W29	£1.90

## 2Way Mounting

2Way Mounting	code	price
Channel Nut [each]	EEEM8ERAILNUT	£1.55
Hook clamp black [includes channel nut]	EEEERL1402	£8.00
Ceiling Mount Clamps [5 pairs]	EEE2W30	£11.85
Wall Bracket	EEETRA16	£50.00
Studding Set + Nuts Washers [M8 x 150 mm]	EEEERL18	£6.10



**Halls T60 Anglia Track** Designed to meet the requirements of most small- and medium-sized stages and television and video facilities with cycloramas. Curtains can be hand-pulled, electrically- or hand-winded or just walked along. The maximum recommended length for a single wipe track is 9 m or 18 m for an overlapped track.



Single tracks can be easily suspended from bars by using the T60 universal fittings bolted to Hook Clamps [page 351]. Overlap tracks should use the "Z" brackets, see left, to centre the track on the bar. The tracks can be supplied in 45° and 90° curved sections. If you need to cut down a track onsite to fit to an exact dimension then purchase a Modular Track Clip, see left, to reinstate the end plate after cutting. Please phone for a complete list of components and prices.



Z Tube to overlap



Modular track clip

- ✓ Often installed in school stages
- ✓ Old design, so tried and tested
- ✗ Slightly fiddly joint bolts
- ✗ Old design may not suit modern stages



Endstop

**Halls T60 Anglia track**

**Halls T60 Anglia Track**

code		price
	Straight Track 500 mm section	HALT60576 £35.96
	Straight Track 1 m section	HALT60580 £47.20
	Straight Track 2 m section	HALT60584 £78.62
	Straight Track 3 m section [max]	HALT60586 £104.60
[other lengths and curved sections available, please phone for details]		
	Modular Track Clip	HALT610931 £45.08
	Joint Bolts [per 10]	HALT63756 £19.31
[2 shouldered + 2 hex sets: nuts, washers – enough for one joint.]		
	Endstops [per 2]	HALT65730 £16.90

**Halls T60 Anglia runners**



Master Carrier

Wheeled Runner

Carrier to take swivel arm [swivel arm not included see page 239].

**Halls T60 Anglia Runners**

code	price
HALT63750	Master Carrier [per 2] £45.29
HALT64348	Master Carrier ball raced for scenery flat £127.02
HALT60517	Master Carrier ball raced for swivel arm £107.88
HALT62132	Wheeled Runner [per 10] [SWL 4 kg. Space 300 mm] £31.68
HALT60542	Ball Raced Runner [per 10] £57.64
HAL3578	Tab Hook [per 10] [for pic see page 231] £10.96
HAL1701E	Twin Hook [each] [for pic see page 231] £1.02

**Halls T60 Anglia pulleys**



Head Pulley



Return Pulley



Floor Fixing Pulley



Weighted floor pulley

**Halls T60 Anglia Pulleys**

code	price
HALT61188	Head Pulley [handline] £45.54
HALT61187	Return Pulley [handline] £30.05
HALT61182	Floor Fixing Pulley [handline] £62.17
HALT63758	Weighted floor pulley £54.05

**Halls T60 Anglia mounting**



Overlap Clip



T60 Universal Fitting



Stud Hanger



Face Fixing Bracket



Deadline Suspension

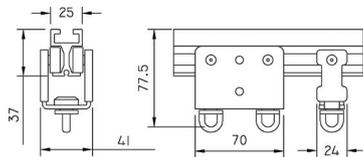
**Halls T60 Anglia Mounting and Accessories**

code	price
HALT63291	Overlap Clip [per 2] £20.04
HALT63753	T60 Universal Fitting [per 2] £22.25
HALT63136	Stud Hanger to 48 mm Ø [per 2] £38.11
HALT610965	"Z" Tube 48 mm to overlap track [per pair] £30.34
HALT61181	Face Fixing Bracket [per pair] £31.13
HALT60963	Deadline Suspension fitting [per 2] £21.80
ROP120	Black 6 mm x 8 plait polyester handline [per m] £1.14



T70 and 3-Way have been discontinued. But we do have spares on page 231.

**Flints can provide advice & competitive quotations for supplying drapes as well! We can also quote for installing & maintaining tracks in the London area.**



**Erail A** significantly improved version of the previous Unirail system. The track is a tough one-piece black aluminium extrusion available in lengths up to 6.1 m [20 ft]. Joins are made with a steel plate and grub screw in the top slot with a single roll pin in the base to ensure smooth running surfaces. The track can be rolled down to a 500 mm radius. Erail can be mounted by means of special M8 channel nuts in the top slot allowing easy connection to a hook clamp or M8 studding. Low friction ball-raced nylon runners ensure easy handling of the drapes. Centre opening drapes can be overlapped either by using overlap arms on the master carriers, or the pre-assembled centre opening unit. The track can also be corded for manual use or motorised by using the track mounted S-Drive [supplied with 10 m pendant].

✓ Ideal for small stages such as on cruise ships, conference centres, hotels and school halls ✓ Can be ordered to special radii with fast delivery times ✓ Sleek modern appearance ✓ Lower profile than most tracks ✓ Economically priced ✓ Can take up to 70 kg Uniformly Distributed Loads at 1 m centres ✗ Suitable for all but the very heaviest of stage curtains ✗ No scenery carriers or rearfold runners available ✗ Care should be taken when touring to protect long lengths from bending and edge damage.

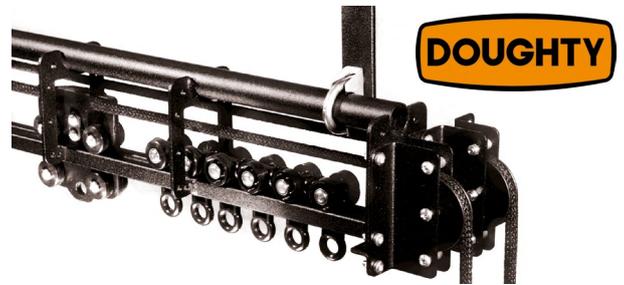


Erail Track	code	price
Straight Track [up to 6.1 m sold per m]	EEEEERL01	£28.39
Curved Track [up to 6.1 m sold per m]	EEEEERL01C	£43.68
Joint Plate complete with Roll Pin	EEEEERL05	£10.44
Endstop	EEEEERL24	£17.16
Pre-assembled centre opening unit [3 m]	EEEEERL26C	£135.00

Erail Runners	code	price
2 Wheeled Runner	EEEEERL06	£9.53
12 Wheel Master Runner with Rope Clamp [WLL 30 kg]	EEEEERL07S12	£100.93
Overlap Arm	EEEEERL07A12	£15.00

Erail Pulleys	code	price
Head Pulley	EEEEERL09	£79.12
Return Pulley	EEEEERL10	£57.98
Foot Stirrup Pulley	EEETRA11	£54.60
Adjustable Floor Pulley	EEETRA12	£60.06

Erail Mounting and Accessories	code	price
Curved Cord Guide	EEEEERL19	£27.24
Head Pulley Cord Guide	EEEEERL21	£33.16
Girder Clamp	EEETRA13	£28.94
Hook Clamp for 50 mm tube/truss	EEEEERL1402	£8.00
Deadline Fixing	EEETRA15	£19.38
Wall Bracket	EEETRA16	£50.00
Mounting Bracket	EEEEERL17	£10.15
M8 Attachment Nut	EEEM8ERAILNUT	£1.55
Studding set [M8x150 for use with ERL17 or ERL23]	EEETRA18	£7.75
Studding set [M8x150 direct to track]	EEEEERL18	£6.10
Curved Track Suspension Bracket	EEEEERL23	£15.89
Line Pick Up	EEEEERL25	£10.17
Overlap Clip	EEEEERL26	£14.13
8 mm x 8 plait polyester handline	ROP122A	per m £1.40
S-Drive [motorised control system w/ 10 m pendant]	EEESDRIVE	£1,805.26
Wireless Controller	TRAWC	<b>Tradeline</b> £499.00



**Doughty Six Track** This track was designed as competition to the Halls T60 track. They are remarkably similar. The Doughty barrel brackets are nicely designed to allow overlap tracks to hang centrally on the flying bar. They also came up with a bolt-on end plate [above] enabling the track to be cut to exact lengths without the need for onsite welding but Halls responded and now make one of these as well. Oh, the joys of competition!

- ✓ Ideal for schools and colleges
- ✓ Economically priced.
- ✓ Versatile modular system
- ✗ A bit fiddly for tours.



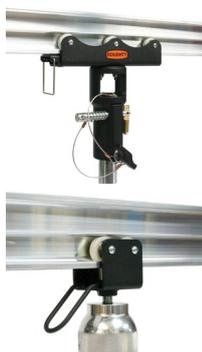
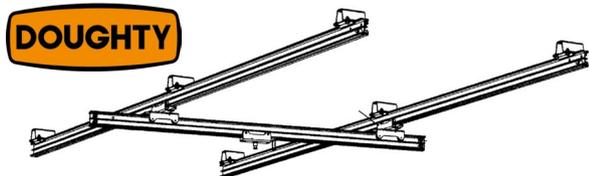
Doughty Six Track	code	price
Straight Track 500 mm section	DOUT63706	£37.28
Straight Track 1 m section	DOUT63708	£55.57
Straight Track 2 m section	DOUT63710	£93.15
Straight Track 3 m section [max]	DOUT63715	£132.48
Curved Track 90° 500 mm radius	DOUT63730	£107.63
Curved Track 90° 750 mm radius	DOUT63731	£124.20
Curved Track 90° 1 m radius	DOUT63732	£149.70
Six Track Spigot plate	DOUT63748	£3.60
Bolt-on End Plate [if cutting track]	DOUT63765	£17.60
Endstop [for walk along system]	DOUT63760	£9.30



Doughty Six Track Runners	code	price
Ball Raced Runner WLL 6 kg [use every 300 ,mm]	DOUT63756	£7.11
Plain Bearing Runner WLL 6 kg [use every 300 mm]	DOUT63757	£4.05
Master Runner	DOUT63755	£29.58



Doughty Six Track Pulleys and Accessories	code	price
Twin-head Pulley	DOUT63776	£55.87
Return Pulley	DOUT63775	£34.14
Weighted Handline Pulley	DOUT63820	£55.43
Floor Fixing Handline Pulley	DOUT63825	£73.71
Overlap Bracket	DOUT63752	£10.14
Line Support [every 2.5 m]	DOUT63770	£43.47
Barrel Bracket for overlap track	DOUT63753	£18.15
Adjustable Support Bracket [takes 10 mm studding]	DOUT63750	£9.30
Short Support Bracket	DOUT63751	£8.80
Handline 8 mm x 8 plait polyester [per metre]	ROP122A	£1.40
Fixing Kit for Six Track [100 bolts nut and washers]	DOUT63795	£13.87

**DOUGHTY**

**Studio Rail** A light and extremely strong track system with several unique features. A pair of four-wheel double swivel carriages [above] allows an adjustable moving rail to be mounted to a pair of fixed parallel rails. The six-wheel carriage with a 28 mm receiver [left] has a SWL of a massive 100 kg. Fitted with a friction brake it stays where it's put. Use it for luminaires, monitors and pantographs etc. It has three points of safety: a 6 mm Ø pin, a sword pin, and finally, the lamp can be rotated

then locked in place with a Doughty knob. The cupped curtain brake [above] moves by means of an operator's pole, then twists to engage the brake. We stock the extrusions in natural aluminium.

- ✓ Versatile – used in theatres, schools, studios, nightclubs
- ✓ Takes luminaires, monitors, and pantographs
- ✗ Curtain runners rather expensive

### Studio Rail track [Anodised black also available]

Standard Track Sections	code	price
Straight Track 2 m silver	DOUT84000	£85.30
Straight Track 3 m silver	DOUT84005	£125.41
Straight Track 4 m silver	DOUT84010	£170.28
Straight Track 6 m silver	DOUT84015	£253.42
Joiner Kit	DOUT84070	£17.09
Endstops [four]	DOUT84080	£14.32

### Studio Rail Curved Track [Anodised black also available]

Curved Track Sections	code	price
Curved Track 90° section 750 mm radius silver	DOUT84017	£139.17
Curved Track 90° section 900 mm radius silver	DOUT84018	£168.38
Curved Track 90° section 1,050 mm radius silver	DOUT84019	£197.58
Curved Track 90° section 1,200 mm radius silver	DOUT84020	£211.32
Curved Track 90° section 1,350 mm radius silver	DOUT84025	£213.03
Curved Track 90° section 1,500 mm radius silver	DOUT84030	£219.06

### Studio Rail runners & carriages



Cable Carriage

Rearfold Runner

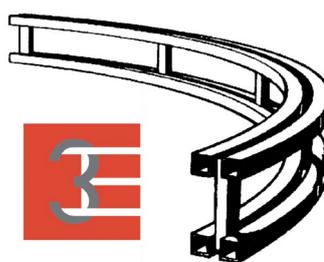
Overlap Arm

Operator's Pole

Runners & Carriers	code	price
Cable Carriage [five]	DOUT84220	£58.57
Curtain Carriage [five]	DOUT84225	£46.57
6-Wheel Carriage + 28 mm TV Spigot Receiver	DOUT84205	£129.72
4-Wheel Carriage + 16 mm Spigot	DOUT84185	£52.82
6-Wheel Carriage with Swivel	DOUT84516	£200.73
Double Swivel Carriage	DOUT84215	£94.82
Cupped Curtain Brake	DOUT84230	£63.62
Operator's Pole 3.7 m open / 2 m closed	DOUT84249	£194.92

Studio Rail Mountings	code	price
Ceiling Bracket	DOUT84120	£27.41
Wall Bracket 200 mm	DOUT84105	£31.78
Wall Bracket 350 mm	DOUT84106	£36.96
Wall Bracket 500 mm	DOUT84107	£42.08
Rail to Tube Bracket Fitting	DOUT84180	£52.41

## HEAVY-DUTY TRACKS



### Triple E UniTrack

Our biggest selling track and the track that we choose for our own hire stock. UniTrack is a versatile modular track system, used widely for theatres, exhibitions, trade shows and rock and roll tours. Sections are available

in standard lengths of 2 m, 1 m, 500 mm and 250 mm. The design is such that the track sections stack neatly on trucks or in storage making this system the preferred choice for tours. Special curved sections are available to order and there are at least 16 ways of cording the track, with the option to add drive motors. A range of suspension fittings is available. Runners should generally be spaced at 300 mm intervals. Standard and curved runners have Working Load Limit of 25 kg, whilst master runners and scenery carriers have a WLL of 50 kg. Heavy-duty Carriers have a WLL of 125 kg.

- ✓ Industry favourite
- ✓ Well proven
- ✓ Stacks very neatly for storage
- ✓ Ideal for touring
- ✓ Just one bolt to join lengths
- ✓ Motorised versions available
- ✓ Takes scenery carriers including heavy-duty versions
- ✓ Huge range of roping methods including rearfold
- ✓ Extra parts may be hired for the occasional show requiring many tracks. [page 379]
- ✓ Can take up to 400 kg Uniformly Distributed Loads at 1 m centres
- ✗ Takes up quite a lot of height so not ideal for height-restricted venues

### UniTrack Standard Track



Standard Track Sections	code	price
Straight Track 250 mm	EEETRA01	£35.57
Straight Track 500 mm	EEETRA02	£40.16
Straight Track 1 m	EEETRA03	£48.71
Straight Track 2 m	EEETRA04	£88.26
Joint Set	EEETRA05	£7.57

### UniTrack Curved Track

Curved Track Sections	code	price
Curved Track 90° section 1 m radius	EEETRA1090	£222.35
Curved Track 90° section 1.5 m radius	EEETRA1590	£286.87
Curved Track 90° section 2 m radius	EEETRA2090	£358.64
Curved Track 90° section 3 m radius	EEETRA3090	£537.89

### UniTrack Runners



Standard Raced Runner

Rearfold Runner

Overlap Arm

Runners	code	price
Standard Raced Runner, 2 wheels	EEETRA06	£16.74
Raced Runner for curves, 4 wheels	EEETRA06C	£22.13
Rearfold Runner	EEETRA06R	£23.92
Master Runner	EEETRA07	£65.21
Master runner overlap arm	EEETRA07A	£16.02
Rearfold Accessory	EEETRA08	£7.01

## UniTrack Carriers



Scenery Carrier  
Bottom Part Only



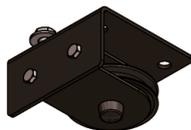
Heavy-duty Scenery  
Carrier Top Part Only

Carriers	code	price
Scenery Carrier top only (WLL 50 kg)	EEETRA28A	£68.21
Scenery Carrier bottom only	EEETRA28B	£65.52
Scenery Carrier heavy-duty top only (WLL 125 kg)	EEETRA28AHD	£216.32

## UniTrack Pulleys



Header Pulley for  
Overlap Tracks



Return Pulley for Overlap  
Tracks



Head Pulley for  
Single Tracks



Return Pulley for  
Single Tracks



Foot Stirrup Pulley



Adjustable Floor Pulley

Pulleys	code	price
Head Pulley [for overlap track]	EEETRA09	£74.88
Return Pulley [for overlap track]	EEETRA10	£47.47
Head Pulley [for single track]	EEETRA31H	£35.39
Return Pulley [for single track]	EEETRA31R	£29.19
Foot Stirrup	EEETRA11	£54.60
Adjustable Floor Pulley	EEETRA12	£60.06

## UniTrack Suspension Fittings



Girder Clamp



Hook Clamp



Deadline Fixing



Studding Set



Wall Bracket



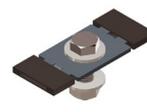
Offset Plate

Suspension Fittings	code	price
Girder Clamp	EEETRA13	£28.94
Hook Clamp, 38-52 mm	EEETRA14	£33.90
Deadline Fixing	EEETRA15	£19.38
Wall Bracket	EEETRA16	£50.00
Offset Plate [new design]	EEETRA17	£8.29
Studding Set [M12 x 150 mm]	EEETRA18	£7.75

## UniTrack Components



Endstop



Flat Endstop



Line Pick Up



Overlap Clip Set

Components	code	price
Endstop	EEETRA24	£10.27
Flat Endstop	EEETRA24S	£9.83
Line Pick Up	EEETRA25	£9.36
Overlap Clip [two needed for overlap]	EEETRA26	£15.37

## UniTrack Curved Track Fittings



Curve Cord Guide



Curve Head Pulley



Curve Return Pulley



Curve Master Runner

Curved Track Components	code	price
Curve Cord Guide	EEETRA19	£41.71
Curve Master Runner	EEETRA20	£101.72
Curve Head Pulley	EEETRA21	£134.38
Curve Return Pulley	EEETRA22	£56.51
Curve Suspension Bracket	EEETRA23	£26.00

## UniTrack Side Cord System



Side Cord Guide



Centre Overlap Divert



Side Cord Pulley Set



Side Cord Rope Clamp

Side Cord System	code	price
Side Cord Guide	EEETRA32	£58.97
Side Cord Centre Overlap Diverter	EEETRA33	£115.85
Side Cord Head & Pulley set, 3 part	EEETRA34	£114.71
Side-Cord Rope Clamp for Master Runner	EEETRA35	£28.74

**Handlines** Choose the black polyester cord for all normal use, it makes for a very high quality and reliable handline. If you are using scenery carriers under heavy load on long tracks it can be advantageous to choose a rope with virtually no stretch. Flints stocks a Dyneema rope with a matt black polyester cover which is indistinguishable from the polyester rope except its working stretch is less than 1.5%. The Dyneema Pro is the best choice under very heavy loads because it does not have a polyester cover and the master carrier clamps directly to the line. The working stretch on this line is below 1.3% [Breaking load: 5,000 kg!]. Most popular marked with a for easy restocking.

Handline	code	per m	code	per 100 m
Black Polyester Cord [handline] 8mm	ROP122A	£1.40	ROP122AD	£105.35
Black Dyneema [polyester cover] 8mm	ROP438	£4.36	ROP438D	£317.26
Dyneema Pro [pure Dyneema] 8mm	ROP150508	£7.05	ROP150508D	£597.42

**TDrive Motor** The Triple E TDrive is suitable for use with both their UniTrack and UniBeam systems. With variable speed controls to open/close and stop it provides a clean solution. Supplied with a 10 m pendant. Specifications: Pulls up to 300 kg on straight, 200 kg on curve.

Motors and Hand Drives	code	Tradeline
TDrive motor	EEETDRIVE	£3,054.15
Wireless Controller	TRAWC	£499.00

Hand Drives also available - call us for details and a quote.



**UniBeam** combines track and truss in one unit to provide a truly adaptable track system. Particularly appropriate for permanent installation, especially those that host a number of repertory productions, this modular system is suitable for anything from

rock concerts to opera to theatre. With its symmetrical I-beam shape and solid construction, UniBeam is a complete system which accepts an extensive range of accessories. Capable of large spans between two suspension points, UniBeam makes an extremely accommodating fly bar and also lends itself to large curved systems, particularly cycloramas. To motorise the system, use the TDrive listed on the previous page.

- ✓ Same profile as UniTrack so many of the accessories are interchangeable
- ✓ The continuous slot along the top and bottom will take standard Unistrut fittings
- ✓ The Uniring accessory locks to the channel with a quick 90° twist and allows drapes to be quickly attached to the underside of the beam
- ✓ Takes Heavy-Duty Scenery Carriers allowing Safe Working Loads of up to 385 kg
- ✓ Takes up to 1,070 kg of Uniformly Distributed Loads at 1 m centres

**UniBeam Standard Track**

UniBeam Track	code	price
Straight Track per 1 m [up to 6.1 m]	UBM01	£78.00
Curved Track [min. radius 2 m]	UBM01C	£87.36
Joint Set	UBM05	£40.58
Endstop	EEETRA24	£8.70
Flat Endstop	EEETRA24S	£8.70

**UniBeam Carriers and Pulleys**



UniBeam Scenery Carrier top part

Head Pulley

Return Pulley

UniBeam Carriers and Pulleys	code	price
UniBeam Scenery Carrier top part [WLL 385 kg]	UBM28A	£324.13
Also takes UniTrack runners and accessories [see previous page]		
Head Pulley	EEETRA09	£55.00
Return Pulley	EEETRA10	£47.47
Single Track Head Pulley	EEETRA31H	£30.50
Single Track Return Pulley	EEETRA31R	£26.00



Hook Clamp

Offset Plate

Line Pick Up

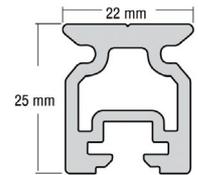
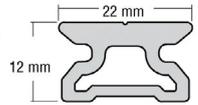
Uniring

**UniBeam Mounting and Accessories**

UniBeam Mounting and Accessories	code	price
Hook Clamp for 50 mm truss	UBM14	£26.00
Offset Plate	EEETRA17	£6.50
Studding Set [150 mm c/w nuts, channel nut and washers]	UBM18	£7.75
Line Pick Up	UBM25	£9.36
Overlap Clip	EEETRA26	£13.25
Uniring	URING	£7.00



**HARKEN TRACK**



**Ball Bearing Cars and Track** These super smooth free-running cars and tracks are used in everything from sliding seats to window washing apparatus and from exercise machines to acrobatics. Loads move virtually free of any friction. The recirculating Delrin ball bearings are held captive so the cars can be easily removed from the tracks.

The utility cars are derived from the toughest and best quality marine equipment but are simplified ready to accept your own customisation. The flat top surface is provided with two tapped M8 holes at 38 mm centres ready to accept your bolts or eye nuts. The track comes in either low-profile or a tough beam-section with built-in strength for spanning gaps.

**SPECIFICATION:** Cars and bearing races machined from 6061-T6 Aluminium. Track extruded from high grade 6061-T6 aluminium. Black Hardcote anodising makes them extremely durable. If the tracks are ordered as set lengths [see below] both ends will be black anodised. The track can be easily cut but the cut end will not be anodised. Smaller and larger tracks are available – please phone our Rigging Manager for details.

- ✓ Use them for smooth-running stage machinery
- ✓ Perfect for sliding trap covers
- ✓ Friction-free scenery sliders
- ✓ Indoors or outside
- ✓ Maintenance-free – just flush with clean water!
- ✓ Tracks can be supplied rolled to compound curves – please phone our Rigging Manager for details

SAFETY	Breaking Load	Safety Factor	Safe Working Load
	1,134 kg	19.89 to 1	57 kg

Harken Track	code	price
High Beam Track 3.6 m section	HAR272536	£237.85
Low Level Track 1 m section	HAR27201	£52.78
Low Level Track 1.8 m section	HAR27202	£84.78
Low Level Track 3.6 m section [max]	HAR27203	£190.36

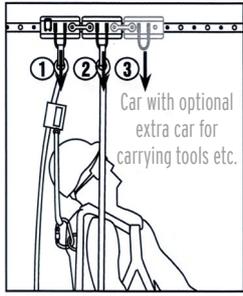
Harken Cars	code	price
Utility car M8 threads	HARHC8473	£98.60

Harken Endstops	code	price
Endstops [Low level Track] Set of two	HARE2200	£12.33
Endstops [High Beam Track] Set of two	HAR264	£40.00

## TRACK ACCESS SYSTEM



CE Certified Car with optional pinstop



Car with optional extra car for carrying tools etc.



**Track Access System** This fully certified system provides a very discreet and smooth running attachment system for harness lanyards suitable for use inside or out. The track can be provided rolled to suit curved applications [such as attachments to theatre balcony soffits to provide a moving attachment for focussing lanterns or general maintenance]. Optional extra cars [3] can be attached to carry tool kits etc. Pinstops can be selected to anchor the car in fixed positions. Please phone us to discuss your requirements in detail or to arrange a site visit. Certification: CE EN 795.

## SPARES & ACCESSORIES

**Track Spares** Flints has a wide experience of tab tracks based on thirty-five-years of theatre work. We can normally recognise a component from a digital photo or sketch. Even very old components can often be supplied. If you have a troublesome track we can provide remote assistance, or if required we can visit your stage to either effect immediate repairs, or suggest a course of action. Below we have listed some of the common components and spares that we can supply.

### Hall Stage



Twin Hook



Tab Hook



T70 Wheeled Runner



T70 Ball Raced Runner



T70 Master Runner

#### Halls Common Components and Spares

	code	price
Twin Hooks [each]	HAL1701E	£1.02
Tab Hook [per 10]	HAL3578	£10.96
T70 Wheeled Runner SWL 7kg Space 300 mm [per 10]	HAL714	£56.71
T70 Ball Raced Runner SWL 9kg Space 300 mm [per 10]	HAL713	£106.62
T70 Master Runner [per 2]	HAL71105	£111.86



Unirail Clip

#### Unirail Components and Spares

	code	price
Unirail Clip	ROPGBC	£1.80



3-way Plain Wheel Runner



3-way Plain Wheel Runner

#### 3-Way Track Components and Spares

	code	price
Plain Wheel Runner	EEE2W06P	£4.29
Ball Raced Wheel Runner	EEE2W06C	£7.80

#### Handlines & Chains

	code	per 10 m
Medium weight Jack Chain	WIR862	£11.85
Heavyweight Jack Chain	WIR861	£19.95

#### Ropes

	code	per 100 m drum
6 mm No. 4 Jute Sash [economical option for T60]	ROP042MD100	£27.15
8 mm No. 6 Jute Sash [economical option for T70]	ROP044MD100	£44.00

	code	per m	code	per 100 m
Black Polyester Cord [handline] 8 mm	ROP122A	£1.40	ROP122AD	£105.35
Black Dyneema [polyester cover] 8 mm	ROP438	£4.36	ROP438D	£317.26
Dyneema Pro [pure Dyneema] 8 mm	ROP150508	£7.05	ROP150508D	£597.42

## TRACK LUBRICANTS



**McLube™ High Performance Dry Lubricant** This easy-to-apply, fast-drying lubricant instantly bonds to clean, dry surfaces, repelling dirt, and significantly reducing friction. High Performance Dry Lubricant lasts significantly longer than Teflon® additives, oil- or wax-based lubricants and is environmentally friendly with no chlorofluorocarbons [CFCs], petroleum, or poison-emitting toxins. Use on curtain tracks, sliding traps, sliding doors, cloths and anywhere friction is a problem.

- ✓ Can be used directly onto cloth with virtually no marking
- ✓ No sticky grease or dirty oil
- ✓ Solves many friction problems making your show more reliable, slicker and faster!

#### McLube Dry Lubricant

	size	code	price
	300 ml	HARML08	£18.85



**P.T.F.E. Spray - Amberglide** This P.T.F.E. lubricant is a multi-purpose high quality lubricant enriched with P.T.F.E. for enhanced durability in high wear applications. It cleans, waterproofs and reduces friction. Particularly suitable for tab tracks. I have seen really troublesome tracks converted to smooth running ones with just one quick spray!

#### Lubricants

	size	code	price
Amberglide P.T.F.E. Spray	400 ml	SAF516	£21.44

# TUBES & CLAMPS



**Galvanised Steel Scaffold Tube** 48.3 mm outside-diameter tube is the industry standard for most applications, such as lighting positions, flying bars and staging leg supports. The 33.7 mm outside-diameter tube is used for applications where the larger tube would be inappropriate such as shelving, racking and handrail supports. Flints is happy to cut your tubes to length to speed up your fit-up. The full length price is for uncut full lengths. The half length prices include the cutting charge. All other lengths are charged at the per metre price plus the cutting charge. For large quantities of cut lengths please phone for a quotation.

Scaffold Tube	Ø x wall thk	weight	code	price
Size 6	Full length 6 m	33.7 x 3 mm	16 kg	SCF030FL £49.95
	Half length 3 m	33.7 x 3 mm	8 kg	SCF030HL £26.39
	Per metre	33.7 x 3 mm	2.5 kg	SCF030 £8.79
Size 8	Full length 6 m	48.3 x 4 mm	29.82 kg	SCF090FL £49.95
	Half length 3 m	48.3 x 4 mm	14.91 kg	SCF090HL £27.00
	Per metre	48.3 x 4 mm	4.66 kg	SCF090 £9.38
	Cutting charge		per cut	CUTS £0.80



**Aluminium Scaffold Tube** 48.3 mm outside diameter. Aluminium tube is about one third of the weight of galvanised tube. Flints is happy to cut your tubes to length to speed up your fit-up. Cut lengths can sometimes speed up delivery, too. The full length price is for uncut full lengths. The half length prices include the cutting charge. All other lengths are charged at the per metre price plus the cutting charge. For large quantities of cut lengths please phone for a quotation.

Conformity: BS 1139. Aluminium grade: 6082. Tensile Strength: 316 N/mm<sup>2</sup>

Aluminium Scaffold Tube	Ø x wall thk	weight	code	price
Size 8	Full length 6 m	48.3 x 4.47 mm	10.07 kg	SCF091FL £61.95
	Half length 3 m	48.3 x 4.47 mm	5.035 kg	SCF091HL £35.65
	Per metre	48.3 x 4.47 mm	1.653 kg	SCF091 £13.70
	Cutting charge		per cut	CUTS £0.80



**Black Anodised Aluminium Scaffold Tube** This tube is the ideal choice for unobtrusive rigging positions and flying bars. The semi-matt black finish will not catch the light like self-colour aluminium tube. Aluminium is notoriously difficult to paint so for a long-lasting high quality finish black anodising is the preferred method. The tube is supplied wrapped to protect it during storage. There are occasionally some small witness marks which are part of the anodising process. When ordering cut lengths, we advise there is likely to be some damage to the finish, so we would recommend purchasing a can of matt black spray [page 67] to touch up. The tube is extruded in accordance with BS EN755. Aluminium grade: 6082T6. The anodising is carried out in accordance with EN BS ISO 7599:2010.

Please contact us for information on full length delivery availability.

Black Aluminium Tube	Ø x wall thk	weight	code	price
Size 8	Full length 6 m	48.3 x 4.47 mm	10.07 kg	SCF091BFL £109.25
	Half length 3 m	48.3 x 4.47 mm	5.035 kg	SCF091BHL £62.45
	Per metre	48.3 x 4.47 mm	1.653 kg	SCF091B £23.45
	Cutting charge		per cut	CUTS £0.80

## TUBE REAMER



A really useful tool



**Supertool Tube Reamer** Just one tool will chamfer both the outside and inside of tubes from 12 mm to 54 mm diameter! Suitable for use on steel, copper, stainless

steel, aluminium brass and hard polyester resin. Blade material SAE8660. Ideal for removing razor sharp shards from scaffold and conduit cuts.

Tube Reamer	weight	code	price
	250 g	TOLTRI254S	£44.10

## TANK TRAPS



**Tank Trap** Really useful devices for making temporary structures to hold up masking, lighting booms etc. but useless at stopping tanks. 600 mm<sup>2</sup> heavy base plate with a 50 mm receiver fitted with wing bolts to firmly secure aluminium or galvanised scaffold tubes in place. The clever cut-out in the base allows compact stacking for transport and storage. The Tradeline price for units of eight includes FREE delivery – and they are heavy. Also available with “lean back wheels” so you can more easily move them about. Call us for details. We also hire [page 378].

Tank Trap	weight	code	list	price
	16.14 kg	DOUT54250	£152.14	£144.53

Tradeline 8+ £126.79



**3 Position Tank Trap & Trolley** This fantastic development of the already highly useful Tank Trap gives ultimate flexibility for building structures. The receiver is designed to take a 48 mm barrel [size 8 scaffold], but the really clever bit is

that it's removable and can be fixed in 3 positions; centrally, at the edge, or in the corner of the plate. We used these on our stand at the ABTT Theatre Show 2019, paired with Black Anodised Scaffold Tube, and the receiver positioned at the corner of the plates, we were able to achieve a slick design that maximised ground space. For those using Truss, the receiver can be removed, the plate inverted, and the truss fixed directly down - connectors and fixings sold separately [call us for more information]. The Trolley can take ten 3-position tank traps with the receivers slotted in between the traps, and captivated by a retaining plate.

3-Position tank trap	weight	code	list	price
	with receiver			
	18.5 kg	DOUT54265	£229.17	£206.25
Trolley		DOUT54266	£400.11	£360.10

### Scaffolding Tube Delivery

Because of carrier restrictions regarding long lengths this used to be a bit complicated, but thankfully we've pretty much got it sorted now.

Lengths up to 6m can be delivered to England, Wales, Central & Southern Scotland for £55 up to 20 kg + £0.60 per kg thereafter [outside the London Van Run]. Cut lengths up to 3 m are charged by weight as standard.

See pages 384-385 for further details and the London postcodes.

If your requirements fall outside this we are of course happy to obtain a tailored haulage quotation for you.

## CONDUIT



**Conduit** Steel Conduit in a black enamel finish is generally used to add weight to the bottom of painted cloths and borders to get a neat straight edge. The gentle weight will help pull out any creases in the cloths caused by rolling or folding. The advantage of steel conduit is that it is supplied with a thread cut onto each end, and by using the conduit couplers it is easy to obtain a continuous pipe to run inside the pocket on the cloth. Each length of conduit is supplied with one coupler. We also supply a nice bullet end to help the pipe slide smoothly through the pocket without snagging. They also make a neat and safe end to the tube. If you need your conduit cut to length and threaded for ease, we can do that for you too! The poorly chosen code implies we are fleecing you but by the time we have got the gear set up...

Conduit	wall thk	length	weight	code	price	8+
20 mm	1.37 mm	3.75 m	2.5 kg	SCF100	£11.18	£10.07
25 mm	1.40 mm	3.75 m	3.0 kg	SCF102	£12.43	£11.18
Conduit Cutting and Re-Threading				CUTCON	£3.00	



Spare coupler



Saddle



Bullet end stops for conduit

**Conduit Accessories** Each length of conduit is supplied with a coupler so you shouldn't really need to buy any, but we sell lots of them and are very happy about this. You might also like to buy a few bullet ends to make your pipes slither through the cloth pockets without snagging. The bullet end stops have a gauge of 0.8 - 2 mm

Conduit Accessories	type	size	code	price
Coupler		20 mm	SCF103	£0.67
Coupler		25 mm	SCF104	£0.75
Saddle		20 mm	SCF105	£0.55
Saddle		25 mm	SCF106	£0.68
Bullet End Stop		20 mm	FHS559	£0.22
Bullet End Stop		25 mm	FHS561	£0.24



**Conduit Die Sets** It is not generally necessary to have a conduit die if the sole use of the conduit is to add weight to the base pocket of cloths. However, if you are doing a small scale tour it may be necessary to reduce the length of the conduit to fit the hopelessly inadequate van that they hired for you. If you are an electrician you will be needing to re-thread conduit ends all the time.

**Two Arm Conduit Die Holder** A simple set complete with a 20 mm and 25 mm die. This is a very economical solution where access is good.



20 mm and 25 mm conduit die set



7-piece ratchet conduit die set

**7-Piece Ratchet Set** Suitable for threading black-gas or galvanized iron pipes. The compact ratchet head is suitable for working close to walls etc. The cast iron die heads have alloy steel dies, four chasers per head for a clean accurate thread and four waste holes for quick dispersion of swarf.

Supplied in a blow mould carrying case with: 16, 20, 25 and 32 mm die heads, two-piece handle, compact ratchet head.

Conduit Die Sets	code	list	Tradeline
7-piece ratchet conduit die set	TOL22496	£166.50	£120.72
20 mm and 25 mm conduit die set	SCFESCO		£29.95
Disposable de-burring tool	TOLMON3020		£7.02

## TUBE CUTTER



**Supertool Tube Cutter with Bearings!** This highly successful tube cutter is fitted with bearings to both the rollers and cutting wheel. NB: over tightening may break blades.

Bearings on the blade and rollers!

- ✓ Easy cutting due to the bearings
- ✓ So strong it will cut hard materials like stainless steel as well as steel, copper, aluminium, brass and plastic etc.
- ✓ Lightweight aluminium alloy body, only 990 g, with baked enamel finish
- ✓ Capable of quietly and neatly cutting scaffolding and conduit from 16 mm to 60 mm diameter
- ✓ No need for hot works certificates

We import these tools direct from the manufacturers in Japan and offer them at incredible value.

Pipe Cutter	cuts Ø	max thk	weight	code	price
Cutter	16 - 60 mm	6 mm	990 g	TOLTBC502	£75.00
Spare Blade				TOLTBC502	£13.65

## GRP TUBES

**Glass Fibre Tube [Clearing Stick]** These lightweight but strong tubes make ideal clearing sticks. For deburring see the amazing Supertool Reamer on previous page. Always attach a lanyard if clearing from the fly floor.

Glass Fibre Tube	Ø x wall thk	length	weight	code	Tradeline
	38 x 2.5 mm	6 m	3.3 kg	SCF38GFT	£39.79
Delivery of any quantity of the above [UK Mainland only]					£25.00

For adjustable clearing poles [Purdy Power Lock + Hook] see page 84.

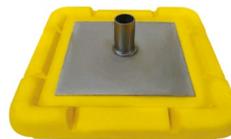
## SCAFFOLD BASE PLATES



**Adjustable Scaffold Foot** Useful for levelling staging legs on uneven ground such as thrust stages landing on raked auditorium floors. When used outdoors on soft ground they are best mounted on scaffold boards.

If you have a cluster of legs together why not buy a Multi Leg Adapter [page 370]? They allow just one leg to drop to the floor while supporting four rostra corners. Also see Rotalocks [page 236].

Adjustable Foot	overall height	adjustable height	base	weight	code	price
	320 mm	210 mm [+/- 10%]	150 x 150 mm	2.1 kg	SCF140	£17.62



**Scaffold Base Plate** Reduces point loading, prevents damage to floors and can be fixed in place to avoid scaffold legs being shunted out of position. They are not pretty, but they are cheap. Fits both Size 6 and Size 8 tubes.

**Scaffold Base Plate Protector** Made from hard plastic they are designed for use under the Scaffold Base Plate and Adjustable Scaffold Foot to protect floors from damage. You can't miss them – they're bright yellow.

Scaffold Base Plate & Protector	base	weight	code	price
Base Plate	150 x 150 mm	304 g	SCF119	£1.32
Base Plate Protector	220 x 220 mm	161 g	SCF121	£1.95

# HEX KEY TUBE FITTINGS

## Hex Key Tube Fittings

Malleable iron castings with a streamlined appearance that are both extremely versatile and economical. Simple to fit as the tube slides into the socket and is firmly secured in position with a hex key-operated socket screw. The standard Size 8 clamps fit regular 48.3 mm Ø scaffolding tube or aluminium pipe. The smaller Size 6 fits 33.7 mm Ø tube. To obtain maximum slip loads, tighten to 40 Nm [page 174 for Torque Wrenches]. Technically, the correct hex keys to use are 1/4" and 5/16". We find a metric 6 mm a bit too sloppy in the 1/4", but an 8 mm works very well in the 5/16" [7.93 mm]. If you are constructing hanging ladder beams for lanterns we would recommend that you drill right through the corner fittings and tube and use a high tensile bolt to ensure nothing works loose.

All the fittings are available galvanised, with a select range in Black Powder Coat. Other fittings also available in black – please phone for a quote. We can also cut all your tube to length ready for a speedy fit-up [page 232].

6: TUBES & CLAMPS



A2 [Short T]	code	price
Size 6	SCF602	£3.82
Size 8	SCF802	£6.08
<b>Black Size 8</b>	SCF802B	£5.65



A4 [Long T]	code	price
Size 6	SCF604	£5.92
Size 8	SCF804	£9.66
<b>Black Size 8</b>	SCF804B	£8.95



A6 [Elbow]	code	price
Size 6	SCF606	£4.61
Size 8	SCF806	£7.50
<b>Black Size 8</b>	SCF806B	£6.95



A8 [Straight Joiner]	code	price
Size 6	SCF608	£4.36
Size 8	SCF808	£6.61
<b>Black Size 8</b>	SCF808B	£6.15



A10 [Round Base]	code	price
Size 6	SCF610	£4.66
Size 8	SCF810	£7.85
<b>Black Size 8</b>	SCF810B	£7.30



A12 [Oval Base]	code	price
Size 6	SCF612	£6.77
Size 8	SCF812	£11.20
<b>Black Size 8</b>	SCF812B	£9.95



A135 [Clamp-on T (1 bolt)]	price
Not available in size 6	
Size 8	SCF8135 £11.64
<b>Black Size 8</b>	Not yet stocked



A14 [Wall Fixings]	code	price
Size 6	SCF614	£10.23
Size 8	SCF814	£16.38
<b>Black Size 8</b>	Not yet stocked	



A18 [3-way Elbow]	code	price
Size 6	SCF618	£6.42
Size 8	SCF818	£11.23
<b>Black Size 8</b>	SCF818B	£10.50



A20 [3-way T]	code	price
Size 6	SCF620	£5.24
Size 8	SCF820	£8.13
<b>Black Size 8</b>	SCF820B	£7.55



Sold "each" and you will probably need a pair!

A21 [3-way Adj. T]	code	price
Size 6	SCF621	£5.12
Size 8	SCF821	£7.00
<b>Black Size 8</b>	SCF821B	£6.50

Picture shows a pair of fittings



A22 [Right Angle Joiner]	price
Size 6	SCF622 £5.59
Size 8	SCF822 £8.92
<b>Black Size 8</b>	Not yet stocked



A24 [4-way T]	code	price
Size 6	SCF624	£7.12
Size 8	SCF824	£11.02
<b>Black Size 8</b>	SCF824B	£10.25



A26 [5-way T]	code	price
Size 6	SCF626	£10.14
Size 8	SCF826	£15.76
<b>Black Size 8</b>	Not yet stocked	



A28 [Side Coupler]	code	price
Size 6	SCF628	£3.82
Size 8	SCF828	£6.56
<b>Black Size 8</b>	Not yet stocked	



A30 [Side Coupler with T]	price
Size 6	SCF630 £6.22
Size 8	SCF830 £9.81
<b>Black Size 8</b>	Not yet stocked



**A34** [Small Wall Fixing] price

Size 6	SCF634	£4.93
Size 8	SCF834	£8.60
<b>Black</b> Size 8	SCF834B	£7.95



**A136** [Clamp-on T] code price

Not available in size 6

Size 8	SCF8136	£19.80
<b>Black</b> Size 8		Not yet stocked



**A44** [Side Flexible Coupler] price

Size 6	SCF644	£7.19
Size 8	SCF844	£9.98
<b>Black</b> Size 8	SCF844B	£9.25



**A46** [Double Flexible Coupler] price

Size 6	SCF646	£13.29
Size 8	SCF846	£17.58
<b>Black</b> Size 8		Not yet stocked



**A52** [Flexible Wall Coupler] price

Size 6	SCF652	£8.71
Size 8	SCF852	£10.44
<b>Black</b> Size 8		Not yet stocked



Panel is flush with rear of the tube.

**199** [Flush panel fastener] price

Not available in size 6

Size 8	SCF8199	£5.82
<b>Black</b> Size 8		Not yet stocked



Lug is centralised with the tube.

**173M** [Centre panel fastener] price

Size 6	SCF6173M	£3.21
Size 8	SCF8173M	£4.13
<b>Black</b> Size 8	SCF8173MB	£3.85



Lugs are centralised with the tube.

**167M** [Double panel fastener] price

Size 6	SCF6167M	£5.28
Size 8	SCF8167M	£5.83
<b>Black</b> Size 8	SCF8167MB	£5.42



Lugs are centralised at right angles.

**168M** [Rt angle panel fastener] code price

Size 6	SCF6168M	£6.39
Size 8	SCF8168M	£7.16
<b>Black</b> Size 8		Not yet stocked



**179** [Plain collar] code price

Size 6	SCF6179	£3.35
Size 8	SCF8179	£4.39
<b>Black</b> Size 8	SCF8179B	£4.08



**182** [Plain collar with hook] price

Size 6	SCF6182	£3.45
Size 8	SCF8182	£4.69
<b>Black</b> Size 8		Not yet stocked



**166** [Adjustable knuckle] price

Not available in size 6

Size 8	SCF8166	£15.07
<b>Black</b> Size 8		Not yet stocked

**HEX TUBE FITTINGS ACCESSORIES**



**Grub Screws** Spare grub screws because you are bound to drop one down the dip trap.

Grub Screws	code	price
Size 6	SCFSGS6	£0.87
Size 8	SCFSGS8	£0.87



**Galvafoird** A zinc-rich spray for steel. Weathered grey finish. Protective coating to ISO 1461:1999. 99% pure zinc content. 61% zinc content in cured film. Sacrificial coating protects from corrosion. Ideal for preventing rust after cutting galvanised tubes. See also Galva Colour 2-in-1 spray [page 9] in black and white.

Galvafoird [Cold Galvanising Spray]	code	price
	PATCGS1	£13.10



**Allen Keys [Hex Keys]** Plain long-arm Allen keys to fit Size 6 and Size 8 key clamps. A large selection of Allen keys can also be found on page 304.

Allen Keys [Hex Keys]	code	price
Size 6 [1/4"]	TOL2309B	£1.17
Size 8 [8 mm]	TOL2310	£3.04



**Ratchet Allen Key** To speed up key clamp constructions, Flints has chosen this good quality 3/8" drive Teng ratchet handle which will take 1/4" and 5/16" hex sockets. Fits Size 6 and Size 8 key clamp fittings. See page 321 for other Ratchet Drives. We sell the handle well below the list price of £40.70.

Ratchet Allen Key	code	price
3/8" Ratchet Handle [fibre reinforced]	TEN3800FRP	£31.78
Ratchet Drive Peg 1/4" [Size 6] (fits 3/8" drive)	TOL2360B	£7.80
Ratchet Drive Peg 5/16" [Size 8] (fits 3/8" drive)	TOL2361B	£7.90

# SCAFFOLD CLAMPS & FITTINGS

## Scaffold Clamps

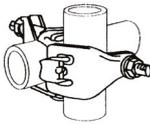
Although I have never seen a scaffolder with a torque wrench we do get occasionally asked what is the correct torque for a scaffolding clamp. Apparently when they are tested to meet the standard the bolts are torqued to 45 lb. ft [61.011 Nm]. Suitable Torque Wrenches are listed on page 174.

## TUBE TO TUBE



**Swivel Coupler** Use 21 mm podger or 7/16" Whitworth scaffold spanner. Visit Podgertropolis on pages 317 - 324. See  for half swivels.

Swivel Coupler	code	price	10+
	SCF051	£5.39	£4.44



**Fixed Right Angle Coupler** Use 21 mm podger or 7/16" Whitworth scaffold spanner. Visit Podgertropolis on pages 317 - 324.

Fixed Coupler	code	price	10+
	SCF052	£4.98	£3.94



We like them!

**Rotalock** Designed for use with cattle pens as there are no sharp protrusions to hurt the poor cows before they get slaughtered. These fittings are ideal for auditorium structures as the smooth profile will not catch clothing etc. They also make very rigid boom arms and tighten with just one bolt. Another unique advantage of these fittings is they can still be used where groups of rostra legs cluster together. They will squeeze between rostra legs allowing a horizontal brace to be fitted. This would not be possible with conventional scaffolding clamps.

Rotalock	code	price
	SCF130	£15.62



**Angled Cross Over** Neater than a scaffolding clamp for permanent installations. The clips can be fitted with the two tubes in position. Fits 48 - 50 mm Ø tube.

Cross Over	code	price
	DOU25150	£8.97



**Putlog Coupler** Allows a tube to be fixed at right angles leaving the top of the horizontal tube clear for decking.

Putlog Coupler	code	price
	SCF117	£2.57



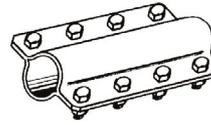
**Oyster (Hoarding) Clamp** Barney's favourite scaffolding clamp, and, like Barney, it is rather clever. As you tighten the clamp onto the scaffold tube the other jaws close up. Although they are designed to close onto another scaffold tube they can also be used to grip the stiles of flats or plywood sheets. It's a great price for a powerful and useful clamp.

Barney's Favourite Clamp	code	price
	SCF120N	£4.36



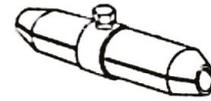
**Solid Tube Joiner** A good choice for strong horizontal joints in 48.3 mm Ø scaffolding tube.

Solid Joiner	weight	code	price
M8 Allen screws	2.64 kg	SCF114	£18.63



**External Bolt Barrel Joiner** A popular and strong joiner for 48.3 mm Ø aluminium or steel flying bars. Supplied complete with bolts.

External Joiner	weight	code	price
	1.06 kg	SCF113	£23.48



**Joint Pin** These are best on tubes in compression rather than horizontal flying bars. See also the aluminium tube joiner [page 237].

Joint Pin	weight	code	price	10+
	850 g	SCF111	£4.10	£3.39

## TUBES TO OTHER STUFF



**Universal Clamp** Endless uses for rigging barrels to Ceiling Saddles [page 238], Hook Clamps [pages 351-352], and wall brackets [page 238]. Economical in price and hugely popular. The 48 mm size is now available in black. See also the Universal Joint [page 238].

Universal Clamp	finish	weight	code	price
For 48 mm tube with M12 plate	BZP	420 g	DOU30400	£9.08
For 48 mm tube with M12 plate	Black	420 g	DOU30404	£13.01



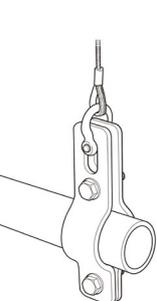
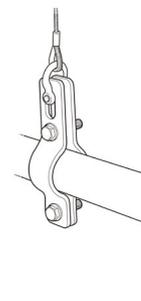
**Half Swivel** In plain finish ready to weld to your scenery. Use 21 mm podger or 7/16" Whitworth scaffold spanner. Visit Podgertropolis on pages 317 - 324.

Half Swivel	weight	code	price	10+
	500 g	SCF051H	£3.35	£2.92



**Stair Tread Coupler** A dual-handed fitting for fitting scaffold board treads to scaffold stringers.

Stair Tread Coupler	code	price
	SCF118	£9.98



**Hanging Clamps** One of our most popular fittings. For full details see page 146.

Hanging Clamps	weight	code	price	50+
With oval ring	750 g	FHS002HCO	£9.80	£8.50
Without ring	650 g	FHS002HCS	£7.75	£6.60
Large size for 60.3 mm Ø tube [no ring]	700 g	FHS002LHCS	£7.75	£6.60

# DOUGHTY CLAMPS



Ask for the new full colour Doughty Catalogue or order it using code CATDOU online at flints.co.uk.

## DOUGHTY CLAMPS



The Doughty Clamp combines strength and durability. Constructed from high-tensile aluminium extrusion supplied as either polished aluminium or with a satin black powder coated finish [available to order if not listed]. They fit pipes with outside diameters between 48 and 51 mm. The Standard clamp will take an M12 nut or bolt head, allowing the user to create their own fixings. The lightweight clamps come with a Hex Nut instead of a Wing Nut as shown.



### Standard Half Couplers [50 mm wide]

Takes M12 bolts.

Standard Half Coupler	SWL	code	price
Standard	750 kg	DOU57000	£29.39
Black Standard	750 kg	DOU57010	£33.15
Lightweight	500 kg	DOU58100	£25.81
Black Lightweight	500 kg	DOU58101	£30.09



### Slimline Half Couplers [30 mm wide]

Slimline Half Couplers	SWL	code	price
Standard	750 kg	DOU57001	£25.33
Black	750 kg	DOU57011	£29.05



### Hanging Clamps with Ring

Hanging Clamps	SWL	code	price
Fitted with M12 eyenut	340 kg	DOU57205	£38.56
Black version	340 kg	DOU57206	£42.50



### Hook Clamps

Hook Clamps	SWL	code	price
Fitted with M12 x 50 mm bolt	750 kg	DOU57200	£33.82
Black version	750 kg	DOU57201	£39.26
Fitted with M12 x 50 mm bolt	500 kg	DOU58105	£28.68
Black version	500 kg	DOU58106	£33.15



### Swivel Couplers

Swivel Couplers	SWL	code	price
Standard	750 kg	DOU57100	£65.26
Black Version	750 kg	DOU57110	£76.56
Lightweight	500 kg	DOU58120	£56.68



### Tube Joiner

For quickly connecting tubes end to end.

Tube Joiner	code	price
	DOU57240	£59.70



### Parallel Couplers

Parallel Coupler	SWL	code	price
Standard	750 kg	DOU57104	£66.75
Black Version	750 kg	DOU57114	£74.98
Lightweight	500 kg	DOU58115	£56.68



### 90° Fixed Couplers

90° Fixed Coupler	SWL	code	price
Standard	750 kg	DOU57102	£66.75
Black	750 kg	DOU57112	£74.98
Lightweight	500 kg	DOU58110	£56.68

## ACCESSORIES



**Female Silver Knobs** Provides easygrip handle, an optional extra for Doughty Clamps.

Female Silver Knob	weight	code	price
M10	116 g	DOUS122	£2.87
M12	116 g	DOUS123	£3.14

## WELDABLE FITTINGS

### Weldable Fittings

These aluminium weld fittings should be TIG welded with Alutig Ma5 Classification AWS A5 10-92, BS 2901-90 DIN 1732-88. The fittings with a spigot are a very snug fit and could probably be adequately secured with a grub screw and some epoxy such as Araldite 2015 [page 129].



**Half Coupler** Suitable for welding, this product can be used in the manufacture of many "one off" items.

Weldable Half Coupler	weight	code	price
	490 g	DOU57230	£28.52



**Basic Stabiliser Coupler** Use this to connect a scaffold tube to a 3 x 1" nominal timber batten.

Width between lugs: 21 mm.

Basic Stabiliser Coupler	weight	code	price
21 mm	550 g	DOU58720	£30.53



**Stabiliser Coupler with plug** Fits snugly to our 48.3 mm aluminium tube. Other size plugs are available – please phone for details.

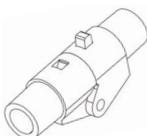
Stabiliser Coupler with Plug	weight	code	price
With 39.5 mm plug	670 g	DOU58729	£43.43



**Knuckle Joint** Provides an articulated joint for 48.3 mm Ø aluminium tubes.

Overall length: 117 mm.

Knuckle Joint	weight	code	price
With 39.5 mm plug	350 g	DOU58734	£26.05



**Locking Elbow** A useful fitting which allows aluminium tubes and truss to fold for transportation.

Overall length: 180 mm.

Locking Elbow	weight	code	price
With 39.5 mm plug	720 g	DOU58793	£45.65

**MANFROTTO CLAMPS**



Fits 42 - 52 mm tubes

**Manfrotto Slim Half Coupler**  
This coupler fits to a wider range of tubes than the Doughty Clamps. Grips tubes from 42 mm Ø up to 52 mm Ø. Drilled with a 13 mm Ø hole for an M12 bolt. Useful with EK2 Electro Kabukis [page 157]

Manfrotto Half Coupler	WLL	weight	code	Tradeline
	300 kg	260 g	MANC4560	£27.40

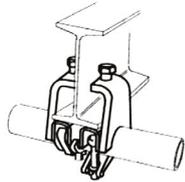


Fits 13 - 55 mm tubes!

**Manfrotto Super Clamps** A very versatile and clever clamp that will grip from 55 mm Ø right down to 13 mm! Supplied with a wedge to square off the jaws for fastening to flat surfaces. Available as single or fixed double. The stud will allow rapid connection of trunnion arms etc. These are ingenious and talented clamps!

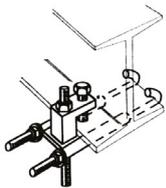
Manfrotto Super Clamps	WLL	weight	code	Tradeline
Single	15 kg	410 g	MAN035	£33.85
Fixed double	15 kg	830 g	MAN038	£66.38
Hex 16 mm lighting stud [M10]	15 kg	60 g	MAN174	£16.01

**GIRDER CLAMPS**



**Gravlock Coupler** A very useful fitting for securing 48.3 mm scaffolding bars to girders. Suitable for girder flanges up to 45 mm thick. Must be used in pairs.

Gravlock Coupler	code	price
Per pair	SCF116	£18.34



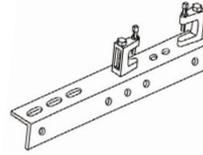
**Light-Duty Girder Clamps** Designed to hang 12 mm studding from girders. Typical uses include fixing tab tracks. For 150 - 190 mm beams with thicker flanges up to 15 mm use the DOUF1087 hook bolt.

Light-Duty Girder Clamp	SWL	weight	code	price
Adjustable from 100 - 140 mm	250 kg	1.19 kg	DOU29800	£65.32
Adjustable from 150 - 190 mm	250 kg	1.19 kg	DOU29801	£61.81
Hook bolt for 15 mm flange			DOUF1087	£8.08



**Marquee Kader Beam Clamps** Adjustable clamps designed specifically for use with clear span marquees using Kader grooved beams. Standard version has threaded holes for M10, M12 and M14 fixings, lightweight version only for M10. Both black powder coated.

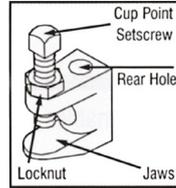
Marquee Clamps	fits beams	SWL	weight	code	price
Standard	50 - 110 mm	150 kg	1.3 kg	DOUT28870	£73.60
Lightweight	80 - 125 mm	20 kg	0.5 kg	DOUT28865	£41.15



**Adjustable Girder Clamps with Indapters** Uses two M12 Lindapter flange clamps [for spares see ] which are included in the price. Angle iron is black.

Adjustable Girder Clamp	SWL	weight	code	price
Adjustable from 75 - 150 mm	500 kg	1 kg	DOU29500	£63.18
Adjustable from 150 - 300 mm	500 kg	1 kg	DOU29600	£66.75

**LINDAPTER FLANGE CLAMPS**



**Lindapter Flange Clamps** The simplest way of suspending fittings from steel beams. Full details can be found on the download section of

flints.co.uk. We now also stock a **Beam Flange Clamp type FLS** with a swivel unit for inclined applications. Supplied with a high tensile set screw for a secure grip on both parallel and tapered flanges. SPECIFICATION: SWL calculated use a Safety factor of 4:1. SCFLS10: Clamping range: 3-17 mm.

drop rod	tightening torque [Nm]	SWL	weight	code	price
set screw	lock nut				
M10	8	22	2.4 kN	100 g	SCF108 £1.92
M12	8	22	3.1 kN	100 g	SCF107 £2.20
Angle: < 25° 25° - 45°					
M10 Beam	18	18	2.5 kN	1.5 kN	SCFLS10 £5.39

**BRACKETS**



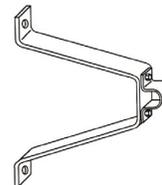
**Ceiling Saddles** Allows a fixing to a ceiling with an accessible 75 mm stand off for a bolt or studding. When used with universal clamps [page 236] it allows the barrel to stand off enough for hook clamp access. Drilled with 12 mm Ø fixing holes.

Ceiling Saddles	weight	code	price
BZP	440 g	DOU33700	£8.36
Black	440 g	DOU337001	£10.28



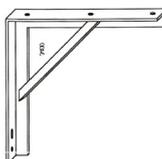
**Universal Joint** A very useful steel universal joint which has two M12 fixing holes. Can be used in conjunction with many other fittings such as the Ceiling Saddle [above] and the Universal Clamp [below].

Universal Joint	SWL	weight	code	price
BZP	100 kg	380 g	DOU30410	£24.49



**Pipe to Wall Stand off Brackets** For a 48.3 mm diameter tube. Comes supplied with saddle with bolts. Drilled with M10 fixing holes.

Pipe to Wall Brackets	weight	code	price
300 mm stand off	1.48 kg	DOU33300	£27.54
100 mm stand off	830 g	DOU33310	£26.69



**Angle Iron Bracket** Made from 50 x 50 mm angle, drilled, slotted and braced. Use in conjunction with a Universal Clamp [page 236] to secure 48.3 mm tubes.

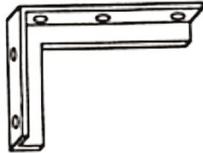
Angle Iron Bracket	weight	code	price
450 x 450 mm	2.72 kg	DOU34000	£41.26

# U-BOLTS & HOOK BOLTS



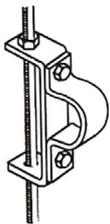
**Slotted Wall Brackets** Three sizes of very smart and versatile laser cut brackets.

Slotted Wall Brackets	WLL	weight	code	price
L x H x tk				
200 x 125 x 43 mm	25 kg	0.55 kg	DOUT84105	£31.78
350 x 150 x 43 mm	25 kg	0.90 kg	DOUT84106	£36.96
500 x 200 x 43 mm	25 kg	1.50 kg	DOUT84107	£42.08



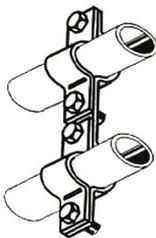
**Face Fixing Bracket** Made from 25 x 25 mm angle. Use in conjunction with a Universal Clamp [page 236] to secure 48 mm tubes.

Face Fixing Bracket	weight	code	price
195 x 242 mm	430 g	DOU34100	£21.48



**Stud Hanger** Holds a 48 mm Ø tube at right angles to M12 studding. A good method for levelling fixed flying bars from an uneven ceiling.

Stud Hanger	fits tube Ø	weight	code	price
	48 mm	500 g	DOU30300	£10.53



**Parallel Pipe to Pipe Brackets** See also Boom Arms and double-ended Hook Clamps [page 352].

centres	weight	code	price
225 mm	970 g	DOU30900	£18.75
300 mm	1.10 kg	DOU31000	£19.41



**Wall Hanger** A simple wall bracket. Ideal for fixing a 48 mm tube between two fixed walls [pair required, sold each]. Drilled with 4 x 12.5 mm Ø fixing holes. The plate measures [w x h] 130 x 140 mm. The generous depth of the cup [75 mm] allows for a bit of play in the length of the tube.

Wall Hanger	fits tube Ø	SWL	weight	code	price
	48 mm	100 kg	1.1 kg	DOUT30409	£19.11

## SWIVEL ARMS



**Swivel Arms** Designed to allow a 25 mm Ø tube to be swivelled and held in place by the friction from the spring action. Ideal for leg masking. These units can also be attached to Halls T60 [and T70] Master Carriers so wings can track on and off stage and swivel [see page 226 for item HALT60517].

Swivel Arms	code	price
Swivel only for fixing to wood or master carrier	HAL5782	£59.88
Swivel for fitting to 48 mm tube [shown]	HAL3605	£63.76
Swivel with 2 m arm for 48 mm tube	HAL3614	£93.95
Swivel with 2 m arm for 75 - 150 mm girder	HAL3607	£121.79



**Hook Bolts - J-Bolts** Technically these are commercial quality mild steel J-bolts. They are supplied with a nut and are bright zinc-plated. Use for fixing girder brackets to studio grids made from inverted channels. Closing down measurements may vary, please phone if crucial. All sizes are M8 except the 100 mm which we have specially made for us in M10 to suit most girder brackets. Other sizes can be made to order in minimum quantities of 200. Not for lifting.

Hook Bolts with Nut and Washer	Ø	code	price
60 mm thread length 45 mm	M8	FIX3082	£0.35
80 mm thread length 53 mm	M8	FIX3081	£0.39
100 mm closes down to 50 mm	M8	FIX3083	£0.41
100 mm thread length 75 mm	M10	FIX3092	£1.50
120 mm closes down to 83 mm	M8	FIX3085	£0.49

For Hook Masonry Fixings see page 266.



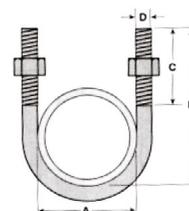
**U-Bolts and Threaded Plates** Holds boards to pipes securely. The plates have a centred M10 or M12 threaded hole. WLL 140 kg

U-Bolts and Plates	fits tube Ø	threaded hole	code	price
	32 mm	M10	DOUT32400	£8.36
	32 mm	M12	DOUT32500	£8.35
	48 mm	M10	DOUT33400	£6.88
	48 mm	M12	DOUT33500	£6.88



**U-Bolts and Saddle** Designed for use on Doughty Multibeam Brackets [page 219] but they have many other uses.

U-Bolts and Saddle	fits tube Ø	Ø material	code	price
	50 mm	8 mm	DOUT56900	£1.86



**U-Bolts Only** Bright zinc-plated U-bolts. These are no longer supplied complete with nuts which need to be ordered separately [page 263]. The popular 51 mm Ø size [E35] is also available with extended legs.

U-Bolts for Steel Pipes	code	price	50+
A [Ø] B C D			
21 mm 48 mm 30 mm 6 mm	FIX3127	£0.33	-
27 mm 53 mm 30 mm 6 mm	FIX3128	£0.34	-
34 mm 60 mm 40 mm 6 mm	FIX3129	£0.43	-
44 mm 70 mm 40 mm 10 mm	FIX3130	£0.58	-
51 mm 80 mm 40 mm 10 mm	FIX3131	£0.89	£0.73
51 mm 127 mm 85 mm 10 mm	FIX3131L	£1.14	£0.92
60 mm 90 mm 40 mm 10 mm	FIX3132	£0.92	-
76 mm 105 mm 40 mm 10 mm	FIX3133	£0.83	-
90 mm 115 mm 40 mm 12 mm	FIX3134	£1.50	-

# TUBE ACCESSORIES



**Plastic End Caps** For steel and aluminium tubes, all in black. Other sizes can be supplied to order. Flints sold over 15,000 inserts for 48.3 mm scaffold tube last year! Most popular inserts are marked with a for easy restocking.

Round Inserts	fits wall thk	code	price
Inserts 33.7 mm scaff tube [Size 6]	2.6 - 4 mm	FHS923	£0.22
Inserts 48.3 mm scaff tube [Size 8]	3.2 - 5 mm	FHS921	£0.42

**TRADELINE** FHS921 £290.00 for 1,000 inserts

Bullet End Stops for Conduit	code	price	100+
20 mm [gauge 0.8 - 2 mm]	FHS559	£0.22	£0.18
25 mm [gauge 0.8 - 2 mm]	FHS561	£0.24	£0.21

Round Boots	code	price
Boot 48.3 mm scaffold tube	FHS920	£0.50
Boot 50.8 mm scaffold tube	FHS922	£0.52

Square Inserts	fits wall thk	code	price
1" x 1" square insert	1 - 2.5 mm	GEN500	£0.16
40 x 40 mm square insert	1.25 - 2 mm	GEN510	£0.32
40 x 40 mm square insert	2.6 - 4 mm	GEN511	£0.38
25 x 25 mm square insert	2 - 3.2 mm	GEN512	£0.17
2" x 2" square insert	2 - 3.2 mm	GEN502	£0.59

Rectangular Inserts	fits wall thk	code	price
50 x 25 mm rectangular insert	1.25 - 3 mm	GEN503	£0.34

## WELDING ELBOWS



**Welding Elbows** Right-angle bends in mild steel ideally suited for smooth handrail applications. May be trimmed back to achieve other angles.

Welding Elbows	code	price
33.7 mm [outside Ø] fits Size 6	SCF900	£2.96
48.3 mm [outside Ø] fits Size 8	SCF904	£3.92

## WELD DISCS



**Weld Discs [Blanks]** Apart from blanking off tube ends, these mild steel discs make very useful large round feet on steel tube legs preventing floor damage and allowing small frames to stand upright by themselves prior to bolting.

Weld Discs [Blanks]	Ø	thk	code	price	100+
	32 mm	3 mm	SCF908	£1.05	£0.95
	41 mm	3 mm	SCF910	£1.21	£1.09
	60 mm	5 mm	SCF912	£1.71	£1.55
	100 mm	6 mm	SCF914	£2.81	£2.53

# UNISTRUT



**Unistrut** Genuine Unistrut pre-galvanised channel 41 x 41 mm. Widely used for mounting fittings and ideal for mounting limit switches etc. which may require some final adjustments. Available plain for you to drill your own slots or

weld in place; or as the popular pre-slotted version. For our delivery policy regarding 6 m lengths see page 232.

NB: To access the bolt heads you will find a conventional socket will be too fat to get into the channel. Our Long Reach Podger 13 x 17 [POD1317L] will just get into the channel [page 318] but we also stock a special socket with a reduced waist which is ideal. See below .

Unistrut	code	3 m	code	6 m
P1000 [plain]	UNIP10003	£19.94	UNIP10006	£57.35
P1000 [slotted]	UNIPS10003	£19.94	UNIPS10006	£57.35

Check out the Zip Clip STRUT-LOCK on page 176

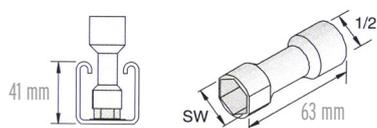


**Channel Nuts and Zebedees** Plain channel nuts or clamping nuts with long springs with a bright zinc-plate finish. Fits the channels shown above. Boing... time for bed...

Channel nuts	code	price	100+
M10	UNIPNP10ZP	£0.26	£0.21
M12	UNIPNP12ZP	£0.54	£0.42

Zebedees	code	price	100+
M10	UNIPNL10ZP	£0.31	£0.25
M12	UNIPNL12ZP	£0.76	£0.65

## UNISTRUT SOCKETS



**Unistrut Sockets** They are a bit pricey but they could make your life a lot easier. Our Long Reach Podger 13 x 17

[POD1317L] does get inside the channel but it scrapes on the side [page 318]. These special M10 [17 mm] sockets with a 1/2" drive have a reduced waist especially designed for an easy fit in 41 mm Unistrut Channel .

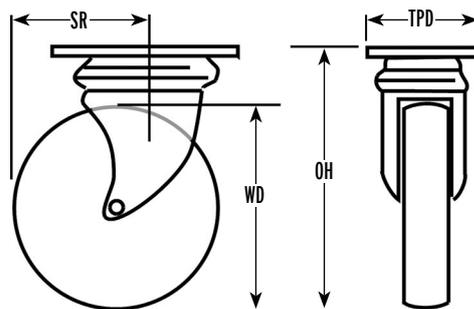
Unistrut Socket	max torque	weight	code	price
M10 x 1/2" drive	30 Nm	130 g	TOL17AF	£35.00

# CASTORS

**Castor Selection** Always choose the largest wheel diameter that you can. Large wheels help reduce rolling resistance and can cope with rougher surfaces. The wheel types of the castors that Flints stocks are shown on the table below and overleaf.

**Castor Loading** On a platform fitted with four castors take the weight of the platform and the load it is carrying [evenly distributed] and divide by three to take into account uneven surfaces etc. If the platform is carrying actors then you will have to assume the worst case: that the actors will all be standing on one corner of the platform and so EACH castor will have to take the entire load with an added margin for safety.

WD = Wheel Diameter  
OH = Overall Height  
SR = Swivel Radius  
TW = Tread Width  
TPD=Top Plate Dims



All measurements are in millimetres

Wheel Type	For	Against	Typical Use
Polypropylene [PP]	Economical and non-marking	Too noisy for use during performance	Small items of furniture, small boxes, light trucks
Grey Rubber	Cheap, quiet, non-marking, floor protecting	Light duty use only	Light trucks and furniture used during performance

## LIGHT-DUTY CASTORS



50 mm Swivel



50 mm Swivel Braked



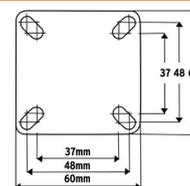
50 mm Fixed



50 mm Swivel Bolt-hole



50 mm Swivel Braked Bolt-hole



Top Plate 75 mm Swivel



75 mm Polypropylene Wheel



75 mm Rubber Wheel

**Light-Duty Castors** This range of industrial castors all have pressed steel top plates with plain bearings. Wheels are polypropylene, or a quiet non-marking rubber tyre on plastic with a steel core. The Swivel Bolt-hole and Swivel Braked Bolt-hole castors have either a 10 mm or 12 mm bolt-hole. Use the Expanders below to fit them to all types of trolley.

This page  
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Light-Duty Castors	type	WD load [kg]		OH	SR	TW		wt [kg]		TPD	centres		offset	code	price	code	price	
		PP	rubber			PP	rubber	PP	rubber		median	bolt Ø						PP
<b>50</b> WHEEL DIAMETER	Swivel	50	40	50	73	50	20	17	0.20	0.20	50 x 50	35 x 35	10	25	CASLD50NS	£3.97	CASLD50RS	£3.97
	Swivel Braked	50	40	50	73	73	20	17	0.22	0.22	50 x 50	35 x 35	10	25	CASLD50NB	£4.83	CASLD50RB	£4.83
	Fixed	50	40	50	73	-	20	17	0.19	0.19	50 x 50	35 x 35	10	-	CASLD50NF	£3.84	CASLD50RF	£3.84
	Swivel Bolt-hole	50	-	40	71	50	-	17	-	0.20	-	-	10	25	-	-	CASLD50RSBT	£4.33
	Swivel Braked Bolt-hole	50	-	40	71	73	-	17	-	0.22	-	-	10	25	-	-	CASLD50RBBT	£6.18
<b>75</b> WHEEL DIAMETER	Swivel	75	50	50	100	69.5	21	21	0.23	0.33	60 x 60	43 x 43	10	32	CASLD75NS	£5.14	CASLD75RS	£5.15
	Swivel Braked	75	50	50	100	90	21	21	0.26	0.35	60 x 60	43 x 43	10	32	CASLD75NB	£6.18	CASLD75RB	£6.18
	Fixed	75	50	50	100	-	21	21	0.22	0.32	60 x 60	43 x 43	10	-	CASLD75NF	£4.94	CASLD75RF	£4.94
	Swivel Bolt-hole	75	-	50	95	69.5	-	21	-	0.30	-	-	10	32	-	-	CASLD75RSBT	£6.66
	Swivel Braked Bolt-hole	75	-	50	95	90	-	21	-	0.32	-	-	10	32	-	-	CASLD75RBBT	£8.05
<b>100</b> WHEEL DIAMETER	Swivel Bolt-hole	100	-	80	128	88	-	27	-	0.60	-	-	12	38	-	-	CASLD100RSBT	£10.06
	Swivel Braked Bolt-hole	100	-	80	128	105	-	27	-	0.70	-	-	12	38	-	-	CASLD100RBBT	£11.13

Expanders for 12 mm Bolt-Hole castors come with a reducer washer.



Round Bolt

Square Bolt

**Inserts for Bolt-Hole Castors** These expanders can be fitted to any single bolt-hole castor. Use for round or square tubing on all types of trolley. All the expanders have a 10 mm bolt. The 50 mm and 75 mm Ø bolt-hole castors above have a 10 mm threaded hole and will fit perfectly. Meanwhile, the 100 mm Ø bolt-hole castors above have a 12 mm threaded hole and the 12 mm extender will come as a kit with a reducer washer to ensure a snug fit.

Expanders for Bolt-Hole Castors			round code	price	square code	price	round code	price	square code	price	
fits	internal tubes	height	weight	fits 10 mm thread	fits 10 mm thread	fits 12 mm thread	fits 12 mm thread				
21.5 - 24		90	0.11	CASER24	£4.33	CASES24	£4.33	CASER24K	£3.50	CASES24K	£3.50
24 - 27		90	0.11	CASER27	£4.33	CASES27	£4.33	CASER27K	£3.50	CASES27K	£3.50
27 - 30		90	0.11	CASER30	£4.33	CASES30	£4.33	CASER30K	£3.50	CASES30K	£4.33

Wheel Type	For	Against	Typical Use
Nylon	Cheap, very strong, clean, non-marking, light	Too noisy for use during performance.	Slave trucks, scaffolding castors, heavy-duty storage trolleys not used during performance
Polyurethane [Revvothane] on cast iron	Quiet, high tear strength, 10 times the working life and 3 times the load carrying of rubber, low rolling resistance, excellent recovery from static periods	Expensive	All uses but especially heavy scenery used during performance
Blue elastic rubber	Soft, very quiet, non-marking, floor protecting	Limited range from stock	Typically used as flight case castors
Black rubber on plastic	Cheap, quiet, floor protecting, medium-duty	May leave marks	Medium weight trucks where the budget is tight
Black polyurethane [PU]	Soft, very quiet, non-marking, floor protecting	The softer wheel adds a little rolling resistance	All performance stage use especially when the wheels may be seen and silence is required

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**MEDIUM TO HEAVY-DUTY CASTORS**



**Medium to Heavy-Duty Castors** This range of industrial castors all have pressed steel top plates. The wheels are either nylon with plain bearings, or a tough polyurethane [PU] tyre on cast iron with ball bearings. To decide which one to choose have a look at the table above.

Medium to Heavy-Duty Castors	WD	load [kg]	OH	SR	TW	wt [kg]	TPD	centres	offset	code	price	code	price
type	nylon PU		nylon PU		nylon PU		median	bolt Ø	nylon			PU	
<b>80</b> Swivel	80	200 200	106	77.5 35	30	0.56 0.90	105 x 85	80 x 60	10 37.5	CASMD80NS	£9.75	CASMD80PS	£27.82
Swivel Braked	80	200 200	106	125 35	30	0.70 1	105 x 85	80 x 60	10 37.5	CASMD80NB	£12.99	CASMD80PB	£30.27
Fixed	80	200 200	106	- 35	30	0.33 0.65	105 x 85	80 x 60	10 -	CASMD80NF	£8.98	CASMD80PF	£25.70
<b>100</b> Swivel	100	200 220	128	90 35	38	0.65 2.2	105 x 85	80 x 60	10 40	CASMD100NS	£10.20	CASMD100PS	£28.27
Swivel Braked	100	200 220	128	125 35	38	0.75 2.4	105 x 85	80 x 60	10 40	CASMD100NB	£13.46	CASMD100PB	£31.16
Fixed	100	200 220	128	- 35	38	0.55 1.7	105 x 85	80 x 60	10 -	CASMD100NF	£9.59	CASMD100PF	£26.48

**REVVO SERIES 4 MEDIUM TO HEAVY-DUTY CASTORS**



**Revvo Series 4** Pressed steel top plate castors that reliably cope with all but the heaviest of stage loads. Swivel heads have a single ball bearing. Wheels have plain bearings and are either nylon, or a Revvothane tyre on cast iron. The brake locks both wheel and swivel with an easy-to-use foot lever which trails the direction of the travel. Fabricated castors for very heavy duties can be quickly supplied – please phone for a quotation. If you require the wheel and swivel lock to remain in a fixed position please see the Fixed Position Brake Castors [page 246] N.B. The revvothane versions come ungreased but have an oil hole for lubrication which is recommended to ensure the quietest performance.

Revvo Series 4	WD	load [kg]	OH	SR	TW	wt [kg]	TPD	centres	code	price	code	price	
type	nylon Revvothane		nylon Revvothane		nylon Revvothane		median	bolt Ø	nylon		Revvothane		
<b>75</b> Swivel	75	160 175	114	73 35	25	0.95 1.39	135 x 110	105 x 80	10	CAS132	£15.12	CAS131	£30.22
Fixed	75	160 175	114	- 35	25	0.53 0.95	145 x 110	105 x 80	10	CAS032	£10.08	CAS031	£24.78
<b>100</b> Swivel	100	225 250	139	91 35	29	1.02 1.69	135 x 110	105 x 80	10	CAS140	£16.76	CAS141	£35.41
Swivel Braked	100	225 250	139	91 35	29	1.20 1.91	135 x 110	105 x 80	10	CAS140L	£31.51	CAS141L	£50.16
Fixed	100	225 250	139	- 35	29	0.61 1.27	145 x 110	105 x 80	10	CAS040	£11.10	CAS041	£29.74
<b>125</b> Swivel	125	250 265	164	105 35	32	2.03 2.50	135 x 110	105 x 80	10	CAS157	£19.84	CAS154	£43.70
Swivel Braked	125	250 265	164	105 35	32	2.30 2.78	135 x 110	105 x 80	10	CAS157L	£34.59	CAS154L	£58.34
Fixed	125	250 265	164	- 35	32	1.34 1.89	135 x 110	105 x 80	10	CAS057	£14.14	CAS054	£38.01

## BLACK THEATRE CASTORS

WHEEL DIAMETER  
**35**



35 mm Swivel



35 mm Swivel Braked



35 mm Fixed

**Low Level 35 mm Black Castors** Neat, well-designed theatre castors, attractive enough for other uses like furniture making. Black sheet steel frames with a double ball race in the swivel head for smooth movement. Wheels are black polyurethane on a solid aluminium core with ball bearings. They are a hard-wearing 92A on the Shore scale.

- ✓ Discreet – only 52 mm high
- ✓ Non-marking
- ✓ Hard-wearing
- ✓ German quality

Low Level Black Castors	WD	max load	OH	TW	weight	TDP	hole centres	offset	code	price
Swivel	35	100 kg	52	27	0.27 kg	60 x 60	38 x 38 / 47 x 47	15	CAS35KUPL	£22.95
Swivel Braked	35	100 kg	52	27	0.28 kg	60 x 60	38 x 38 / 47 x 47	15	CAS35KUPLB	£32.20
Fixed	35	100 kg	52	27	0.23 kg	60 x 60	38 x 38 / 47 x 47	15	CAS35KUPLF	£21.56

WHEEL DIAMETER  
**50**



50 mm Unbraked



50 mm Braked



50 mm Fixed

**50 mm Black Castors** We've had so many requests for this size of castors in an all black finish, we thought it was about time we added them into the Catalogue to complete our Black Theatre Castors range. Wheels are black polyurethane on a solid aluminium core with ball bearings. They are a hard-wearing 92A on the Shore scale. The housing is made of black sheet steel.

- ✓ Discreet
- ✓ Non-marking
- ✓ Hard-wearing
- ✓ German quality

50 mm Black Castors	WD	max load	OH	TW	weight	TDP	hole centres	offset	code	price
Unbraked	50	150 kg	72	40	0.4 kg	60 x 60	38 x 38 / 47 x 47	31	CAS50KUPL	£27.50
Braked	50	150 kg	72	40	0.46 kg	60 x 60	38 x 38 / 47 x 47	31	CAS50KUPLB	£32.20
Fixed	50	150 kg	72	40	0.39 kg	60 x 60	38 x 38 / 47 x 47	31	CAS50KUPLF	£26.45

WHEEL DIAMETER  
**75**



75 mm Single Wheel Swivel



75 mm Single Wheel Swivel Braked



75 mm Single Wheel Fixed



75 mm Double Wheel Swivel Braked

**Super Quiet Light-Duty Black Castors** The frames are black sheet steel with double ball races in the swivel head. They are fitted with polyurethane tyres on a tough nylon hub with ball bearings giving super smooth running. The wheels are exceptionally quiet and non-marking, even on dance floors. Soft 80A on the Shore scale. The braked version locks both the wheel and the swivel. Available in a single or double wheel version.

- ✓ Non-marking – even on dance floors
- ✓ Great choice for all light loads
- ✓ German manufacturing quality

Super Quiet Black Castors	WD	max load	OH	TW	weight	TDP	hole centres	offset	code	price
Single Wheel Swivel	75	60 kg	100	23	0.38 kg	60 x 60	38 x 38 / 46 x 46	28	CAS7523N	£17.05
Single Wheel Swivel Braked	75	60 kg	100	23	0.43 kg	60 x 60	38 x 38 / 46 x 46	28	CAS7523NB	£17.50
Double Wheel Swivel	75	80 kg	100	23	0.62 kg	60 x 60	38 x 38 / 46 x 46	28	CAS7523ND	£29.98
Double Wheel Swivel Braked	75	80 kg	100	23	0.66 kg	60 x 60	38 x 38 / 46 x 46	28	CAS7523NDB	£32.05
Single Wheel Fixed	75	60 kg	100	23	0.30 kg	60 x 60	38 x 38 / 46 x 46	28	CAS7523NF	£18.10

£  
✓

WHEEL DIAMETER  
**100**



100 mm Swivel



100 mm Swivel Braked

**Heavy-Duty Black Euro Castors** These tough castors represent fantastic value and would be the perfect choice for the majority of stage uses. The extra tough steel frame is finished in black. The swivel head has double ball races. The wide wheel has black polyurethane tyres on a black cast iron hub with twin ball races. The castor has been developed to be a main workhorse of European theatre stages. Available as a swivel castor or a swivel castor with wheel and swivel brake. They are a hard-wearing 92A on the Shore scale.

- ✓ Real value for a very tough castor – 350 kg loading for well under half the price of lower rated castors
- ✓ All-black frame, wheel and tyre
- ✓ Definitive choice for most theatre trucks
- ✓ Assembled in Germany

Heavy-Duty Black Euro Castors	WD	max load	OH	TW	SR	weight	TPD	hole centres	offset	code	price	20+
Swivel	100	350 kg	125	40	95	1.60 kg	140x 110	105 x 80	48	CAS80BEC	£24.30	£19.89
Swivel Braked	100	350 kg	125	40	145	2.20 kg	140x 110	105 x 80	48	CAS80BECB	£28.68	£24.29

Best value  
tough theatre  
castor

# SCENE SHIFTERS [TURTLES]

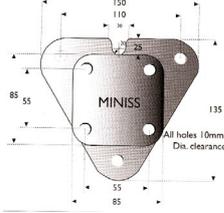
## Scene Shifters [Turtles]

These castors solve the various problems that can be encountered when using traditional swivel castors. They permit heavy trucks to change rolling direction, even from stationary, without having to exert the extra effort normally needed to change wheel direction. They allow trucks to enter from the wings, stop centre stage, and leave upstage. The triple wheels also spread the load over a larger stage area reducing the problems caused by high point loads on soft floors. They can really help when trying to align trucks ready for bolting-up when the height inaccuracies, caused by high point loading on spongy stages, often cause delays to scene changes as staff are required to fetch crow bars to level up the trucks. Finally, they make good track jumpers. Flints stocks many types of turtles and sell them at prices well below list. We also stock the pneumatic Hebewunder lifting castors [see next page] which allow the scenery trucks to sit firmly on the stage and lift to move.

### MINI SCENE SHIFTER [LIGHT-DUTY TO 300 KG]







**Mini Scene Shifter [up to 300 kg]** Very popular units which are ideal for smaller sized trucks. The smaller swivel radius helps to keep the wheels nearer to the edge of the truck and thus improve the stability. Although reduced in size, these Scene Shifters will take very high loads. Mini 35 mm wheels with polyurethane tyres on plastic hub with ball bearings.

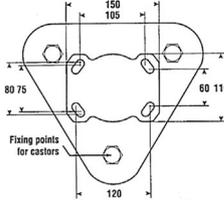
- ✓ Help to improve stability
- ✓ Very low overall height
- ✓ Lightweight

Mini	WD	max load	OH	SR	TW	weight	code	list	Tradeline
	35	300 kg	85	95	28	1.80 kg	CASMINISS	£86.59	£86.59

### LOW LEVEL SCENE SHIFTER [TO 360 KG]







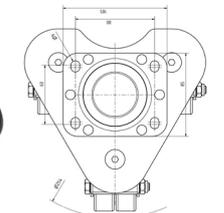
**Low Level Scene Shifter [up to 360 kg]** Choose this for heavy trucks which require a low overall height for sightline and access purposes. Top plate with twin wheels with polyurethane tyres on a cast iron hub with plain bearings. This is the same basic unit as the Heavy Duty Standard Scene Shifter below but fitted with low level twin wheeled castors.

Low Level	WD	max load	OH	SR	TW	weight	code	list	Tradeline
	50	360 kg	96	154	2 x 14	8.20 kg	CAS601	£199.26	£149.08

### SUPER QUIET ALL BLACK SCENE SHIFTER [TO 360 KG]







**All Black Scene Shifter [up to 360 kg]** A similar version to the popular 75 mm Super Quiet Scene shifters below, and only slightly taller than the low-level scene shifter above, with the added advantage of an all-black wheel construction. Frame of black sheet steel with double black polyurethane wheels, with a polyamide hub with ball bearings to give super smooth running. The softer Shore rating of 80A helps to also keep the noise down, and prevent marking on dance floors. A really great choice!

- ✓ Super quiet
- ✓ Non-marking
- ✓ Low friction
- ✓ German quality
- ✓ lower profile

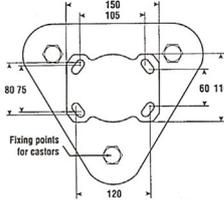
Hush! Whisper quiet

All Black	WD	max load	OH	TW	weight	TPD	hole centre	code	Tradeline
	50	360 kg	101	2 x 20	2.5 kg	105 x 80	80 x 60	CAS7524	£114.85

### SUPER QUIET BLACK SCENE SHIFTER [UP TO 240 KG]







**Super Quiet Black Scene Shifter [up to 240 kg]** Choose these units for very quiet and easy moving trucks which will glide silently across the stage. Frame of black sheet steel with double ball races at the swivel head. They are fitted with three sets of twin wheels with polyurethane tyres on a tough nylon hub with ball bearings giving super smooth running. The black wheels have a slightly softer Shore rating than most castors at 80A which not only keeps the noise right down but helps to prevent any marking on dance floors.

- ✓ Super quiet
- ✓ Non-marking
- ✓ Low friction
- ✓ German quality

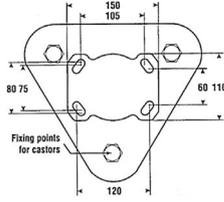
Hush! Whisper quiet

Super Quiet	WD	max load	OH	TW	SR	weight	TPD	hole centre	code	price
	75	240 kg	125	2 x 23	381	4.40 kg	105 x 85	80 x 60	CAS7523T	£123.59

### STANDARD SCENE SHIFTER [HEAVY-DUTY TO 460 KG]







**Standard Scene Shifter [up to 460 kg]** This is the main workhorse of the Scene Shifter series. Fitted with tough but quiet 100 mm wheels with polyurethane tyres on a cast iron hub with plain bearings. Choose this for all general and heavy-duty uses.

Standard	WD	max load	OH	SR	TW	weight	code	list	Tradeline
	100	460 kg	168	218	29	11.80 kg	CAS602	£191.27	£143.08

## LIFTING CASTORS

WHEEL DIAMETER  
**50**



This gizmo uses compressed air to lift scenery over 40 mm.

**Hebewunder [up to 400 kg]** The Hebewunder is the perfect choice of castor to move heavy scenic trucks around the stage. Probably the biggest advantage of using the Hebewunder over braking castors is the fact that the truck will sit firmly on the floor when it is lowered into place. This ensures a well spread load and therefore great stability with no chance of accidental movement. Leaving built scenic pieces on braked castors during performance can result in the floor flexing due to the high point loading. This could translate into "wobbly scenery" from the audience's point of view or delayed scene changes because of the difficulty to marry up bolt holes or fixings. Each Hebewunder can lift 400 kg by means of compressed air. The triple swivel castors have the advantages of ensuring a minimal offset for easy initial rolling, good load spreading and excellent track jumping capabilities. The 50 mm castors employed on these units have solid aluminium wheels fitted with bearings and 92° Shore Vulkollan tyres. This allows great load bearing while maintaining a useful low overall height. Flints can supply all the accessories necessary to connect the units, a few are listed below, the rest and more info can be found in the Castors Appendix in the Our Catalogue section of our website.

Hebewunder	WD	load [kg]	OH	SR	TW	wt [kg]	TPD	holes	code	list	price
			min	max			width	length [inc air supply] centres			
50	400	400	147	188	250	40	9	220 330	180 x 150	11.5	
									CASHW50		Tradeline £354.65
									CASHW50K	£1,741.30	£1,676.77
									CASHW50K2	£2,461.88	£2,392.45



Take a look at the Castors Appendix: Hebewunder Castor in the 'Our Catalogue' section of our website for full details & accessories

Check out our YouTube channel (@flintstheatre) for product demonstrations and tutorials, such as this one all about the Hebewunder castor!



3-way Valve

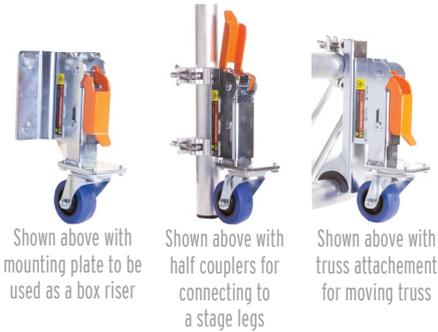


25 m Air Hose



T-Connector

Hebewunder Accessories		price
3-way Valve 1/8"	CASHW3W	£59.20
Air Hose 6x4 - 25 m	CASHWHO	£19.30
Connector 1/8"	CASHWCO	£2.80
Silencer	CASHWSI	£2.55
T-Connector	CASHWTC	£5.64



Shown above with mounting plate to be used as a box riser

Shown above with half couplers for connecting to a stage legs

Shown above with truss attachment for moving truss

**Lifting Wheel with 80 mm swivel castor [up to 130 kg]** These lifting wheels are so useful, you'll be amazed you ever got by without them. The wheel can be levered down to engage with the floor, or up to remove the rolling effect. When the wheel is lowered it will raise up the attached structure by 27 mm. Made from sturdy zinc plated metal, with a 65° shore elastic rubber wheel on a polyamide core and single ball bearing. There are 3 proposed applications:  
**As a truss mover:** by using the truss attachment, truss frames can be lifted and rolled from the stage  
**As a stage leg riser:** instead of using a traditional scaffold castor inserted into the bottom of the stage leg, this system allows the user to lower the stage legs to the ground providing greater stability. NB 2-4 half couplers will be required for round stage legs.  
**As a box riser:** the mounting plate allows the user to fix the lifting wheel to the side of any wooden box, and easily raise it up to roll into the desired position.

Lifting Wheel	WD	load [kg]	min OH	max OH	SR	TW	wt [kg]	TPD	hole centres	hole Ø	code	price
Main unit:	80	130	303	380	250	36	2.95	80 x 60 mm	128.5 mm	11 mm	CAS658	£181.36
Truss Attachment:							0.7				CAS633	£17.65
Mounting Plate:							0.9				CAS645	£24.10
Half coupler											CAS590	£18.37

## SCAFFOLD CASTORS

HIRE

the 125 mm braked castor

WHEEL DIAMETER  
**125**



the 150 mm braked castor

WHEEL DIAMETER  
**150**



**Scaffold Castors** Flints stocks the versatile plug type scaffold castors which are suitable for converting steel rostra into slave trucks [with the addition of a short scaffold sleeve if going directly into the rostra corner post]. Fitted with strong nylon wheels [N.B. These may be supplied red]. Has a safe working load (SWL) of 535 kg.

NB: Due to manufacturing tolerances on the plug and the tube, the castor can sometimes be a slack fit.

**Conversion Sleeve** A 127 mm length of scaffold tube to convert the plug to fit the corner posts of Steeldeck/Megadek rostra systems. Not needed when the castors are mounted on scaffolding legs.

Conversion Sleeve	code	price
	SCF092	£1.10

Scaffold Castors	max load	WD	OH [ex plug]	plug sizes	SR	TW	wt	code	price
125 mm braked	600 kg	125	157	38.35 x 58	100	38	2.27 kg	CAS316	£44.74
150 mm braked	400 kg	150	180	38.35 x 58	110	40	2.57 kg	CAS317	£56.36

**FLIGHT CASE CASTORS**

WHEEL DIAMETER  
**100**



Set of great flight case castors for £33.98

**Flight Case Castors** These rugged top quality castors have blue elastic rubber tyres which are quiet and non-marking. Ideal for flight cases but also useful whenever noise is a concern. Fitted with roller bearings.

\*NB: The fixed version has a 3 mm height difference.

Top plate: 105 x 80 mm. Bolt centres: 80 x 60 mm. Fixings: 4 off M8.

Flight Case Castors	max load	WD	OH	SR	wt	code	price
Swivel	150 kg	100	125	85	460 g	CAS3470	£10.45
Swivel braked	150 kg	100	125	85	460 g	CAS3477	£12.05
Fixed	150 kg	100	128*	85	460 g	CAS3478	£9.65

**TRADELIN**

Buy set of four - two swivel & two braked  
CAS347K £33.98

**FIXED POSITION BRAKES**

WHEEL DIAMETER  
**80**

NEW TYPE

WHEEL DIAMETER  
**75**



A problem solved!



**Fixed Position Brake Castor - Now available in an ALL BLACK version** Generally, the foot-operated brakes on swivel castors swivel with the wheel so they trail the direction of travel. If the wheels are easily accessible this is not generally too much of a problem, especially if only two brakes are needed. However, stage trucks are generally designed to hide the castors from the

audience making access to the brakes very difficult. If the truck needs positioning in view of the audience it can get messy!

These castors are designed to avoid this familiar problem. The foot-operated lever brake will lock off both the wheel and swivel but it remains fixed to the top plate. Your carpenters or metal fabricators will be able to position the castor so the lever neatly protrudes from the rear of the truck. A little bit of luminous tape on the lever and your trucks can be swiftly locked off even in a quick blackout. **Top quality german manufacture.** SPECIFICATION: Original: Top plate size: 135 x 105 mm. Bolt centres: 105 x 80 mm. 88° Shore. 40 mm Vulkollen wheel.

All Black Version: Top plate size: 135 x 110 mm. Bolt centres: 105 x 80 mm. 92° Shore. 50 mm wide polyurethane wheel.

Fixed Brake Castor	max load	WD	OH	TW	wt	code	price
	250 kg	80	125	40	2.25 kg	CASFPB	£119.55
All Black	350 kg	75	125	50	2.3 kg	CASFPBN	£125.00

**PLATE SKATES**



WHEEL DIAMETER  
**150**



**Plate Skates** These useful devices will grip panels up to 56 mm thick and take loads of 250 kg on their strong 150 mm Ø wheels. Ideal for moving heavy flattage or sheets of ply from lorries or around stage. Just use one in the centre of the panel and the crew can manoeuvre heavy items with ease. Dimensions can be found on page 359.

Plate Skates	max load	WD	OH	TW	wt	code	price
	250 kg	150	225	40	4.20 kg	CASPS15056	£60.90

**LOW LEVEL CASTORS**

Front view of the swivel version.



Sheer genius, creative ingenuity

**Lo-Line®**

**Very Low Level Heavy-Duty Castor**

Every now and again you come across some products of such brilliance that you wonder how you ever managed without them. These castors designed by the legendary Mike Barnett solve the age-old problem of theatre trucks having to be 150 mm high just to accommodate decent castors. Now, with a bit of ingenuity, you can build a truck just 40 mm high with a weight loading on each swivel Lo-Line® unit of up to 350 kg! These ingenious units use 130 mm diameter steel wheels canted over so that the overall height is just 34 mm. Fitted with special deep grooved ball bearings which are sealed for life. The 16 mm thick top plate can be welded or drilled and tapped to secure the units to your trucks. Available in four types. Copyright: M.Barnett.

- ✓ Solves sightline problems from front row seats
- ✓ Just 34 mm overall height!
- ✓ Great track jumpers
- ✓ Use the fixed version along revolve rims
- ✓ Useful for low level slave pallets
- ✓ Takes up to 350 kg [175 kg for fixed units]
- ✓ Both wheels together provide a tread width of 70 mm



Top view of the fixed version.

**Fixed Version**

These units can be used on any truck running in a straight line or on pivot trucks with the units aligned in line with the pivot point. In particular they are perfect for use around the rims of revolves, allowing heavy-duty revolves, and their surrounds, to be very low profile sometimes

enabling the front row to actually see the floor! Also available in a quieter version with replaceable nylon inserts.

Lo-Line® Fixed	max load	WD	OH	TW	wt	code	Tradelin
	175 kg	130	34	35	1.25 kg	CASMBLLCF	£63.35
Nylon insert version	175 kg	130	34	35	1.25 kg	CASMBLLCNF	£114.50



Top view of the swivel version



Upside down view of nylon version.

**Swivel Version** For all stage use. Also available in a quieter version with replaceable nylon inserts in the wheels.

Lo-Line® Swivel	max load	WD	OH	SR	TW	wt	code	Tradelin
	350 kg	130x2	34	140	70	4.25 kg	CASMBLLC	£210.00
Nylon insert version	350 kg	130x2	34	140	70	4.25 kg	CASMBLLCN	£277.65

See also Flying Saucers, and Lazy Susans on the next page.

**For Dollies and Material Handling Products see our special section, pages 359 – 360**

## LOW LEVEL CASTORS



**Low Level Single Wheel Swivel Castor** A popular and very useful single bolt-fixing castor with a quiet polyurethane tyre and an overall height of just 59 mm. These are the same wheels used on the Mini Scene Shifter. They are supplied complete with an M10 Allen bolt leaving 20 mm of protruding thread.

Low Level Single Swivel Castors	WD	load	OH	SR	TW	code
	35	100 kg	59	33	28	CAS295S

### TRADELINE

Low Level Single Wheel	CAS295S
List £12.00	our price £9.99



**Low Level Twin Wheel Swivel Castors** If you need to move heavy weights but have restricted height these tough units with polyurethane tyres on cast iron wheels are ideal. We have now introduced a more economical version with nylon wheels for use when noise is not an issue.

Low Level Swivel Castors	WD	load	OH	SR	TW	code
Polyurethane tyre on cast iron	50	160 kg	64	50	2 x 14	CAS295
Nylon	50	160 kg	64	50	2 x 14	CAS295N

### TRADELINE

Polyurethane on cast iron	CAS295
List £35.14	our price £29.00
Nylon wheels	CAS295N
List £19.69	our price £15.89

## ROLLERS



**Nylon Rollers** A useful range of small but heavy-duty nylon rollers. For convenience each size has the same hub width and diameter bore. The rollers are fitted with two ball races with side shields making them

very free-running and quiet. The special feature is that they can be ordered with either a plain face, a V groove, or a round groove. Ideal for constructing heavy-duty travellers, small lifts, under-stage tracking, etc. The V-grooved rollers will run smoothly on inverted angle iron tracks. Trucks will self-centre if there is any width discrepancy between the tracks whereas flanged wheels running on square tracks may bind and screech.

Nylon Rollers	WD	bore	hub width	wt	code	price
Plain	50	10	25	80 g	FHSN050P	£12.95
Round groove	50	10	25	60 g	FHSN050R	£12.95
V groove	50	10	25	60 g	FHSN050V	£12.95

See also Black Nylon Bow Rollers on page 221.

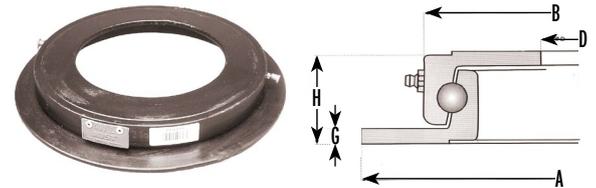
## FLYING SAUCERS



**Flying Saucer [Ball transfer unit]** If you can't even fit in a low level swivel then these may help, but be careful on soft floors as they exert a very high point pressure which can cause damage. The units are really designed to be mounted facing upwards as transfer units for crates and boxes.

Flying Saucer	max load	OH	code	price
	25 kg	30	CAS710	£4.34

## TURNTABLES



**Turntables** A range of ball-bearing turntables ideally suited for securing revolve centres to the stage but also handy for constructing stage trucks and for revolving platforms for heavy sculptures. The flanges are undrilled. Measurements in mm.

Turntables	max load	ØA	ØB	ØD	H	G	wt	code	Tradeline
	750 kg	400	342	230	45	8	11 kg	CAS400L	£296.45
	900 kg	500	442	330	45	8	15 kg	CAS500L	£329.35



CAS135105HD - with 2 plates



CAS38109S - with 1 plate

**Turntables with fixing plates** These discrete ball-bearing turntables are well suited for smaller revolving set pieces, furniture and sculptures. It's worth considering the intended order of assembly or you might find yourself on a sticky wicket! Specifications: Bolt hole Ø: 11 mm, Material: Steel, Hole centres: A- 105 x 75 mm, B - 105 x 75 / 80 mm.

Turntables	max load	OH	plate dims	wt	code	price
A	1000 kg	34.5 mm	135 x 105 mm		CAS135105HD	£48.95
B	1000 kg	28.5 mm	138 x 109 mm		CAS138109S	£28.35

Other sizes are available to order.



**Lazy Susans** These lightweight ball race rings are designed for maximum stability and smooth running. They are suitable for props and special effects. Zinc-plate finish. For heavy scenery applications choose the turntables listed above. No one really knows why they are called Lazy Susans but the first written reference was in an advert in Vanity Fair in December 1917.

Lazy Susans	max load	Ø/width	OH	code	price
Round	450 kg	300 mm	10 mm	CAS300LS	£10.80
Square	225 kg	150 mm	10 mm	CAS150LS	£5.27
Square	130 kg	100 mm	10 mm	CAS100LS	£3.85

**Triple E Unijack™™**

The Unijack™™ system was the major building block in the Triple E range when the company started. Now several thousand Unijack™™ later it is still doing the work it was designed for on stages throughout the world. The system comprises the basic lifting unit with a range of accessories that allow easy handling of heavy scenery. Designed originally for scenic trucks on theatre stages, they can also be used for all types of industrial equipment, machinery, workbenches, display cabinets and counters. All can be moved or braked with confidence. This range was updated recently to unify the body across all the Unijack™™s and brakes.

Registered Design No. 1032215 Registered Trademark No. 1302\376.

NEW TYPE

WHEEL DIAMETER  
**50**



50 mm Twin-Wheeled Castor

**Unijack™™ fitted with 2" (50mm) twin wheel castor**

It is recommended that this Unijack™™ be installed with a 10mm clearance between the floor and castor to ensure that the foot pedal is at its most efficient travel and lift position. This also creates a ground clearance of 24mm for the moving item. If lightweight pieces are to be moved, then clearance may be reduced to give more lift. This unit may be fitted with the UJA5 stud set and locking catch to create a lift off UJA1/5. All Unijack™™s can be fitted with a keyplate for quick removal. Please note all Unijack™™s have been updated in 2022.

NEW TYPE



**Unijack™™ Rubber Foot Brake**

Unijack™™ fitted with Brake Foot is designed to hold a stage truck in position by lifting a fixed castor from the floor. The unit should be fitted so that it only lifts the fixed castor with a minimum clearance. The design recommendation is that the rubber brake foot should be installed with 3 mm more clearance than that of the truck to the floor. All Unijack™™s can be fitted with a keyplate for quick removal. Please note Unijack™™ has been updated in 2022. Working Load Limit: 275kg

Triple E Unijack™™	SWL	code	price
Rubber Foot Brake	275 kg	UJA4301	£156.42
Spare Rubber Foot		UJA4301P01	£11.64

Triple E Unijack™™	SWL	code	price
50 mm twin-wheeled castor	160 kg	UJA4101	£173.83

NEW TYPE

WHEEL DIAMETER  
**80**



80 mm Single Wheel Castor

**Unijack™™ fitted with 80mm wheel castor**

It is recommended that this Unijack™™ be installed with a 10mm clearance between the floor and castor to ensure that the foot pedal is at its most efficient travel and lift position. This also creates a ground clearance of 24mm for the moving item. If lightweight pieces are to be moved, then clearance may be reduced to give more lift. This unit may be fitted with the UJA5 stud set and locking catch to create a lift off UJA1/5. All Unijack™™s can be fitted with a keyplate for quick removal. Please note all Unijack™™s have been updated in 2022.

NEW TYPE



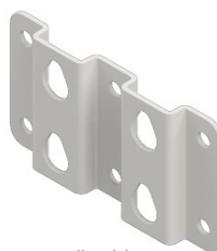
Stud set and key plate

**Stud Set for Unijack™™ Keyplate**

All the Unijack™™s can simply be bolted to your scenery but the big advantage of fitting this UJA4501 Stud Set to your Unijack™™s is that one set of Unijack™™s can be used on many pieces of scenery. The scenery will need to be fitted with a UJA4601 receiving keyplate.

The steel studs are stepped from 19 mm x 6 mm to 12 mm x 4 mm to a further 10 mm x 5mm allowing them to be conveniently located into the UJA4601 keyplate. The face of the stud is also drilled and countersunk to accept an M8 countersunk cap bolt. A simple safety catch is also supplied and fastened to the top corner of the Unijack™™ backplate. Once in a down position the catch will lock the Unijack™™ to the UJA4601 keyplate.

NEW TYPE



Key plate

**Keyplate for Unijack™™**

These need to be fitted to your scenery to accept Unijack™™s fitted with the UJA4501 Stud Sets. Six 10 mm diameter holes in the plate provide sufficient fixing points and two vertical corrugations ensure there is enough clearance for the stud set.

Triple E Unijack™™	code	price
Stud set for use with Unijack™™s	UJA4501	£40.58
Keyplates	UJA4601	£28.94

Triple E Unijack™™	SWL	code	price
80 mm Castor	200 kg	UJA4201	£197.00

# BRAKES

## Choice of Brakes

When braked castors are not feasible due to poor access we have a selection of separate brake units. For light trucks, a door stop with a rubber foot or even a rubber door wedge will often suffice. If positioning is crucial [and you can drill into the stage floor] then drop bolts work well. Sometimes it is worth considering not using castors and brakes but gluing carpet to the base of the truck with the pile facing downwards. This will slide easily across painted stage floors but will not need brakes. It is ideal for quietly moving furniture on carpeted ply panels. The problem is that we don't sell plywood or carpet so we wouldn't really recommend this method at all. Heavier trucks can be quickly braked by using one of the lever brakes that we stock. The action of the lever will raise the truck slightly which can cause some visible movement. Using "Wind Down" brakes will be less jerky with the added advantage that they can gently raise heavy trucks so that bolt holes align. A more positive braking action can be achieved by raising all the castors using Unijacks [page 248]. The truck frame will then sit firmly on the stage thus spreading the load. In the scene dock, heavy chain placed around castors will effectively stop any movement. Onstage the quieter Sausage Weight Bags [page 154] can be used.

## SIMPLE DOOR STOPS

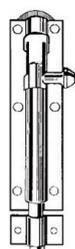


**Rubber Door Wedge** Cheap quiet low budget solution. Drilled for lanyard. If you buy half a dozen you will be able to retrieve all those stage weights currently being used to hold open the backstage doors.

Rubber Door Wedge	code	price
	DOR050	£2.30

**1 m Lengths of Black Chain** A length of chain wrapped around the wheel will effectively prevent even heavy trucks from moving. Only suitable when access to wheels is good and the noise of chains is acceptable. These chains are black jappanned. See also Sausage Weight Bags [page 154].

1 m Lengths of Black Chain	MRL	code	price	15 m+
link size: 6 x 33 mm	140 kg	WIR833	£5.77	£5.20



**Straight Drop Bolts - Tower Bolts** Useful for locating lightweight trucks in preset positions.

Straight Drop Bolts	code	price
4"	DOR110	£1.76
6"	DOR111	£2.18
8"	DOR112	£3.14



**Door Stops** Good quality units ideal for lightweight trucks. Fitted with a rubber foot. Screws included.

**Small type** SPECIFICATION: Backing plate: 119 x 25 mm. Raised foot remains 11 mm below plate, lowered 39 mm below max. Fixings: 3 off No.8 [4 mm] csk screws included.

**Large type** SPECIFICATION: Backing plate: 179 x 38 mm. Foot raised remains 6 mm below backing plate, lowered 40 mm below max. Fixings: 3 off No.8 [4 mm] csk screws included.

Door Stop Type	code	price
Small type	DOR030	£9.75
Large type	DOR031	£14.85

## LEVER-TYPE TRUCK BRAKES



Heavy-duty Lever [3/8" thread]



Light-duty Lever [5/16" thread]



Medium-duty Lever [5/16" thread]



Medium/Light-duty Foot [5/16" thread]

Heavy-duty Foot [3/8" thread]



**Lever Truck Brakes** These popular brakes have a powerful smooth action to push down the plunger and raise the truck. The threaded foot fitting allows the final height to be adjusted and then locked off. You can buy the lever action without the extension feet so that you can have the option of fitting your own plate, disc, or castor. They also make excellent levers for production assembly jigs.



Lever Truck Brakes	movement	max load	code	price	10+
Heavy-duty lever	40 mm	362 kg	CAS74550	£29.95	£22.95
Heavy-duty foot		362 kg	CAS74555	£4.40	£3.90
Medium-duty lever	30 mm	135 kg	CAS74510	£21.89	£14.85
Medium-duty foot [also fits light]		135 kg	CAS74515	£3.79	£3.30
Light-duty lever includes foot	45 kg		CAS745302	£15.25	£13.65



**Floor Lock** Excellent smooth powerful action. The unit bolts under the truck with its lever protruding through the back. The foot will cant to take up uneven floor surfaces.

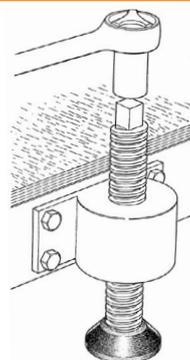
SPECIFICATION: Mounting height: 150 mm. Retracted height: 125 mm.

Floor Lock	load capacity	code	price
	2,000 kg	CAS701	£52.58

## TRIPLE E UNIJACKS

See page 248 for the popular Triple E Unijack Brakes.

## WIND DOWN BRAKES



**Wind Down Brake** A superb industrial-quality brake for heavy trucks. Rapid descent with just four turns to drop 25 mm. These brake units will not jerk the scenery when it is positioned in view of the audience. They can be used to anti-rake touring scenery to fit a variety of stages. Useful to level-up large trucks on uneven stage floors and to raise heavy units from the floor to access pallet handling equipment. Fitted with a square head to fit a 19 mm socket and a black nylon foot with

a bronze bush. All parts replaceable. Design right applies.

SPECIFICATION: Overall height: 240 mm. Movement range: 135 mm. Fixing Plate: 60 x 150 x 8 mm thick. Drilled for 4 off M10 bolts.

Wind Down Brake	code	Tradeline
	FHS080	£185.00
Spare foot	FHS080F	£33.37

# DOOR FURNITURE

## CATCHES & LATCHES



**Turn Buttons** Simple catch to hold scenic devices or keep doors closed. Black epoxy coated.

Turn Buttons	code	price	100+
51 mm	DOR065B	£0.55	£0.40
63 mm	DOR065C	£0.80	£0.70



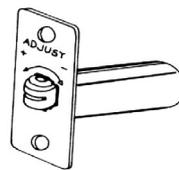
**Magnetic Catches** Flints offers two sizes of magnet catches from stock. The 3 - 4 kg pull is standard for cupboards and the 4 - 5 kg is more suitable for slightly larger doors. Both are excellent value. White finish.

Magnetic Catches	code	price
pull: 3 - 4 kg size: 46 x 15 mm	DOR271W	£0.55
4 - 5 kg 45 x 15 mm	DOR272W	£0.95



**Brass Bales Catch** Bright brass plate with steel ball in a 16 mm Ø barrel. Ideal for letting into 1" nominal timber. Brass plate.

Brass Bales Catch	code	price
	DOR045	£1.27



**Face Adjusting Roller Catch** A Harrison Beacon catch with nylon parts and a satin-brass face plate. Final adjustments can be made while the catch is still fitted by inserting a screwdriver into the slot on the roller.

Face Adjusting Roller Catch	code	price
57 x 22 mm	DORC36831	£1.95



**Tubular Mortise Latches** A general purpose mortise latch suitable for all types of wooden doors. Operated by a spindle handle [not supplied]. To fit: 22 mm diameter hole.

Tubular Mortise Latches	code	price
Handle centre 2 1/2" from edge	DOR079	£1.31
Handle centre 3" from edge	DOR080	£1.43

## DOOR LOCKS & PANEL FASTENERS



**Double-Handed Rim Lock [Union 1448]** A 5 1/2" period rim lock and catch suitable for left- and right-handed doors. Supplied with two keys. Black japanned.

Double Handed Rim Lock Union 1448	code	price
140 x 73 mm	DORL3817	£25.70



**Budget Lock** These serviceable locks are ideal for holding scenic panels in place when access behind may occasionally be necessary. If the key is lost a flat screwdriver will get you out of trouble. Often the locking arm just engages behind the stile but there is an option of purchasing a keep and also a forged T key.

Budget Lock	length	code	price	10+
71 x 21 mm		GEN135	£9.95	£8.95
Striking plate [keep]		GENER190	£3.25	£3.09
Forged T-key	114 mm	GEN137	£5.95	£5.35

## COFFIN LOCKS



**Concealed Mortise Butt-Joint Latch** Known as a Roto Lock, these latches progressively draw panels together by means of an 8 mm Allen key [not provided] giving adjust-ability for theatrical tolerances or gasket shrinkage.

Helps provide air- or watertight seals. Useful for quickly securing floor and wall panels. The latch requires a mortise 86 x 16 x 44 mm deep and the receptacle requires the same size but only 32 mm deep. These are exact sizes so some clearance may be needed. Secure with M6 bolts, screws or rivets in the clearance holes.

Mortise Latch	load	load	code	price	Tradeline 100+
average ultimate:	tensile	shear			
Latch	6,200 N	8,900 N	GEN143	£5.96	£5.10
Receptacle	6,200 N	8,900 N	GEN144	£3.36	£2.82



**Concealed Shallow Tab Butt-Joint Latch** Similar to the Roto Lock fastener above, however the latch and receptacle are secured with the tabs on the housing instead of the entire assembly mounted into the panel. Especially useful for quickly fitting flats and rostra. The latch and receptacle each require a 88 x 17 mm mortise in the panel 88 x 17 x 19 mm deep. These are exact sizes so some clearance may be needed. This tab mounted assemblies should be mounted with M5 screws [see page 265].

Tab Mounted Latch	load	load	code	price	Tradeline 100+
average ultimate:	tensile	shear			
Latch	6,200 N	8,900 N	GEN143CL	£11.55	£9.05
Receptacle	6,200 N	8,900 N	GEN144CL	£3.07	£2.77

These coffin locks are especially useful when access to bolts would be difficult or impossible.

- ✓ Self aligning.
- ✓ No bolts to lose.
- ✓ Just one 8 mm Allen key to join all your flats or rostra!



**Concealed Heavy Duty Butt-Joint Latch** This version has a dual action hook which locks over a pin then draws it inwards. It has a positive locking and unlocking action with minimum force on the Allen key. The unit will

withstand high tensile loads and there is a very consistent pull-up. The latch and receptacle both require a mortise 94 x 16 x 45 mm deep. These are exact sizes so some clearance may be needed.

Heavy Duty Latch	load	load	code	price	Tradeline 50+
average ultimate:	tensile	shear			
Latch	11,100 N	76,920 N	GEN143DL	£24.38	£21.93
Receptacle	11,100 N	76,920 N	GEN144DL	£5.75	£5.08

## PADLOCKS & HASP AND STAPLES



### Hasp and Staples

Black japanned.

Hasp and Staples	code	price
3"	DOR129	£1.29
4 1/2"	DOR130	£1.66
6"	DOR132	£2.41



Available keyed alike

**Brass Padlocks** Reliable and long-lasting. Suitable for toolboxes and small cupboards. Not butch enough to prevent a determined attack but enough to stop someone borrowing your hammer without asking. Also available keyed alike. Phone for details.

Brass Padlocks	code	price
38 mm [1 1/2"]	DOR175	£6.69
50 mm [2"]	DOR176	£9.85



**Squire Long Shackle Combination Padlock** Has the great advantage of not needing keys so it is very suitable when several people need access to the same skip or cupboard. The disadvantage of combination locks is that you can't open them in the dark [or if you forget the number!]. Make sure you keep a torch handy - check out the LED Lenser on page 357. Shackle Diameter: 8 mm. Internal Clearance: 63.5 x 22.6 mm.

Combination Padlock	code	list	price
	DORCP5025	£39.35	£36.13

## CABIN HOOKS



**Cabin Hooks** Heavy-duty type. Black japanned.

Cabin Hooks	code	price
4"	GEN010	£2.08
6"	GEN011	£2.25
8"	GEN012	£2.58

## TOGGLE CATCHES



### Super Heavy-Duty Toggle Clamp 700 kg

Choose this beast for seriously heavy scenery. It will quickly draw the trucks together and secure

them firmly. The throw arm is easily adjustable so that the crew can make running adjustments if necessary. Fantastic value.

SPECIFICATION: Overall length at mid-adjustment [excluding the receiving catch]: 240 mm. Fixings: 8 off M10. Base Plate Size: catch 86 x 82 mm, keep 58 x 82 mm. Weight: 2 kg.

Super Heavy-Duty Adjustable Toggle Clamp	code	price
	CAS53200	£25.00



### Heavy-Duty Adjustable Toggle Catch

Ideal for quickly securing heavy steel or timber trucks. The overcentre action will draw the units firmly together. The ability to adjust the catch allows the stage crew to make onsite alterations to suit the application. Can be welded or bolted with M8 bolts. SPECIFICATION: Base plate size: catch 89 x 76 mm, keep 64 x 76 mm. Weight: 788 g.

Heavy-Duty Adjustable Toggle Catch	code	price	10+
	GEN148	£52.59	£45.33



### Medium-Duty Toggle Clamp 900kg

Excellent value medium-duty clamp. Adjustable throw arm, zinc-plated with rubberised handle. Overall length at mid way adjustment is 220 mm. Fixings: 6 off M8 bolts. SPECIFICATION: Base plate size: catch 65x62 mm keep 30x38mm. Wt: 800 g.

Medium-Duty Toggle Clamp	code	price
	CAS53180	£15.75



**Catch Bolt** The unique catch bolt holds firmly in three directions. The initial action draws the units together and the integral bolt secures it from side and vertical movement. Useful for firmly securing equipment box covers, heavy trunks and cases as well as small scenic pieces. M4 clearance holes.

Base Plate Size: catch 48 x 45 mm, keep 19 x 45 mm. Weight: 129 g.

Catch Bolt	Min BL	code	price	10+
400 kg		GEN147	£11.89	£10.13



### Nickel-Plated Case Clip Wysiywg.

Nickel-Plated Case Clip	code	price
30 x 45 mm	DOR3333N	£1.61

## BOLTS



### Tower Bolts [Barrel or Drop Bolts]

Black epoxy finish.

Tower Bolts	code	price
4"	DOR110	£1.76
6"	DOR111	£2.18
8"	DOR112	£3.14



**Brass Barrel Bolts** A good quality barrel bolt suitable for set dressing and permanent uses.

Brass Barrel Bolts	code	price
51 x 25 mm	DOR504	£1.50
64 x 25 mm	DOR506	£2.04

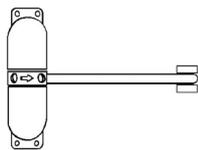


**Spring Bolts** A strong spring loaded bolt which can be held in the retracted position by twisting the bolt through 90°. Available in two sizes. Fixings: 4 off M6 csk machine screws.

Base Plate Size	bolt length x Ø	stroke	code	price
40 x 75 mm	165 x 12 mm	35 mm	DOR0840	£3.91
40 x 120 mm	220 x 12 mm	70 mm	DOR0841	£5.03

See small solenoid-operated shot bolts for safety gates etc. [page 159].

**DOOR CLOSERS & STOPS**



**Gibraltar Door Closer** Original metal-spring door closer. Easy to install, adjustable tension, closes doors up to 68 kg. Works on doors and gates. Complete with fixing screws. White finish.

Gibraltar Door Closer	code	price
	HNG302	£15.70



**Perko Invisible Door Closer** The cylinder is mortised into the inner edge of the door, a chain links the cylinder spring to an anchor plate fitted to the door frame. Easy to install, suitable for light to medium weight doors.

Perko Invisible Door Closer	code	list	price
	DOR092	£18.90	£16.39



**Adjustable Door Stops** Fixes to the bottom of doors. Can be used as brakes on lightweight scenery trucks. For more details see page 249.

Adjustable Door Stops	code	price
Small	DOR030	£9.75
Large	DOR031	£14.85



**Rubber Door Wedge** Free up all those stage weights by investing in some rubber door wedges. Drilled to take a lanyard.

Rubber Door Wedge	code	price
	DOR050	£2.30

**HANDLES**



**Chest Handle** Black japanned.

Chest Handle	code	price
4"	DOR062	£2.65



**Drop Handle [Handle and Fixing Plate]** A modern, tough and simple design, economically priced. Black powder coated.

Black Drop Handle	code	price
4"	GEN94120P	£4.50



**Flush Trap Handle** A steel trap handle suitable for larger traps. Black japanned.

Flush Trap Handle	code	price
76 x 89 mm	DOR067	£3.20



**Roping Eye** A very strong unit designed to be mounted flush in lorries and vans as a securing point but equally suited as a trap handle. Handle springs closed so it will not rattle. Black japanned.

Roping Eye	code	price
95 x 105 x 33 mm deep	WIR470	£12.50



**Stainless Flush Ring** Mirror-polished flush pull with a very small recessed area to avoid catching shoes and collecting debris. 316 Grade.

SS Flush Ring	fixings	code	price
63 x 44 mm	M4	WIR961ISS	£4.39



**Brass Flush Rings** A solid brass flush ring suitable for small traps.

Brass Flush Ring	code	price
50 x 38 mm	DORP1716C	£5.69
63 x 50 mm	DORP1716D	£6.73



**Period Round Door Knob Set** Set of plastic handles in Fifties style. Round knobs, complete with spindle, keyholes and fixing screws for mortise lock. Diameter: handle/50 mm, rose/55 mm. Projection: 59 mm.

Round Door Knob Set	code	price
Brown	DOR005	£2.06



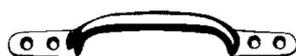
**Brass Round Knobs** Good quality Legge solid brass knobs. Diameter: 51 mm.

Brass Knobs	code	list	price
Legge 472 for Mortise Locks	DORL894951	£24.59	£21.80



**Beech Wooden Knobs**  
Turned wood.

Wooden Knobs	code	price	10+
35 Ø x 28 mm projection	DOR071	£0.88	£0.68
45 Ø x 35 mm projection	DOR072	£0.99	£0.77
52 Ø x 38 mm projection	DOR073	£1.43	£0.80



**Hot Bed Handle** Ideal for hot beds. Black epoxy finish.

Hot Bed Handle	code	price
6"	DOR063	£1.82



**Tubular Handle** Black epoxy finish.

Tubular Handle	code	price
6"	DOR061	£1.79

# GENERAL IRONMONGERY

## HOOKS



### Wardrobe Hook Brass.

Wardrobe Hook	code	price
	GEN015	£1.23



### School Pattern Hat and Coat Hook Strong period style steel wire hat and coat hook. White finish.

Hat and Coat Hook	code	price
6"	GEN016	£3.08

See also Pelmet Clips and Flush Mounts [page 149].



### Electro Brass Cup Hooks Shouldered. Shown poised for action.

Brass Cup Hooks	code	price
25 mm	GENCH25	£0.07
32 mm	GENCH32	£0.08
38 mm	GENCH38	£0.13



### Steel Cup and L Hooks Bright zinc-plated. For Screw Eyes see page 261

Steel Hooks	type	code	price	100 +
50 mm	Cup	GENCH55	£0.14	-
80 mm	Cup	GENCH80	£0.25	-
100 mm	Cup	GENCH100	£0.56	-
4 x 18 x 50 mm	L	FIXLSH450	£0.20	£0.18
4.4 x 20 x 80 mm	L	FIXLSH480	£0.28	£0.25
5 x 22 x 70 mm	L	FIXLSH570	£0.39	£0.35



### Small Black Japanned Hook Two 5 mm holes for fixings 15 mm apart.

Small Black Japanned Hook	code	price
50mm	GENBJH	£3.98

## CLIPS



**Galvanised Pipe Clips** These always cause mass confusion because they are labelled according to the nominal bore of the pipe! So a 1½" clip fits a 2" outside diameter pipe. The trouble was some of you knew that! Our little table below should

sort out the confusion [unless they decide to change the packaging, which will cause renewed mayhem]. Hey, they are so cheap why not order both sizes just in case? See also Conduit Clips [page 233].

Pipe Clips	labelled as	but fits!	code	price
	2" [nominal bore]	2½" outside Ø	GEN075	£0.68
	1½" [nominal bore]	2" outside Ø	GEN072	£0.56



**Broom Clip** Give your brooms a home. It's very poor form to leave a decent broom standing on its head. For decent Brooms [page 361].

Broom Clip	code	price
	GEN080	£1.60



**Tool Clips** Invaluable in the workshop. Often called Terry Clips. Zinc-plated.

Tool Clips	code	price
13 mm	GEN081	£0.21
20 mm	GEN082	£0.28
25 mm	GEN083	£0.37
32 mm	GEN084	£0.65
50 mm	GEN086	£0.75

## EXHIBITION HANGING



**Flush Mounts** These small flush mounts are ideal for light panels. They are sold as a pair [i.e. two pieces]. Use screws no bigger than No4 [3 mm] or the heads will not clear. Projection: 3.5mm. Zinc-plated. See also page 149 for Pelmet Clips.

Mini Flush Mounts	dims	code	set	50+ sets
Regular	44 x 38 mm	TOLMFM	£1.29	£1.16
Small	40 x 15 mm	TOLMFMS	£0.82	£0.74



**Mirror Plates** A flat plate which screws to the rear of the picture frame so it can then be firmly fixed to the wall.

Mirror Plates	size	code	price
Pack of 2	40 mm	GENXP1274	£1.88



**Picture Hooks** Electro-brassed hooks supplied in packs of 5 with the corresponding number of required pins for fixing.

Picture Hooks	code	price
Double nail [5 pack]	GENPHDB	£2.15



**Brass Picture Wire** For hanging pictures up to 18 kg. The wire comes in a 7.5 m coil.

Picture Wire	diameter	code	price
Size 3	1.4 mm	WIRPW3	£6.10



**Brass Chain** A decorative brass chain with oval links. However lovely they look, do not use for lifting! For our full range of chains see page 195. Sold per m. Max length 10 m. Size indicates overall length of link.

Brass Chain	code	per m
10 mm	WIRBC10	£5.64
16 mm	WIRBC16	£7.37
19 mm	WIRBC19	£8.98



### D-Ring Strap Hanger

A heavy duty zinc looped strap with 3 fixings. These should not

be used for lifting. Size: overall length 92 mm, loop external width 25 mm, loop internal width 18 mm, loop external height 24 mm, loop internal height 14 mm, panel length 70 mm, panel width 11mm. 3 fixing holes: 4 mm diameter, 24 mm apart.

Strap Hangers	code	price
	GENMFL	£1.18



**D-Ring Plates** Fix these strong nickel hangers to the frame with pan head screws or rivets. Small size: ring 14 x 19 mm [14 x 8 mm internal], panel 17 x 10 mm. Large size: ring 23 x

21mm [17 x 12 mm internal], panel 22 x 22 mm. Fixing hole: 4 mm diameter [13.5 mm apart]

D-Ring Plates	length	holes	code	price
Small	22 mm	1	GENDRPS	£0.29
Large	36 mm	2	GENDRPL	£0.41

If you need to hang something heavier than a frame, check out our wire ropes, terminations and Reutlingers. See pages 165 to 178 for our full range.



**FURNITURE GLIDES**



**Furniture Glides** Fix to table and chair legs to avoid scraping noises. Also suitable for decorative purposes. They were made by a company with the poetic name of "Domes of Silence 1922 Ltd". I expect they come from China now.

Furniture Glides	Ø	code	price	100+
	12 mm	GEN156	£0.14	£0.11
	19 mm	GEN154	£0.18	£0.12
	25 mm	GEN152	£0.24	£0.16
	30 mm	GEN151	£0.48	£0.32

**MENDING PLATES & SHELF BRACKETS**

**Stainless Shelf Brackets** Grey-painted steel economical brackets.



Stainless Shelf Brackets	code	price
152 x 127 mm 6 x 5"	GEN482	£0.53
203 x 152 mm 8 x 6"	GEN483	£0.75
254 x 203 mm 10 x 8"	GEN485	£0.94
305 x 254 mm 12 x 10"	GEN486	£1.38
356 x 305 mm 14 x 12"	GEN487	£1.62

For heavy angle iron brackets see page 239

**Corner Braces** Self colour



Corner Braces	code	price
25 x 25 mm 1 x 1"	GEN100	£0.21
38 x 38 mm 1 1/2 x 1 1/2"	GEN101	£0.22
51 x 51 mm 2 x 2"	GEN102	£0.27
63 x 63 mm 2 1/2 x 2 1/2"	GEN103	£0.35
76 x 76 mm 3 x 3"	GEN104	£0.39
152 x 152 mm 6 x 6"	GEN105	£1.08

**T-Plates** Self colour



T-Plates	code	price
76 x 76 mm 3 x 3"	GEN110	£0.90
102 x 102 mm 4 x 4"	GEN111	£1.41

**Mending Plates** Self colour



Mending Plates	code	price
102 x 19 mm 4 x 3/4"	GEN120	£0.34
152 x 25 mm 6 x 1"	GEN121	£0.77

**Corner Plates** Self colour



Corner Plates	code	price
50 x 50 mm 2 x 2"	GEN128	£0.25
76 x 76 mm 3 x 3"	GEN130	£0.41
102 x 102 mm 4 x 4"	GEN131	£0.67
152 x 152 mm 6 x 6"	GEN132	£1.43

**ASSORTMENT SETS**

We have included a few assortment sets which can get you out of trouble on site. It is sometimes hard to order specific springs and small parts without actually trying them so it's often simpler to purchase an economical assortment box.



**200 Piece Compression and Extension Spring Set** A wide selection of hard-to-find springs including popular extension and compression sizes.

**Compression Spring** Sizes from 7 mm Ø x 11 mm long to 9 mm Ø x 35 mm long.

**Extension Spring** Sizes from 5 mm Ø x 10 mm long to 8 mm Ø x 30 mm long.

Spring Set	code	list	price
	GEN456970	£10.23	£9.14



**555 Piece Split Pin Assortment** A wide selection of split pins to solve your securing needs. These zinc-plated split pins are not suitable for saltwater marine use - see Stainless Steel Pins [page 258].

**Pack contains** Pins from 1.6 mm Ø x 25 mm long up to 2.4 mm Ø x 38 mm long.

Split Set	code	list	price
	GEN793782	£9.08	£8.25



**150 Piece R-Clip Set** A complete collection of replacement R clips.

**Pack Contains** R Clips from 1.6 mm Ø x 32 mm OA length up to 3.7 mm Ø x 74 mm OA length.

R-Clip Set	code	list	price
	GEN61286	£8.54	£7.68



**80 Piece Hook and Eye Set**

Ok so this is much less impressive than the previously stocked 1,484 piece set, however it's much more helpful if you just need some hooks and eyes! **Pack Contains** Screw Eyes: 40 pc 2.5 x 25 mm, 6 pc 6 x 40 mm, 6 pc 6 x 50 mm, Hooks: 2 pc 5 x 75 mm, 6 pc 5 x 65 mm, 20 pc 3 x 40 mm. All BZP.

Hook and Eye Set	code	price
	GEN61287	£5.58



**120 Piece Roll Pin Set** A wide selection of both small and large roll pins, including:

6 pc 9.5 x 19.1 mm	6 pc 9.5 x 15.9 mm	6 pc 9.5 x 38.1 mm	12 pc 1.6 x 4.8 mm
12 pc 1.6 x 19.1 mm	12 pc 1.6 x 8.0 mm	12 pc 2.0 x 6.4 mm	12 pc 2.0 x 12.7 mm
12 pc 2.0 x 25.4 mm	12 pc 2.4 x 15.9 mm	12 pc 2.4 x 25.4 mm	12 pc 2.4 x 31.8 mm
12 pc 4.0 x 15.9 mm	12 pc 4.0 x 25.4 mm	12 pc 4.0 x 38.1 mm	12 pc 5.6 x 6.4 mm
12 pc 5.6 x 44.5 mm	12 pc 5.6 x 50.8 mm	12 pc 6.4 x 15.9 mm	12 pc 6.4 x 31.8 mm
12 pc 6.4 x 44.5 mm	12 pc 8.0 x 19.1 mm	12 pc 8.0 x 38.1 mm	12 pc 8.0 x 50.8 mm
15 pc 3.2 x 15.9 mm	15 pc 3.2 x 25.4 mm	15 pc 3.2 x 31.8 mm	15 pc 4.8 x 15.9 mm
15 pc 4.8 x 25.4 mm	15 pc 4.8 x 31.8 mm		

Roll Pin Set	code	list	price
	GEN61291	£8.95	£7.29



**120 piece Rubber Washer Set**

It's often tricky to identify the exact size you need, so this set make it easy! Suitable



for plumbing as well as buffers and packers. **Pack Contains** 10 pc 14.5 x 24.5 x 2 mm, 20 pc, 11.5 x 23.5 x 2mm, 20 pc 10 x 19 x 1.8 mm, 30 pc 6 x 14 x 1 mm, 40 pc 5 x 10 x 1 mm.

Rubber Washer Set	code	price
	GEN96122	£4.27

# HINGES

A left-handed opening hinge is taken to be when the door opens towards you with the door handle on the left.

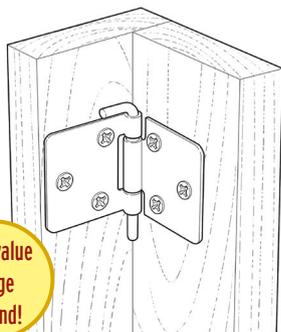


A right-handed opening hinge is taken to be when the door opens towards you with the door handle on the right.

NB: Hinges are sold in pairs – a pair being two complete units, enough to hang a door. Confusion arises as we sell hinges as loose-part hinges resulting in a pair consisting of four separate pieces! Lift-off hinges are handed and the illustration above will help you choose the correct hand. The diagram assumes the hinges are fixed into edge of door and the side of the reveal – not flat across the face.



Best value hinge around!



## Flints Exhibition Pin Hinge

A hinge for general scenery use with the following features:

- ✓ Good knuckle clearance for easy and quick location
- ✓ 45 mm knuckle length designed to fit along 2 x 1" nominal timber
- ✓ When used to join 3 x 1" nominal timber at right angles it will fit the timber without overhanging the inside of the frame

- ✓ The corners are rounded so that they cannot become a hazard
- ✓ The pin is very robust to withstand being clouted with a hammer
- ✓ The pin has good dimensional clearance within the knuckle for easy location
- ✓ The end of the pin has a good tapered lead but no sharp point
- ✓ The screw holes are slightly offset to reduce risk of splitting timber
- ✓ They are neatly packed in boxes of ten pairs and are supplied complete with 20 pins
- ✓ They open through full 270° so they can be used reversed on gate leg rostra
- ✓ They are economically priced for the bulk user – remember the price includes the pins!

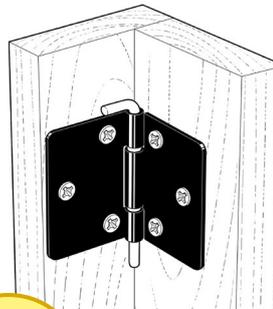
Steel, self-coloured.

Fixings [not supplied]: 6 x M5 Machine Screws OR Woodscrews No. 8 / 9 / 10 [4 / 4.5 / 5 mm]

Flints Exhibition Pin Hinge	code	price
knuckle 45 mm leaf 45 mm	FHS125	£10.95
Spare pins bag of 100	FHS125P	£11.20



Perfect choice for heavy touring shows



## Flints Opera Pin Hinge

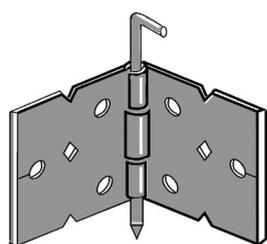
A "Rolls Royce" hinge for heavy touring shows. Packed with all the features of the Exhibition Pin Hinge plus:

- ✓ Black powder coated finish to protect against corrosion during storage and to reduce possibility of being seen during the performance
- ✓ Heavy-gauge steel to reduce possibility of bending when the scenery is being loaded on and off trucks
- ✓ 68 mm dimension along knuckle fits 3 x 1" nominal timber perfectly
- ✓ The extra length helps guard against the hinge twisting out of alignment if it is accidentally knocked
- ✓ 45 mm leaf width still fits on 3 x 1" when another flat is adjoining at right angles
- ✓ Tough 5 mm diameter pin
- ✓ Design enables to hinge to open through full 270°

Steel, black powder coated.

Fixings [not supplied]: 6 x M5 Machine Screws OR Woodscrews No. 8 / 9 / 10 [4/4.5/5 mm]

Flints Opera Pin Hinge	code	price
knuckle 68 mm leaf 45 mm	FHS127	£17.95
Spare bag of 100 pins	FHS127P	£13.20



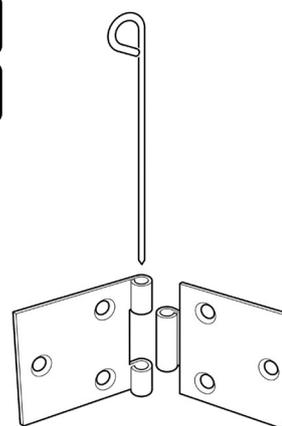
**Triple E Pin Hinge** Winner of the ABTT Product of the Year. Well, 1984 was a while back now but the Triple E Hinge remains as popular as ever. It was specially designed for the theatre market and resolves many familiar problems for the theatre carpenter. It has a sturdy pin that forms a better fit and can be 'knocked' in or out. Offset fixing holes help to prevent timber splitting, and a centrally located square hole, to take the head of a 6 mm coach bolt, allows immense strength for fixing. Notched sides allow for fixing near awkward timber joins. Each hinge comes complete with a pin. Pins are also sold separately, but only in 3 1/2" size. Steel, self-coloured.

Each hinge comes complete with a pin. Pins are also sold separately, but only in 3 1/2" size. Steel, self-coloured.

Triple E Hinge and Pin	code	pair	50+	100+
knuckle: 2" leaf: 2 1/8"	HNG030	£1.85	£1.75	£1.55

**TRADELINE** 500+ Triple E hinge & pin = £1.35 per pair

Triple E Pin	code	price	100+
3 1/2"	HNG040	£0.34	£0.31



## Pin Hinges [Loose-part backflap]

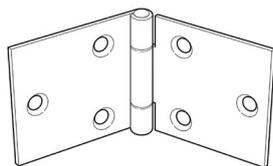
The old favourite! Used extensively throughout the theatre and related industries for holding together scenery and strengthening battens. When used with Loop or Clip Pins, it is an immensely fast way to fit together a set. Our loose-part hinges are specially made with clearance between the knuckles. Fixings [not supplied]: 1 1/2", 1 3/4" and 2" hinges take No.8 [4 - 4.5 mm] fixing screws. Steel, self-coloured.

NB: Pins are not supplied, see page 258 for Pins.

Pin Hinges	code	box of 10 pairs	8 boxes+
knuckle: 1 1/2" leaf: 1 3/4"	HNG020	£7.50	£6.75
1 3/4" 2"	HNG021	£8.80	£7.90
2" 2 1/8"	HNG022	£8.95	£7.65

The above prices are for full boxes of hinges.

**BACKFLAP HINGES**



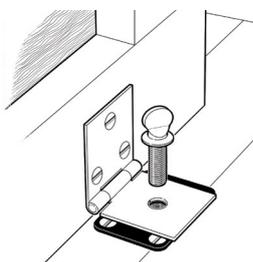
**Backflap Hinges** Mainly used in theatres for fixing together two pieces of scenery which will remain together permanently, such as flats that are "booked", or to act as a fixing between two items that are

not at right angles. The two parts of the hinge will go from a closed position through 270° to its fully open position making them suitable for folding-gate rostra.

SPECIFICATION: Fixings [not supplied]: 1½", 1¾" and 2" hinges use No.8 [4 or 4.5 mm] screws; 3" use No.10 [5 mm] fixing screws. Steel, self-coloured.

Backflap Hinges	quantity	code	price	price
knuckle: 1½"	10 pairs	HNG011	£7.50 [per box]	£6.75 [8 boxes+]
1¾"	10 pairs	HNG012	£8.80 [per box]	£7.90 [8 boxes+]
2"	10 pairs	HNG013	£8.95 [per box]	£7.65 [8 boxes+]
3"	per pair	HNG014	£2.87 [per pair]	£2.58 [25 pairs+]

**F**

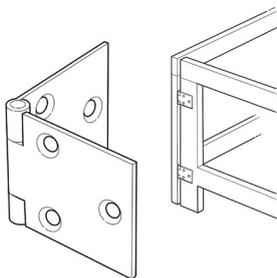


**Bolt Hinge** These are 2" backflaps with one flap drilled with a centred 11 mm hole. Designed to be used in conjunction with boss plates to secure scenery to the floor. Loose packed. Steel, self-coloured.

For Boss Plates see page 150

Bolt Hinge	code	pair	Tradeline
knuckle: 2" leaf: 2¼"	HNG057	£2.25	£2.03 [80 pairs+]

**F**



**Rostrum Hinge** A 2" backflap which has one flap countersunk on the opposite side to the other. These are for hinging end gates on folding-gate rostra where the hinges have to be mounted in reverse to the usual manner. A very subtle touch! It is so nice that some people are still making these lovely constructions. Steel, self-coloured.

Rostrum Hinge	code	pair	Tradeline
knuckle: 2" leaf: 2¼"	HNG053	£1.20	£1.05 [100 pairs+]

**BUTT HINGES**

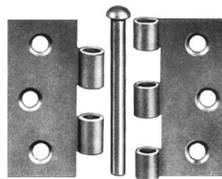


**Butt Hinges** Used for hinging internal, external and cupboard doors when the hinge is required to be mounted on the edge of the timber. The gauge of the steel increases with the size of the hinge. Don't forget we price and sell hinges in pairs – enough to hang a door.

SPECIFICATION: Fixings [not supplied]: 2" hinges use 4 x No.6 [3.5 mm] screws; 2½" use 6 x No.6 [3.5 mm] screws; 3" use 6 x No.8 [4 mm] screws; 4" use 8 x No.8 [4 mm] screws. Steel, self-coloured.

Don't forget we price and sell hinges in pairs

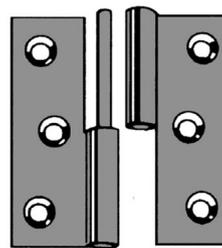
Butt Hinges	code	pair	100 pairs+
knuckle: 2" leaf: ¾"	HNG060	£0.49	£0.44
2½"	HNG062	£0.59	£0.53
3"	HNG063	£0.65	£0.59
4"	HNG064	£0.99	£0.89



**Loose Butt Hinges** Used anywhere that the hinge in the edge of a piece of timber, such as a door or a rostra, is required to come apart to travel or store. Hinges are supplied with the type of pin shown but for easier use

choose a Standard Loop Pin [page 258] which fits sizes 2½" and 3". SPECIFICATION: Fixings [not supplied]: 2" hinges use 4 x No.6 [3.5 mm] screws; 2½" use 6 x No.6 [3.5 mm] screws; 3" use 6 x No.8 [4 mm] screws; 4" use 8 x No.8 [4 mm] screws. Steel, self-coloured.

Loose Butt Hinges	code	pair
knuckle: 2" leaf: 1"	HNG070	£0.41
2½"	HNG071	£0.49
3"	HNG072	£0.79
4"	HNG073	£1.10

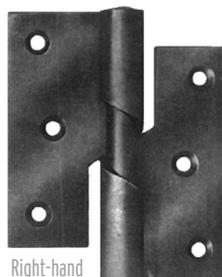


**Lift Off Butt Hinges** Allows your doors to be removed from the door frame for use either when travelling or for changing doors in a scene change. Please ensure correct handing when ordering. The top of page 255 has all the information. A useful tip is to saw 10 mm off the pin on the lower hinge of a

door. You can then locate the top hinge pin first, then concentrate on the lower hinge. It is much easier. Steel, self-coloured.

Lift Off Butt Hinges [Right-Hand]	code	pair
knuckle: 3" leaf: 1"	HNG101	£2.73
4"	HNG102	£5.48

Lift Off Butt Hinges [Left-Hand]	code	1 pair
3"	HNG106	£2.73
4"	HNG107	£5.48



**Rising Butt Hinges** Designed to raise a door as it opens, the rising butt ensures that your doors do not catch on the carpet or on uneven flooring. Please ensure correct handing when ordering. The top of page 255 has all the information. These hinges tend to self-close the door as the weight of the door bears down on the bevel. They won't

necessarily close the door the whole way but most people notice the door is moving and shut it behind them rather than leaving it open.

Rising Butt Hinges [Left-Hand]	code	pair
knuckle: 3" [opens to 3½"] leaf: 1½"	HNG080	£3.67
4" [opens to 4½"] leaf: 2"	HNG082	£4.98

Rising Butt Hinges [Right-Hand]	code	pair
3" [opens to 3½"] leaf: 1½"	HNG081	£3.67
4" [opens to 4½"] leaf: 2"	HNG083	£4.98

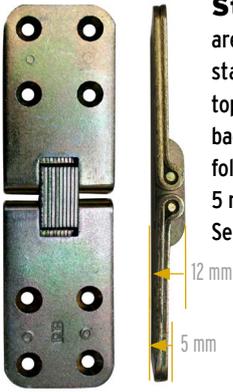


**Butt Hinges Electro-Brassed** Used for decorative purposes, mainly on furniture, where the hinge is required in the edge of a piece of timber, such as a door.

SPECIFICATION: Fixings [not supplied]: 1½" and 2" hinges uses 6 x No.4 [3mm] screws; 2½" uses 6 x No.6 [3.5mm] screws. Electro-brassed.

Butt Hinges Electro-Brassed	code	pair
knuckle: 1½" leaf: ¾"	HNG090	£0.84
2"	HNG091	£1.10
2½"	HNG092	£1.33

## FLUSH TRAP HINGES



**Steel Flush Trap Hinge** These are super tough hinges ideal for heavy-duty stage traps. They present a totally flush top surface and allow the flap to open fully back on itself. Constructed from plated steel folded right around the 5 mm Ø pins leaving 5 mm thick leaves. Plated steel, self-coloured. See Flush Trap Handles [page 252].

Steel Flush Flap Hinge code **Tradeline**  
knuckle: 45 mm open width: 150 mm HNG400 **£14.20**



**Bar Back Flap** These solid brass hinges will be a familiar sight to many theatre staff but they can be useful on stage as well. The double joint allows a totally flush top surface unlike most hinges which have to be positioned with the knuckle proud. Ideal for small stage traps. Brass.

Bar Back Flap code pair  
knuckle: 1 1/2" open width: 4" HNG301 £15.25

## SPRING HINGES



To open

**Single Action To Open** Mild steel spring hinge designed to hold lightweight scenery doors in open position.

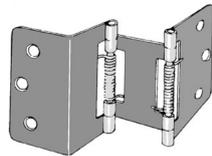
Fixings [not supplied]: 6 off No.8 csk screws.



To close

**Single Action To Close** Designed to hold lightweight scenery doors in the closed position.

Fixings [not supplied]: 6 off No.8 [4 mm] csk screws.



**Double Action Spring Hinge** Holds lightweight scenery doors in the closed position but allows them to swing in either direction.

Fixings [not supplied]: 6 off No.8 [4 mm] csk screws.

Spring Hinges code pair  
To open [when screwed across back of door] HNG130 £24.86  
To close [when screwed across back of door] HNG131 £23.83  
Double action spring hinge HNG132 £36.11

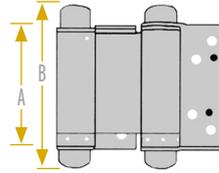
## SCREEN HINGE



**Screen Hinge** A double-action hinge normally used for folding screens. Suits material no thicker than 19 mm. Bright zinc-plated.

Screen Hinge code pair  
knuckle: 60 mm leaf: 29 mm HNG6000C £9.85

## BOMBER, WELD & BULLET HINGES



**Bomber Hinges** Double-action spring hinge that allows heavy doors to be opened in either direction, and return to a centre closed position when released. Steel hinges, silver powder coated.

Bomber Hinges code pair  
A: 3" B: 3 3/4" closed: 2 3/4" open: 4 1/2" HNG150 £22.81  
4" 4 3/4" 3" 5 1/4" HNG151 £29.98  
6" 6 3/4" 4" 7" HNG153 £49.98



**Weld Hinges** These hinges made from 3 mm steel plate can be welded to scenery to form lift-off or captive hinges. Sold per flap. Steel, self-coloured.

Weld Hinges suits pins code price 100+  
knuckle: 38 mm leaf: 51 mm 8 mm Ø HNG041 £1.46 £1.25



**Bullet Hinges** Weldable hinges. Sold in pairs [enough to hang a door] consisting of two male and two female weldable parts and washer. Steel with brass disc.

Bullet Hinges code pair  
60 mm HNGBH2 £6.57  
100 mm HNGBH4 £13.55

## CONTINUOUS HINGES



**Continuous Hinges** These 72" long self-coloured mild steel hinges with a steel pin are used for hinging metal or timber scenery where support along the full hinging face is required. Available undrilled or drilled and countersunk. For extra heavyweight jobs there is a 10 gauge hinge with 2" leaves [4" open] which is ideal for welding. Mild steel, self-colour.

Undrilled code price  
gauge knuckle leaf width pin Ø [mm]  
Heavy-duty 16 72" 1" 2" 4.5 HNG116 £14.98  
Xtra heavy-duty 10 72" 2" 4" 8 HNG113 £45.70  
Drilled & Countersunk code price  
Heavy-duty 16 72" 1" 2" 3.5 HNG112 £17.98



**Piano Hinges** 72" long, each leaf is 1/2" wide by 22 gauge. Can be used on furniture, props or lightweight scenery. Drilled and countersunk for small screws.

Piano Hinges gauge knuckle leaf code price  
Electro-brassed 22 72" 1/2" HNG110 £3.75  
Nickel-plated 22 72" 1/2" HNG110NP £3.48

## T-HINGE



**Steel T-Hinges** For surface fitting to thin wooden doors, giving extra support along the rails. Black japanned.

T-Hinges T code pair  
Light: 100 mm knuckle: 69 mm leaf: 20 mm HNG200 £0.51  
150 mm 71 mm 25 mm HNG201 £0.73  
200 mm 80 mm 29 mm HNG206 £0.92  
Medium: 250 mm 80 mm 29 mm HNG207 £1.74  
350 mm 118 mm 35 mm HNG208 £2.89  
450 mm HNG205 £4.64

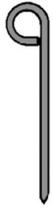
# PINS & SPRING BOLTS



**Loop Pin** No, not an attractive tall border plant but one of our best-selling products. Flints supplies tens of thousands of loop pins annually to the entertainments industry. They are a high-quality wire product with a good point, which are easy to insert from all the awkward angles theatre carpenters can create to work from!

Steel, self-coloured.

Loop Pin	Ø	code	price	100+	1000+
length: 100 mm	3 mm [10 swg]	FHS037	£0.18	£0.16	£0.14



**Heavy Pattern Loop Pin** These pins will fit the Triple E hinges as well as 2", 2 1/2" and 3" backflaps.

Steel, self-coloured.

Heavy Pattern Loop Pin	code	price	100+	1000+
length: 100 mm Ø: 4 mm [8 swg]	FHS037HP	£0.23	£0.21	£0.19



**Flints Opera Pin** These heavy-gauge pins will fit Flints Opera Pin Hinges. Supplied as bags of 100.

Black powder coated.

Flints Opera Pin	Ø	code	price	10 bags+
length: 88 mm	5 mm	FHS127P	£13.20	£11.88



**Flints Exhibition Pin** These medium-gauge pins will fit Flints Exhibition Pin Hinges. Supplied as bags of 100.

Steel, self-coloured.

Flints Exhibition Pin	code	price	10 bags+
length: 65 mm Ø: 4 mm	FHS125P	£11.20	£10.10



**Clip Pin** Does the same job as the loop pin, but is a sprung steel pin intended for those fixings where it is important that the loop pin does not fall out such as horizontal hinges on flown pieces.

Steel, self-coloured.

Clip Pin	Ø	code	price	100+	1000+
length: 85 mm	3 mm	FHS038	£0.22	£0.16	£0.14



**Drop Nose Sword Pin** A useful pin for securing items at speed. The spring holds the pin securely without rattling and the chain ensures the unit is not lost. The overall length is 114 mm but when the nose has dropped the useable length is between 30 - 50 mm. Steel, self-coloured.

Drop Nose Sword Pin	code	price	10+
length: 114 mm Ø: 9.5 mm	GEN145	£4.68	£3.12



**Linch Pins [Apple Keep]** Available in 6 mm and 9.5 mm. Other sizes available to order.

Bright zinc-plated.

Linch Pin	pin Ø	A	code	price
bolt Ø: 6 mm	36 mm	40 mm	GEN141	£0.67
9.5 mm	45 mm	53 mm	GEN142	£0.85



**Closed Retaining Pins** Will not rattle loose or drop out when inverted. See page 254 for an 150-piece assortment set of R Clips.

45 mm pin is soap-coated stainless steel, the rest are BZP.

Closed Retaining Pins	code	price
OA length wire Ø rod size		
45 mm 2 mm 15 mm	GEN096SS	£0.53
67 mm 3 mm 10-16 mm	GEN097	£0.39
104 mm 5 mm 20-28 mm	GEN098	£0.55



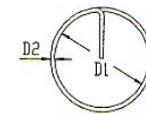
**Split Pins [Stainless steel AISI 316]** Best quality marine-grade split pins. Page 254 for an assortment box of non-stainless split pins.

SS Split Pins	Ø	code	price	100+
length: 10 mm	1.5 mm	GEN70609	£0.20	£0.19
25 mm	2 mm	GEN70611	£0.36	£0.33
32 mm	3 mm	GEN70614	£0.81	£0.79



**Spring Bolts** A strong spring-loaded bolt which can be held in the retracted position by twisting the bolt through 90°. Fixings [not supplied]: 4 off M6 countersunk machine screws.

Spring Bolts	code	price
base plate size O/A bolt length x Ø		stroke
40 x 75 mm 165 x 12 mm 35 mm	DOR0840	£3.91
40 x 120 mm 220 x 12 mm 70 mm	DOR0841	£5.03



**Stainless Steel Split Rings** 316-grade stainless steel rings which are easier to remove and insert than ordinary split pins. Typically used in marine clevis pins.

SS Split Ring	D2	D1	code	price	100+
	1.25 mm	15 mm	GEN70602	£0.20	£0.19
	1.5 mm	19 mm	GEN70603	£0.30	£0.31
	2 mm	23 mm	GEN70604	£0.36	£0.35



**Truss R Clips & Spigot Pins** To the untrained eye these simply look like closed retaining pins, however they are the specified standard clips for the most popular Truss spigot pins. Used to secure the spigot pin into position which is in turn used to secure the coupler and truss together.

Truss R Clips & Spigots	code	price
R Clip for 67 mm Spigot pin	TSCCS6605	£0.88
R Clip for 92 mm Spigot pin	TSCCS7705	£4.21
67 mm Spigot pin	TSCCS6603	£2.61
92 mm Spigot pin	TSCCS7703	£9.08
67 mm Spigot pin with R Clip	TSCCS66K	£0.85
92 mm Spigot pin with R Clip	TSCCS77K	£3.52

**For Safety and Kilt Pins [page 137].  
For Roll Pin Assortment Box [page 254].**

# SCREWS

Flints stocks screws made by Altenloch, Brinck and Co, the German manufacturer of Spax screws, who we believe make the most advanced screws in the world.

# SPAX®



- ✓ The outstanding feature of the Spax screw is its patented ground serrations. There has never been a screw which enters the material with such ease while exhibiting such holding power
- ✓ The Spax screw has computer-optimised head geometry giving greatly improved driver-bit seating and frictional grip
- ✓ Protected against hydrogen-induced delayed brittle fracture for increased reliability
- ✓ High thread hardness combined with tough screw core gives dynamic penetration into various materials without pre-drilling
- ✓ New synthetic coating for smooth easy screw penetration
- ✓ Suitable for softwoods, hardwoods, plastics and thin metal sections
- ✓ Great packaging
- ✓ Very keenly priced
- ✓ Most popular screws marked with for easy re-stocking

## 3 mm [NO.4] SPAX WOOD SCREWS

Use a PZ1 Drive Bit [page 288]. This size of screw is normally used for very small fittings such as piano hinges.

3 mm	metric size	imperial equivalent	thread length	box qty	code	list price per box	our price per box	5+ boxes
	3 x 12	No.4 x 1/2"	Full	200	SPA312	£6.11	£2.82	£2.53
	3 x 16	No.4 x 5/8"	Full	200	SPA316	£6.52	£2.87	£2.43
	3 x 20	No.4 x 3/4"	Full	200	SPA320	£7.02	£3.10	£2.62
	3 x 25	No.4 x 1"	Full	200	SPA325	£7.80	£3.44	£3.08
	3 x 30	No.4 x 1 1/4"	Full	200	SPA330	£10.36	£4.57	£4.10
	3 x 35	No.4 x 1 3/8"	Full	200	SPA335	£11.70	£5.16	£4.63
	3 x 40	No.4 x 1 1/2"	Full	200	SPA340	£15.81	£6.97	£6.26

## 3.5 mm [NO.6] SPAX WOOD SCREWS

Use a PZ2 Drive Bit [page 288]. This size of screw is normally used for small fittings such as door furniture.

3.5 mm	metric size	imperial equivalent	thread length	box qty	code	list price per box	our price per box	5+ boxes
	3.5 x 12	No.6 x 1/2"	Full	200	SPA3512	£7.87	£3.46	£2.93
	3.5 x 16	No.6 x 5/8"	Full	200	SPA3516	£7.91	£3.48	£2.76
	3.5 x 20	No.6 x 3/4"	Full	200	SPA3520	£8.87	£3.92	£3.31
	3.5 x 25	No.6 x 1"	Full	200	SPA3525	£9.50	£4.18	£3.76
	3.5 x 30	No.6 x 1 1/4"	Full	200	SPA3530	£10.49	£4.62	£3.92
	3.5 x 35	No.6 x 1 3/8"	Full	200	SPA3535	£12.98	£5.71	£4.85
	3.5 x 40	No.6 x 1 1/2"	Full	200	SPA3540	£14.95	£6.59	£5.59
	3.5 x 45	No.6 x 1 3/4"	Full	200	SPA3545	£23.60	£10.40	£8.85
	3.5 x 50	No.6 x 2"	Full	200	SPA3550	£25.85	£11.38	£9.67

## 4 mm [NO.8] SPAX WOOD SCREWS



Use a PZ2 Drive Bit [page 288]. The most popular size for scenery building, the narrow shank being unlikely to split timber. They also fit 1 1/2" & 1 3/4" pin hinges. The longest screws are part threaded to improve performance. Virtually all the 4 mm sizes are bestsellers. The 40 mm and 50 mm lengths are now available in extra large tubs!

4 mm	metric size	imperial equivalent	thread length	box qty	code	list price per box	our price per box	5+ boxes
	4 x 16	No.8 x 5/8"	Full	200	SPA416	£9.36	£4.12	£3.50
	4 x 20	No.8 x 3/4"	Full	200	SPA420	£10.29	£4.52	£3.84
	4 x 25	No.8 x 1"	Full	200	SPA425	£11.70	£5.16	£4.38
	4 x 30	No.8 x 1 1/4"	Full	200	SPA430	£12.36	£5.45	£4.64
	4 x 35	No.8 x 1 3/8"	Full	200	SPA435	£14.40	£6.34	£5.38
	4 x 40	No.8 x 1 1/2"	Full	200	SPA440	£17.11	£7.54	£6.40
	4 x 40	No.8 x 1 1/2"	Full	800	SPA440TUB		£24.00	-
	4 x 45	No.8 x 1 3/4"	Full	200	SPA445	£19.32	£8.50	£7.22
	4 x 50	No.8 x 2"	Full	200	SPA450	£21.14	£9.31	£7.91
	4 x 50	No.8 x 2"	Full	650	SPA450TUB		£24.00	-
	4 x 60	No.8 x 2 1/2"	Full	100	SPA460	£18.67	£8.22	£6.98
	4 x 70	No.8 x 2 3/4"	Full	100	SPA470	£30.28	£13.33	£11.33
	4 x 80	No.8 x 3"	Full	200	SPA480	£65.68	£28.91	£24.58

## 4.5 mm [NO.9] SPAX WOOD SCREWS

Use a PZ2 Drive Bit [page 288]. No.9 screws were very obscure so most of our clients choose a metric equivalent to No.8 or No.10, however, this range of 4.5 mm screws, sitting between the popular sizes, will do virtually everything the other sizes do yet you only have to stock one type. Ideal for touring kits. The longest screws are part threaded to improve performance.

4.5 mm	metric size	imperial equivalent	thread length	box qty	code	list price per box	our price per box	5+ boxes
	4.5 x 16	No.9 x 5/8"	Full	200	SPA4516	£12.98	£5.71	£4.85
	4.5 x 20	No.9 x 3/4"	Full	200	SPA4520	£14.31	£6.29	£5.64
	4.5 x 25	No.9 x 1"	Full	200	SPA4525	£15.69	£6.91	£6.20
	4.5 x 30	No.9 x 1 1/4"	Full	200	SPA4530	£17.11	£7.54	£6.40
	4.5 x 35	No.9 x 1 3/8"	Full	200	SPA4535	£18.71	£8.24	£7.00
	4.5 x 40	No.9 x 1 1/2"	Full	200	SPA4540	£20.63	£9.08	£7.72
	4.5 x 45	No.9 x 1 3/4"	Full	200	SPA4545	£26.43	£11.62	£9.87
	4.5 x 50	No.9 x 2"	Full	200	SPA4550	£27.45	£12.08	£10.26
	4.5 x 60	No.9 x 2 1/2"	Full	100	SPA4560	£17.61	£7.74	£6.59
	4.5 x 70	No.9 x 2 3/4"	Full	100	SPA4570	£30.28	£13.33	£11.33
	4.5 x 80	No.9 x 3"	Full	100	SPA4580	£33.91	£14.84	£12.62

## 5 mm [NO.10] SPAX WOOD SCREWS

Use a P22 Drive Bit [page 288]. A popular size in the longer lengths for scenery building, the heavier gauge adds strength. The longest screws are part threaded to improve performance. We have highlighted our bestsellers to help you select a useful range.

5 mm	metric size	imperial equivalent	thread length	box qty	code	list price per box	our price per box	5+ boxes
	5 x 20	No.10 x 3/4"	Full	200	SPA520	£19.17	£8.42	£7.56
	5 x 25	No.10 x 1"	Full	200	SPA525	£19.43	£8.56	£6.96
	5 x 30	No.10 x 1 1/4"	Full	200	SPA530	£21.53	£9.49	£8.07
	5 x 35	No.10 x 1 3/8"	Full	200	SPA535	£25.04	£11.01	£9.36
	5 x 40	No.10 x 1 1/2"	Full	200	SPA540	£26.67	£11.74	£9.98
	5 x 45	No.10 x 1 3/4"	Full	200	SPA545	£30.02	£13.21	£11.22
	5 x 50	No.10 x 2"	Full	200	SPA550	£31.61	£13.91	£11.82
	5 x 60	No.10 x 2 1/2"	Full	100	SPA560	£19.17	£8.42	£7.16
	5 x 70	No.10 x 2 3/4"	Full	100	SPA570	£27.17	£11.96	£10.73
	5 x 80	No.10 x 3"	Full	100	SPA580	£32.07	£14.12	£11.99
	5 x 90	No.10 x 3 1/2"	60 mm	100	SPA590	£44.26	£19.48	£17.48
	5 x 100	No.10 x 4"	60 mm	100	SPA5100	£50.19	£22.08	£18.94
	5 x 120	No.10 x 4 3/4"	69 mm	200	SPA5i20	£216.09	£95.08	£80.82

## 6 mm [NO.12] SPAX WOOD SCREWS

Use a P23 Drive Bit [page 288]. This size of screw is used for securing rafters or for heavy construction work. The longest screws are partially threaded to improve performance.

6 mm	metric size	imperial equivalent	thread length	box qty	code	list price per box	our price per box	5+ boxes
	6 x 40	No.12 x 1 1/2"	Full	200	SPA640	£34.52	£16.17	£14.49
	6 x 50	No.12 x 2"	Full	100	SPA650	£19.43	£9.10	£8.16
	6 x 60	No.12 x 2 1/2"	Full	100	SPA660	£23.37	£10.95	£9.78
	6 x 70	No.12 x 2 3/4"	Full	100	SPA670	£28.66	£13.29	£11.90
	6 x 80	No.12 x 3"	Full	100	SPA680	£31.43	£14.72	£13.18
	6 x 100	No.12 x 4"	60 mm	100	SPA6100	£39.28	£18.40	£16.45
	6 x 120	No.12 x 4 3/4"	69 mm	100	SPA6i20	£65.22	£30.54	£27.35

Longer sizes available to order. Please phone Customer Services for details.



For our bestselling Wera Diamond Coated Bits see page 288.

## SCREW SETS



**Spax Raaco 7** A really handy little container ideal for small tours with six different screw sizes plus a bit holder with three Spax bits.

Contains the following: PZ1 Bit, PZ2 Bit, PZ3 Bit, Bit Holder,

50 pcs 3.5 x 16	30 pcs 3.5 x 30	40 pcs 4.0 x 35
30 pcs 4.0 x 40	25 pcs 4.5 x 50	20 pcs 5.0 x 60

Spax Raaco 7 Screw Case	code	price
	SPARAACO7BIT	£17.28

## SPAX T-STAR PLUS



**Spax T-Star Plus** These "Torx" type screws are widely used in Europe and are now rapidly growing in popularity in the UK. The head design gives a very secure bit grip with no cam out effect. The T-Star Plus will deliver optimal force transmission with reduced driving torque resulting in more screwed connections per battery charge. We hold stocks of the most popular sizes but can order any size. These 5 mm screws use size T20 T-Star bits. Now anti-corrosion WIROX coated [Blue zinc plated A2].

T-Star	metric size	imperial equivalent	thread length	box qty	code	list price per box	our price per box	5+ price
	5 x 60	No.10 x 2 1/2"	Full	100	SPATS560W	£19.17	£8.42	£7.56
	5 x 70	No.10 x 2 3/4"	Full	100	SPATS570W	£27.18	£11.96	£10.17

**T-Star Bits** Size T20 to fit the screws above.

T-Star Bits	code	list price	price
Pack of 5	SPAT20	£18.46	£8.90

## SPEEDPOINT ECONOMY SCREWS



**NEW**

**SpeedPoint PZ2** We all know that Spax are the gold standard when it comes to screws, but sometimes budgets don't quite justify the expense. SpeedPoint screws are a great quality Bright Zinc Plated screw that balance budget and performance, our workshop team thought they were great! Added benefit of coming in box sizes of 500 makes them a workshop must.

Specification: Bit Size: PZ2. Screw Size: 4 mm (No. 8).

PZ2	metric	imperial	box qty	code	price
	4 x 30	No.8 x 1 1/4"	500	FIXSP430	£10.24
	4 x 35	No. 8 x 1 3/8"	500	FIXSP435	£10.38
	4 x 40	No.8 x 1 1/2"	500	FIXSP440	£10.50
	4 x 45	No.8 x 1 3/4"	500	FIXSP445	£11.55
	4 x 50	No.8 x 2"	500	FIXSP450	£12.41
	4 x 60	No.8 x 2 1/2"	500	FIXSP460	£18.83
	4 x 70	No.8 x 2 3/4"	500	FIXSP470	£26.08
	5 x 40	No.10 x 1 1/2"	500	FIXSP540	£18.85
	5 x 50	No.10 x 2"	500	FIXSP550	£21.28
	5 x 80	No.10 x 3 1/4"	500	FIXSP580	£46.33
	5 x 120	No.10 x 4 3/4"	500	FIXSP5i20	£25.00

## SELF-TAPPING SCREWS



**Self-Tapping Screws [BS 4174]** Our pozidriv screws are bright zinc-plated and they are available with countersunk or with pan heads. These hardened fixings will cut their own thread through steel or aluminium and are ideal for cladding steel flats and rostra. The table below will help you select the correct drill size. We also stock self-drilling self-tappers which are listed below as Bugle Head Self-Drill Screws ↓.

### Self-Tapping Screws

No.8 [4.2 mm]		csk code	price	5+	pan code	price
	box qty		per box	boxes		per box
1/2" [13 mm]	1,000	SCR661	£9.58	£8.90	SCR623P	£10.72
3/4" [19 mm]	1,000	SCR662	£12.22	£10.70	SCR625P	£12.98
1" [25 mm]	1,000	SCR663	£16.10	£14.09	SCR626P	£16.38
1 1/4" [32 mm]	1,000	SCR665	£18.78	£16.44	SCR627P	£20.06
1 1/2" [38 mm]	1,000	SCR664	£21.16	£18.52	SCR628P	£24.26
No.10 (4.73 mm)						
3/4" [19 mm]	1,000	SCR668	£12.54	£10.98	SCR635P	£19.56
1" [25 mm]	1,000	SCR670	£20.22	£17.70	SCR636P	£23.64
1 1/4" [32 mm]	1,000	SCR672	£24.70	£21.62	SCR637P	£21.18
1 1/2" [38 mm]	500	SCR674	£14.12	£10.26	-	-
1 3/4" [45 mm]	500	SCR676	£15.06	£12.36	-	-
2" [50 mm]	500	SCR640	£15.70	£13.11	-	-

### Pilot Holes for Self-Tapping Screws

A note on pilot drills: The diameter of the drill will depend on the thickness of the material being fixed. For drilling into mild steel and aluminium the following drills are ideal, but conditions differ and it may be necessary to vary the drill size to suit. See page 280 for Drills.

Material thickness	Drill for No.8	Drill for No.10
0.71 mm or 22 g	3 mm	3.5 mm
1.22 mm or 18 g	3.2 mm [1/8"]	3.7 mm
1.62 mm or 16 g	3.4 mm	3.8 mm
3.18 mm or 1/8"	3.8 mm	4.3 mm

## SELF-DRILLING



**Self-Drilling Hex Head Screws [BZP]** For securing cladding to steelwork 1.2 - 3.0 mm thick. 8 mm hex head

Self-Drilling Hex Head Screws	box qty	code	price
5.5 x 25 mm	100	FIX55025	£6.95
5.5 x 32 mm	100	FIX55032	£6.30
5.5 x 38 mm	100	FIX55038	£6.98



**Bugle Head Self-Drill Points [BZP]** The self-drill point drives straight into a light metal tube without pre-drilling.

Bugle Head Self-Drill Points	box qty	code	price
3.5 x 25 mm	1,000	SCR3525D	£9.39
3.5 x 32 mm	1,000	SCR3532D	£11.07
3.5 x 38 mm	1,000	SCR3538D	£11.90
3.5 x 42 mm	1,000	SCR3542D	£12.72
3.5 x 50 mm	1,000	SCR3550D	£14.60

## TOGGLE RAIL SCREWS



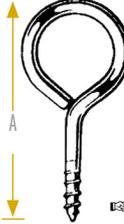
**Toggle Rail Screws** Modern fast-driving screws aren't ideal for drawing two items together. We stock this size of conventional woodscrew specifically for use with toggle shoes and, yes, they are slotted. Gulp! Don't forget to line up the slots. Oh, those memories come flooding back.

Toggle Rail Screws	box qty	code	price
No.12 x 2 1/2"	100	FIXSTSW1225	£12.25

## SCREW EYES



**Screw Eyes** The most popular screw eyes for use with stage braces are 55 x 12 g. See also the Hook and Eye Sets [page 254].

Screw Eyes	length A	gauge	Ø	box qty	code	price	200+
	25 mm	4	7 mm	200	FIX3152	£0.07	£0.05
	30 mm	6	8 mm	200	FIX3153	£0.09	£0.07
	35 mm	8	10 mm	200	FIX3155	£0.10	£0.08
	40 mm	8	10 mm	200	FIX3157	£0.11	£0.09
							100+
	45 mm	10	12 mm	100	FIX3159	£0.20	£0.18
	55 mm	12	14 mm	100	FIX3161	£0.22	£0.18
	65 mm	14	16 mm	100	FIX3163	£0.31	£0.29
							50+
	75 mm	18	20 mm	50	FIX3164	£0.59	£0.55

## SCREW CUPS



**Turned Brass Screw Cups** Used particularly for touring floors, where the requirement is to protect the screw holes to stop them becoming enlarged or damaged by screwdrivers. When the original screw hole is drilled, hammer a turned screw cup into the hole to give the fixing a protected hole with a countersink that will receive a fixing screw repeatedly.

Turned Brass Screw Cups	box qty	code	price	200+
Gauge: No.8 screw	200	FIX9151	£0.22	£0.18
Gauge: No.10 screw	200	FIX9152	£0.35	£0.25



**Pressed Surface Screw Cups [Brass]** A fitting designed to receive a countersunk screw. For applications where the fixing is featured. Ideal for panels that need to be frequently removed such as inspection panels. Also available in Stainless Steel to order.

Pressed Surface Screw Cups	code	price	
suits screws			
Gauge: 6	500	FIX9155	£11.98
Gauge: 7 - 8	500	FIX9156	£16.30
Gauge: 9 - 10	500	FIX9157	£18.78

For Coach Screws see page 264.  
For Hammer-In Fixings see page 266.

### Screw Gauges into Millimetres

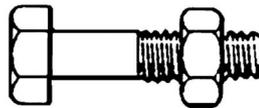
Gauge	Diameter in mm	Pilot hole for woodscrews
No.2	2.08 mm	1.6 mm [1/16"]
No.3	2.39 mm	1.6 mm [1/16"]
No.4	2.74 mm	2.0 mm [5/64"]
No.6	3.45 mm	2.0 mm [5/64"]
No.8	4.17 mm	2.5 mm [3/32"]
No.10	4.88 mm	3.5 mm [7/64"]
No.12	5.59 mm	3.5 mm [1/8"]
No.14	6.30 mm	4.0 mm [9/64"]

# BOLTS & SET SCREWS

Flints stocks a wide range of bolts and set screws. The most popular sizes are listed here. Our distributor holds thousands of tons of stock so if you can't find the item you need, give us a ring and we will order it for you. The bolts and set screws are all Grade 8.8 high tensile. They conform to DIN933 [set screws] and DIN931 [bolts]. Set screws are simply fully threaded bolts. All the bolts and set screws we stock are zinc-plated, we can get self-colour in next day if you require. Zinc-plated bolts are ideal for touring shows as your crew can keep their hands clean and avoid making nasty marks on the white felt flats [see White Cotton Gloves page 343]. Flints can also supply bolts and sets in stainless steel [A4 and A2], please phone with your requirements.

## M6 SET SCREWS & BOLTS

M6 bolts and set screws take a 10 mm socket. All bolts and set screws are bright zinc-plated [BZP] – recommended for touring.



Nuts sold separately

### M6 Set Screws DIN 933

### M6 Bolts DIN 931

M6	code	price	100+	box qty	code	price	100+	box qty
20 mm	FIX8502Z	£0.05	£0.03	500	-	-	-	-
25 mm	FIX8504Z	£0.06	£0.04	500	-	-	-	-
30 mm	FIX8506Z	£0.06	£0.04	500	-	-	-	-
35 mm	FIX8508Z	£0.07	£0.05	200	FIX7508Z	£0.07	£0.04	200
40 mm	FIX8510Z	£0.07	£0.05	200	FIX7510Z	£0.07	£0.04	200
50 mm	FIX8514Z	£0.09	£0.06	200	FIX7514Z	£0.08	£0.05	200
60 mm	FIX8518Z	£0.10	£0.06	200	FIX7518Z	£0.08	£0.05	200
70 mm	FIX8522Z	£0.12	£0.09	200	FIX7522Z	£0.11	£0.07	200
75 mm	FIX8524Z	£0.14	£0.10	200	-	-	-	-
80 mm	-	-	-	-	FIX7526Z	£0.14	£0.10	200
90 mm	-	-	-	-	FIX7528Z	£0.15	£0.10	100
100 mm	FIX8530Z	£0.17	£0.12	100	FIX7530Z	£0.16	£0.11	100

## M8 SET SCREWS AND BOLTS

M8 bolts and set screws take a 13 mm socket. The M8 x 90 mm BZP bolt [FIX7572Z] is used to join Triple E Unitrack. All bolts and set screws are bright zinc-plated – recommended for touring.

### M8 Set Screws DIN 933

### M8 Bolts DIN 931

M8	code	price	100+	box qty	code	price	100+	box qty
20 mm	FIX8546Z	£0.07	£0.05	200	-	-	-	-
25 mm	FIX8548Z	£0.08	£0.06	200	-	-	-	-
30 mm	FIX8550Z	£0.08	£0.06	200	-	-	-	-
35 mm	FIX8552Z	£0.09	£0.07	200	FIX7552Z	£0.12	£0.10	500
40 mm	FIX8554Z	£0.10	£0.07	200	FIX7554Z	£0.12	£0.10	200
50 mm	FIX8558Z	£0.11	£0.08	200	FIX7558Z	£0.14	£0.12	200
60 mm	FIX8562Z	£0.11	£0.08	200	FIX7562Z	£0.16	£0.13	200
70 mm	FIX8566Z	£0.15	£0.10	200	FIX7566Z	£0.18	£0.15	200
75 mm	FIX8568Z	£0.23	£0.15	200	FIX7568Z	£0.20	£0.16	200
80 mm	FIX8570Z	£0.16	£0.11	100	FIX7570Z	£0.21	£0.17	200
90 mm	FIX8572Z	£0.20	£0.14	100	FIX7572Z	£0.22	£0.18	200
100 mm	FIX8574Z	£0.25	£0.18	100	FIX7574Z	£0.25	£0.20	200
110 mm	-	-	-	-	FIX7576Z	£0.27	£0.22	200
120 mm	-	-	-	-	FIX7578Z	£0.32	£0.26	100



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## M10 SET SCREWS AND BOLTS

M10 bolts and set screws take a 17 mm socket. For Steeldeck use M10 x 65 mm bolts and for Megadeks use M10 x 120 mm bolts. Hanging clamps use M10 x 40 mm bolts. All bolts and set screws are bright zinc-plated – recommended for touring.

All the fixings listed here are Grade 8.8 high tensile

### M10 Set Screws DIN 933

### M10 Bolts DIN 931

M10	code	price	100+	box qty	code	price	100+	box qty
20 mm	FIX8592Z	£0.14	£0.10	200	-	-	-	-
25 mm	FIX8594Z	£0.15	£0.11	200	-	-	-	-
30 mm	FIX8596Z	£0.14	£0.10	200	-	-	-	-
35 mm	FIX8598Z	£0.14	£0.10	100	-	-	-	-
40 mm	FIX8600Z	£0.15	£0.11	100	FIX7600Z	£0.16	£0.14	100
45 mm	FIX8602Z	£0.17	£0.12	100	FIX7602Z	£0.17	£0.15	100
50 mm	FIX8604Z	£0.17	£0.12	100	FIX7604Z	£0.19	£0.16	100
60 mm	FIX8608Z	£0.22	£0.17	100	FIX7608Z	£0.21	£0.17	100
65 mm	FIX8610Z	£0.25	£0.18	100	FIX7610Z	£0.23	£0.19	100
70 mm	FIX8612Z	£0.23	£0.15	100	FIX7612Z	£0.24	£0.21	100
75 mm	FIX8614Z	£0.27	£0.19	100	FIX7614Z	£0.28	£0.24	100
80 mm	FIX8616Z	£0.27	£0.19	100	FIX7616Z	£0.27	£0.24	100
90 mm	FIX8618Z	£0.32	£0.22	100	FIX7618Z	£0.32	£0.28	100
100 mm	FIX8620Z	£0.32	£0.25	100	FIX7620Z	£0.34	£0.30	100
110 mm	-	-	-	-	FIX7622Z	£0.37	£0.33	50
120 mm	-	-	-	-	FIX7624Z	£0.38	£0.33	100
130 mm	-	-	-	-	FIX7626Z	£0.39	£0.36	100
150 mm	-	-	-	-	FIX7628Z	£0.47	£0.42	50

## M12 SET SCREWS AND BOLTS

M12 bolts and set screws take a 19 mm socket. All bolts and set screws are bright zinc-plated – recommended for touring.

### M12 Set Screws DIN 933

### M12 Bolts DIN 931

M12	code	price	100+	box qty	code	price	100+	box qty
25 mm	FIX8654Z	£0.18	£0.13	100	-	-	-	-
30 mm	FIX8656Z	£0.20	£0.14	100	-	-	-	-
35 mm	FIX8658Z	£0.20	£0.17	100	-	-	-	-
40 mm	FIX8660Z	£0.22	£0.15	100	FIX7660Z	£0.23	£0.18	100
50 mm	FIX8664Z	£0.25	£0.17	100	FIX7664Z	£0.24	£0.21	100
60 mm	FIX8668Z	£0.30	£0.26	100	FIX7668Z	£0.29	£0.25	100
65 mm	FIX8670Z	£0.31	£0.24	100	-	-	-	-
70 mm	FIX8672Z	£0.32	£0.26	50	FIX7672Z	£0.35	£0.31	50
75 mm	FIX8674Z	£0.35	£0.27	50	-	-	-	-
80 mm	FIX8676Z	£0.40	£0.29	50	FIX7676Z	£0.32	£0.26	50
90 mm	FIX8678Z	£0.41	£0.29	50	FIX7678Z	£0.39	£0.35	50
100 mm	FIX8680Z	£0.50	£0.34	50	FIX7680Z	£0.47	£0.40	50
120 mm	-	-	-	-	FIX7684Z	£0.45	£0.38	50
140 mm	-	-	-	-	FIX7688Z	£0.60	£0.54	50
150 mm	-	-	-	-	FIX7690Z	£0.63	£0.56	50

## M16 SET SCREWS AND BOLTS

M16 bolts and set screws take a 24 mm socket. All bolts and set screws are bright zinc-plated – recommended for touring.

### M16 Set Screws DIN 933

### M16 Bolts DIN 931

M12	code	price	100+	box qty	code	price	100+	box qty
30 mm	FIX8700Z	£0.22	£0.19	50	-	-	-	-
40 mm	FIX8702Z	£0.32	£0.27	50	-	-	-	-
50 mm	FIX8704Z	£0.36	£0.31	25	FIX7700Z	£0.38	£0.32	25
60 mm	FIX8706Z	£0.42	£0.36	25	FIX7702Z	£0.44	£0.37	25
70 mm	FIX8708Z	£0.46	£0.39	25	FIX7704Z	£0.46	£0.39	25
80 mm	FIX8710Z	£0.52	£0.46	25	FIX7706Z	£0.54	£0.49	25
100 mm	FIX8712Z	£0.62	£0.56	25	FIX7708Z	£0.64	£0.55	25
120 mm	-	-	-	-	FIX7710Z	£0.76	£0.65	20

# NUTS & WASHERS

**Steel Full Hex Nuts DIN 934** Our standard nuts are bright zinc-plated but self-colour nuts can be ordered as specials. We can also order imperial nuts, please phone Customer Services.

Hex Nuts	size	socket	depth	code	price	100+	1,000+
	M4	7 mm	3.2 mm	FIX1002Z	£0.03	£0.02	£0.01
	M5	8 mm	4 mm	FIX1004Z	£0.04	£0.03	£0.02
	M6	10 mm	5 mm	FIX1006Z	£0.04	£0.03	£0.02
	M8	13 mm	6.5 mm	FIX1010Z	£0.05	£0.04	£0.03
	M10	17 mm	8 mm	FIX1012Z	£0.08	£0.05	£0.04
	M12	19 mm	10 mm	FIX1014Z	£0.11	£0.07	£0.06
	M14	22 mm	11 mm	FIX1013Z	£0.18	£0.13	£0.11
	M16	24 mm	13 mm	FIX1015Z	£0.20	£0.15	£0.12
	M20	30 mm	16 mm	FIX1016Z	£0.35	£0.25	£0.21

## Steel Nylon Insert Nuts DIN 982 Type P [Nyloks]

A nut with a plastic insert which deforms on the thread increasing the friction and applying a compressive force which effectively prevents the nut from working loose. There is some debate as to whether these nuts should be re-used. Certainly after a few uses the effectiveness can be felt to be reduced. They are not suitable in temperatures above about 120°C when single coil or shakeproof washers are preferred.

The M4 size is DIN 985 Type T. Bright zinc-plated.

Lock Nuts	size	socket	OA depth	code	price	100+	1,000+
	M4	7 mm	5 mm	FIX1020	£0.03	£0.02	£0.01
	M5	8 mm	6.3 mm	FIX1022	£0.04	£0.03	£0.02
	M6	10 mm	8 mm	FIX1024	£0.05	£0.04	£0.03
	M8	13 mm	9.5 mm	FIX1026	£0.06	£0.04	£0.03
	M10	17 mm	11.5 mm	FIX1028	£0.11	£0.09	£0.08
	M12	19 mm	14 mm	FIX1030	£0.15	£0.13	£0.12
	M14	22 mm	16 mm	FIX1031	£0.29	£0.25	£0.23
	M16	24 mm	18 mm	FIX1032	£0.39	£0.35	£0.27

**Type D Inserts** Unique external threads assure positive locking and strong resistance to torsion or vibration. Self-tapping body with hex drive for quick and reliable fixing in any wood.

Type D Inserts	size	pilot hole	length	code	price	100+
	M5	8 mm	13 mm	FIXOD0105M	£0.15	£0.11
	M6	9 mm	13 mm	FIXOD0107M	£0.15	£0.12
	M6	9 mm	20 mm	FIXOD0208M	£0.17	£0.13
	M8	11.5 mm	13 mm	FIXOD0501M	£0.17	£0.14
	M8	11.5 mm	25 mm	FIXOD0503M	£0.23	£0.20
	M10	12.5 mm	13 mm	FIXSKDZ1310	£0.18	£0.15
	M10	12.5 mm	25 mm	FIXSKDZ2510	£0.28	£0.24

**Wing Nuts** For Wing Bolts see page 263.

Wing Nuts	size	code	price	100+
	M5	FIX1044	£0.08	£0.06
	M6	FIX1046	£0.12	£0.10
	M8	FIX1048	£0.15	£0.10
	M10	FIX1050	£0.21	£0.14
	M12	FIX1052	£0.32	£0.29

**Dome Nuts** A neat way to secure fittings. Bright zinc-plated. Please ask if you require stainless steel.

Dome Nuts	size	code	price	box qty	100+
	M6	FIX1006DBZP	£0.18	200	£0.16
	M8	FIX1010DBZP	£0.18	100	£0.16
	M10	FIX1012DBZP	£0.25	100	£0.20

## T-NUTS



**T-Nuts** Simply drill a hole in your timber to accommodate the shank of this fitting and hammer it home! It provides a captive nut that is held in place by the prongs. Ensure that you fix the nut so the bolt pulls against the prongs.

T-Nuts size	depth	code	price	100+	1000+
M5	9 mm	FIX9181	£0.06	£0.05	£0.04
M6	9 mm	FIX9182	£0.08	£0.07	£0.05
M8	11 mm	FIX9183	£0.10	£0.08	£0.07
M10	13 mm	FIX9184	£0.13	£0.11	£0.09

## WASHERS



**Form A Washers DIN 125A** Form A washers are regarded as the standard washer. Form B washers are slightly thinner. We have now included the overall diameter and thickness in the table below. Bright zinc-plated.

Form A Washers	size	Ø	thickness	code	price	100+
	M4	9 mm	0.8 mm	FIX1072	£0.02	£0.01
	M5	10 mm	1.0 mm	FIX1074	£0.02	£0.01
	M6	12 mm	1.6 mm	FIX1076	£0.03	£0.02
	M8	16 mm	1.6 mm	FIX1078	£0.03	£0.02
	M10	20 mm	2.0 mm	FIX1080	£0.05	£0.04
	M12	24 mm	2.5 mm	FIX1082	£0.08	£0.07
	M16	30 mm	3.0 mm	FIX1084	£0.15	£0.12

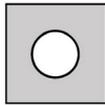
**Spikey Washers** Stops bolts from chewing up the wood. Suitable for M10. Quick to fit making fit-ups faster.



Spikey Washers	code	price	100+
M10	FIXSWM10	£0.19	£0.15



**Square Plate Washers** Often used as anti-crush plates on thin-gauge square tubes. Self-colour for welding. 3 mm thick.

Square Plate	size	metric	code	price	100+
	M10	50 x 50 mm	FIX1250	£0.29	£0.26
	M12	50 x 50 mm	FIX1252	£0.31	£0.28
	M12	40 x 40 mm	FIX1251	£0.28	£0.25

**Mudguard Washers** Bright zinc-plated.

Mudguard Washers	metric	imperial	code	price	100+
	5 x 25 mm	3/16" x 1"	FIX1104	£0.06	£0.04
	6 x 30 mm	1/4" x 1 1/4"	FIX1106	£0.08	£0.06
	8 x 40 mm	5/16" x 1 1/2"	FIX1108	£0.13	£0.09
	10 x 40 mm	3/8" x 1 1/2"	FIX1110	£0.12	£0.08

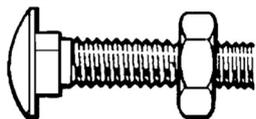
**Single Coil Washers DIN 7980 [Spring Coil Washer]**

Single Coil Washers	size	code	price	100+
	M4	FIX1112	£0.02	£0.01
	M5	FIX1114	£0.02	£0.01
	M6	FIX1116	£0.02	£0.01
	M8	FIX1118	£0.02	£0.01
	M10	FIX1120	£0.04	£0.03
	M12	FIX1122	£0.04	£0.03

**Shakeproof Washers**

Shakeproof Washers	size	code	price	100+
	M6	FIX1142	£0.02	£0.01
	M8	FIX1144	£0.03	£0.02
	M10	FIX1146	£0.04	£0.03
	M12	FIX1148	£0.08	£0.05

# COACH BOLTS



**Coach Bolts [Carriage Bolts] DIN 603/555** Intended as a fixing for a wooden surface, either wood-to-wood or wood-to-metal.

Nuts sold separately

The bolt is applied to the pilot hole and the nut, when tightened, draws the square section shank into the hole and locks it in, leaving a simple domed-head finish. To reinforce holes when bolts are being used repeatedly use our special Bolt Plates [page 150]. Our coach bolts are bright zinc-plated.

## Coach Bolt M6

Coach Bolts	code	price	100+	box qty
20 mm	FIX202	£0.07	£0.06	200
25 mm	FIX204	£0.08	£0.07	200
30 mm	FIX206	£0.09	£0.07	200
35 mm	FIX207	£0.10	£0.08	200
40 mm	FIX208	£0.10	£0.08	200
45 mm	FIX210	£0.09	£0.07	200
50 mm	FIX212	£0.10	£0.08	200
55 mm	FIX214	£0.11	£0.09	200
60 mm	FIX215	£0.12	£0.09	200
65 mm	-	-	-	-
70 mm	FIX217	£0.14	£0.11	200
75 mm	FIX218	£0.15	£0.12	200
80 mm	-	-	-	-
90 mm	-	-	-	-
100 mm	FIX222	£0.18	£0.15	100
110 mm	-	-	-	-
130 mm	-	-	-	-

## Coach Bolt M8

code	price	100+	box qty
FIX231	£0.12	£0.10	200
FIX232	£0.12	£0.10	200
FIX234	£0.14	£0.12	200
-	-	-	-
FIX236	£0.17	£0.15	200
FIX237	£0.20	£0.18	200
FIX238	£0.17	£0.15	200
FIX240	£0.15	£0.12	200
FIX241	£0.17	£0.15	200
FIX242	£0.17	£0.15	200
FIX243	£0.18	£0.16	200
FIX244	£0.19	£0.16	200
FIX245	£0.24	£0.22	200
FIX246	£0.23	£0.19	100
FIX248	£0.25	£0.21	100
FIX250	£0.29	£0.25	100
FIX252	£0.32	£0.28	100

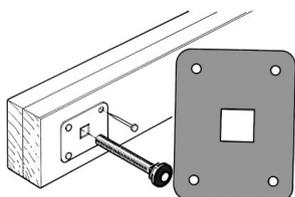
## Coach Bolt M10

Coach Bolts	code	price	100+	box qty
25 mm	FIX262	£0.20	£0.18	200
30 mm	FIX264	£0.23	£0.20	200
40 mm	FIX266	£0.24	£0.22	100
50 mm	FIX268	£0.26	£0.23	100
55 mm	FIX270	£0.27	£0.24	100
60 mm	FIX272	£0.30	£0.27	100
65 mm	FIX274	£0.29	£0.26	100
70 mm	FIX276	£0.32	£0.29	100
75 mm	FIX278	£0.36	£0.33	100
80 mm	FIX280	£0.34	£0.31	100
90 mm	FIX282	£0.40	£0.36	100
100 mm	FIX284	£0.38	£0.32	100
110 mm	FIX286	£0.45	£0.40	50
130 mm	FIX288	£0.45	£0.40	50
140 mm	FIX290	£0.56	£0.45	50
150 mm	FIX292	£0.52	£0.47	50
160 mm	FIX293	£0.55	£0.50	50
180 mm	FIX294	£0.63	£0.58	50
200 mm	FIX295	£0.78	£0.65	50
300 mm	-	-	-	-

## Coach Bolt M12

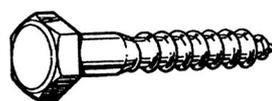
code	price	100+	box qty
-	-	-	-
-	-	-	-
-	-	-	-
FIX304	£0.43	£0.38	400
-	-	-	-
FIX306	£0.45	£0.41	400
FIX308	£0.47	£0.44	200
-	-	-	-
-	-	-	-
FIX312	£0.48	£0.44	200
-	-	-	-
FIX316	£0.53	£0.49	200
FIX318	£0.57	£0.52	200
FIX320	£0.65	£0.58	200
-	-	-	-
FIX324	£0.69	£0.62	150
FIX325	£0.82	£0.74	100
FIX326	£1.02	£0.81	75
FIX327	£1.10	£0.85	75
FIX334	£1.64	£1.44	75

For Lanoguard – anhydrous lanolin – to protect against corrosion see page 190.



To protect your scenery use our popular bolt plates [page 150].

# COACH SCREWS



**Coach Screws DIN 571** Hexagonal-head metric coach screws that are bright zinc-plated.

The hex head style, unlike the old square ones, has the advantage that they can be driven with standard sockets.

## Coach Screw M6

Coach Screws	code	price	100+	box qty
25 mm	FIX402H	£0.04	£0.03	200
30 mm	FIX403H	£0.07	£0.05	200
40 mm	FIX404H	£0.07	£0.05	200
50 mm	FIX406H	£0.07	£0.06	200
60mm	-	-	-	-
75 mm	FIX410H	£0.12	£0.09	200
90 mm	FIX412H	£0.13	£0.10	100
110 mm	-	-	-	-
150 mm	-	-	-	-

## Coach Screw M8

code	price	100+	box qty
FIX422H	£0.08	£0.06	200
FIX423H	£0.10	£0.08	200
-	-	-	-
FIX426H	£0.13	£0.10	200
FIX428H	£0.15	£0.11	200
FIX430H	£0.17	£0.14	200
FIX432H	£0.18	£0.14	100
FIX434H	£0.19	£0.15	100
FIX436H	£0.28	£0.22	50

## Coach Screw M10

Coach Screws	code	price	100+	box qty
30 mm	FIX442H	£0.15	£0.11	100
40 mm	FIX444H	£0.21	£0.15	100
50 mm	FIX446H	£0.22	£0.16	100
60 mm	FIX447H	£0.24	£0.18	100
75 mm	FIX450H	£0.26	£0.19	100
90 mm	FIX452H	£0.30	£0.22	100
110 mm	FIX454H	£0.31	£0.25	50
130 mm	FIX456H	£0.42	£0.30	50
150 mm	FIX458H	£0.55	£0.42	50

## Coach Screw M12

code	price	100+	box qty
-	-	-	-
-	-	-	-
FIX464H	£0.29	£0.20	100
FIX466H	£0.32	£0.23	100
FIX468H	£0.45	£0.35	50
FIX470H	£0.45	£0.32	50

# THUMB SCREWS

**Thumb Screws** All our thumbscrews are bright zinc-plated.



The wing top is our most popular design. Ideal for securing Stage Braces to Boss Plates etc.

Wing Top	code	price	100+
M10 x 25 mm	FIX3063	£0.98	£0.90



Shoulder	code	price	100+
M10 x 25 mm	FIX3059	£0.48	£0.43
M10 x 40 mm	FIX3061	£0.51	£0.46



Plain	code	price	100+
M8 x 12 mm	FIX3041	£0.21	£0.14
M8 x 15 mm	FIX3042	£0.23	£0.16
M10 x 25 mm	FIX3053	£0.39	£0.35
M10 x 40 mm	FIX3055	£0.55	£0.49



For the Wing Bolt Spanners see page 320.

# MACHINE SCREWS

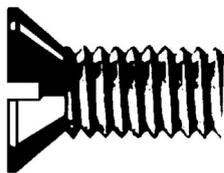
M10 Machine Screws are slotted.



**Countersunk Machine Screws** Machine screws up to size M8 x 50 are pozidriv unless ordered as specials. Our pozidriv machine screws are bright zinc-plated.

The M4 - M8 Machine Screws are pozidriv except for the M8 x 60 mm... which is slotted.

Machine Pozidriv Screws	code	price	100+	box qty
M4 x 20 mm	MSC052	£0.03	£0.02	1000
M4 x 25 mm	MSC051	£0.03	£0.02	500
M4 x 30 mm	MSC054	£0.03	£0.02	500
M5 x 20 mm	MSC056	£0.04	£0.03	500
M5 x 25 mm	MSC058	£0.04	£0.03	500
M5 x 30 mm	MSC060	£0.05	£0.04	250
M5 x 35 mm	MSC061	£0.04	£0.03	250
M5 x 40 mm	MSC062	£0.05	£0.04	250
M5 x 75 mm	MSC069	£0.37	£0.32	200
M5 x 80 mm	MSC0692	£0.38	£0.30	200
M5 x 100 mm	MSC065	£0.38	£0.33	200
M6 x 20 mm	MSC070	£0.04	£0.03	250
M6 x 25 mm	MSC072	£0.04	£0.03	250
M6 x 30 mm	MSC074	£0.05	£0.04	200
M6 x 35 mm	MSC076	£0.07	£0.06	200
M6 x 40 mm	MSC078	£0.08	£0.07	200
M6 x 50 mm	MSC080	£0.09	£0.07	100
M8 x 20 mm	MSC083	£0.09	£0.07	200
M8 x 25 mm	MSC084	£0.10	£0.08	200
M8 x 30 mm	MSC085	£0.12	£0.10	100
M8 x 40 mm	MSC086	£0.11	£0.09	100
M8 x 50 mm	MSC088	£0.13	£0.09	50



**Countersunk Slotted Machine Screws** Larger machine screws are not available in pozidriv due to the torque required to tighten them. If slotted heads really don't appeal, try socket screws listed below.

Slotted Machine Screws	code	price	100+	box qty
M8 x 60 mm	MSC090	£0.19	£0.15	50
M10 x 25 mm	MSC102	£0.16	£0.12	100
M10 x 30 mm	MSC104	£0.18	£0.15	100
M10 x 40 mm	MSC108	£0.21	£0.17	50
M10 x 50 mm	MSC110	£0.27	£0.24	50
M10 x 60 mm	MSC112	£0.35	£0.30	50



**Countersunk Socket Screws DIN 7991 Grade 10.9** These high quality hex drive socket screws make a neat secure fixing for panels and floors. Other sizes can be ordered as specials. Self-colour [or black to the untrained eye].

Csk. Socket Screws	hex size	code	price	100+	box qty
M6 x 12 mm*	4 mm	MSCCS61	£0.05	£0.04	200
M6 x 20 mm	4 mm	MSCCS620	£0.05	£0.04	200
M6 x 40 mm	4 mm	MSCCS640	£0.09	£0.08	200
M8 x 20 mm	5 mm	MSCCS820	£0.09	£0.06	200
M8 x 40 mm	5 mm	MSCCS840	£0.16	£0.14	100
M10 x 25 mm	6 mm	MSCCS1025	£0.14	£0.12	100
M10 x 40 mm	6 mm	MSCCS1040	£0.23	£0.21	50

\* Fits UniRail joint plates



**Socket Cap Head Screws DIN 912 Grade 12.9** High quality hexdrive socket screws for secure fixing of machinery components. Other sizes can be ordered as specials and will generally be with us next day. Self-coloured.

Socket Cap Heads	hex size	code	price	100+	box qty
M6 x 20 mm	5 mm	MSCCH620	£0.06	£0.05	200
M6 x 40 mm	5 mm	MSCCH640	£0.06	£0.05	200
M8 x 20 mm	6 mm	MSCCH820	£0.09	£0.07	200
M8 x 40 mm	6 mm	MSCCH840	£0.12	£0.10	100
M10 x 25 mm	8 mm	MSCCH1025	£0.16	£0.14	100
M10 x 40 mm	8 mm	MSCCH1050	£0.23	£0.20	50
M12 x 30 mm	10 mm	MSCCH1230	£0.23	£0.20	50

For hex keys see page 304.

## THREADED STUDDING



**Threaded Studding** Make your own bolts or stand-off fixings to any length with this threaded rod. Available in standard in 1 m and 3 m lengths. Also available in 1 m lengths of high tensile grade 8 which is distinguished by its yellow painted ends.

Threaded Studding	metric	standard	price	code	price	code	price
			1 m	high tensile	1 m HT	standard	3 m
M5	FIX3022	£1.29	-	-	-	-	-
M6	FIX3023	£0.62	-	-	FIX3024	£1.86	
M8	FIX3025	£1.11	-	-	FIX3026	£3.53	
M10	FIX3027	£1.78	FIX3027HT	£4.02	FIX3028	£5.73	
M12	FIX3029	£2.78	FIX3029HT	£4.99	FIX3030	£7.11	
M14	FIX3035	£2.98	-	-	-	-	
M16	FIX3031	£3.76	FIX3031HT	£8.97	FIX3032	£12.25	
M20	FIX3033	£5.17	FIX3033HT	£10.95	FIX3034	£14.59	

Threaded Studding	imperial	code	price
	per yard		
3/8"	FIX3005	£4.42	
1/2"	FIX3007	£3.87	

**Studding Connectors DIN 6334** Our studding connectors are bright zinc-plated steel.

Studding Connectors	length	code	price	100+
M6	18 mm	FIX3024C	£0.22	£0.14
M8	24 mm	FIX3026C	£0.28	£0.17
M10	30 mm	FIX3028C	£0.58	£0.36
M12	36 mm	FIX3030C	£0.96	£0.60

**Worm Drive Hose Clips [Jubilee Clips]** These clips are standard bright zinc-plated steel. They are not suitable for marine use.

Worm Drive Hose Clips	size	adjustment	code	price
	000	9.5 - 12 mm	GEN050	£0.86
	M00	11 - 16 mm	GEN051	£0.87
	00	13 - 20 mm	GEN052	£0.88
	0	16 - 22 mm	GEN053	£1.01
	0X	18 - 25 mm	GEN054	£1.03
	1A	22 - 30 mm	GEN055	£1.07
	1	25 - 35 mm	GEN056	£1.13
	1X	30 - 40 mm	GEN057	£1.17
	2A	35 - 50 mm	GEN058	£1.27
	2	40 - 55 mm	GEN059	£1.32
	5	90 - 120 mm	GEN060	£2.20
	6X	120 - 150 mm	GEN061	£2.66

Use size M00 for 8 - 9 mm bore air line

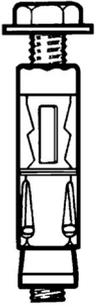
# MASONRY FIXINGS

## MASONRY ANCHORS



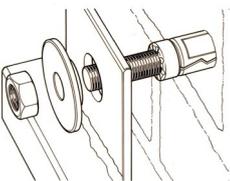
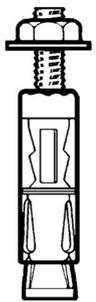
**Masonry Anchors – Loose Bolt** For fixings where the bolt needs to be inserted after the shield [body] has been positioned. Ideal for fixing steel flattage, machinery, barriers, seating, balustrading, heavy doors, switchgear and structural fixings. See Top Hats [page 151]. When ordering Loose Bolts please note that the bolt size is given first, then the maximum fixing thickness [e.g. M6-10L has an M6 bolt and will hold down material that is no more than 10 mm thick]. Fully threaded.

Masonry Anchor - Loose Bolt	drill size	code	list	price	50+
M6 - 10L	12 mm	FIX4000	£1.22	£0.69	£0.63
M6 - 25L	12 mm	FIX4001	£1.49	£0.93	£0.84
M6 - 40L	12 mm	FIX4002	£1.53	£0.96	£0.86
M8 - 10L	14 mm	FIX4005	£1.67	£1.03	£0.94
M8 - 25L	14 mm	FIX4006	£1.84	£1.18	£1.06
M8 - 40L	14 mm	FIX4007	£2.08	£1.33	£1.20
M10 - 10L	16 mm	FIX4010	£2.43	£1.54	£1.39
M10 - 25L	16 mm	FIX4011	£2.87	£1.82	£1.64
M10 - 50L	16 mm	FIX4012	£3.12	£1.98	£1.79
M10 - 75L	16 mm	FIX4013	£3.42	£2.31	£2.08



**Masonry Anchors – Projecting Stud** For fixings where a studding fixing is required, ideal for overhead work. Once fixed, the nut can be removed to release the object being held. For fixing trunking, wall plates, metal work, timber and structural fixings. When ordering Projecting Studs please note that the bolt size is given first, then the maximum fixing thickness [e.g. M6-10P has an M6 bolt and will hold down material no more than 10 mm thick].

Masonry Anchor - Projecting Stud	drill size	code	list	price	50+
M6 - 10P	12 mm	FIX4019	£1.19	£0.73	£0.66
M8 - 15P	14 mm	FIX4021A	£1.72	£1.13	£1.02
M8 - 40P	14 mm	FIX4022	£1.96	£1.28	£1.15
M8 - 80P	14 mm	FIX4023	£2.03	£1.50	£1.35
M10 - 10P	16 mm	FIX4023A	£2.39	£1.57	£1.43
M10 - 30P	16 mm	FIX4024	£2.57	£1.70	£1.53
M10 - 50P	16 mm	FIX4025	£2.76	£1.88	£1.70
M12 - 15P	20 mm	FIX4028	£4.09	£2.27	£2.05
M12 - 25P	20 mm	FIX4026	£4.51	£2.98	£2.69
M12 - 70P	20 mm	FIX4027	£5.14	£3.33	£3.00



**Top Hats** For full details of these useful devices see page 151. We also sell the lugs with pre-drilled 25 mm diameter holes to save you having to buy a whacking great big drill bit.



**Masonry Anchor – Hook Bolt** Heavy-duty hook bolt.

	drill size	code	price	50 +
M6 - H	12 mm	FIX4030	£1.19	£1.08
M8 - H	14 mm	FIX4031	£1.65	£1.49
M10 - H	16 mm	FIX4032	£2.25	£2.03
M12 - H	20 mm	FIX4033	£3.87	£3.49

For Hook Bolts see page 239.



**Masonry Anchor – Eye Bolt** Heavy-duty eye bolt popular for setting up catenary wires.

	drill size	code	price	50 +
M6 - E	12 mm	FIX4040	£1.16	£1.05
M8 - E	14 mm	FIX4041	£1.52	£1.37
M10 - E	16 mm	FIX4042	£2.16	£1.94
M12 - E	20 mm	FIX4043	£4.13	£3.73

## CHEMICAL ANCHORS

**Chemical Masonry Fixings** Flints can supply an entire range of chemical adhesive fixings. Please ring for details.



### J-Fix Spin-In Capsules

A glass capsule anchor used with spin-in studs to provide a stress-free anchorage in solid concrete. Epoxy acrylate. For brickwork use. The cartridge dispenser is shown below. Sold in boxes of 10.

Spin in Capsules	drill size	depth	code	list	per 10
M10	12 mm	80 mm	FIXJCAPSM10	£22.51	£13.63
M12	14 mm	95 mm	FIXJCAPSM12	£24.68	£15.36

Don't forget your Top Hats! [page 151]



### J-Fix Spin in Studs

Grade 5.8 stud zinc-plated and clear passivated min 5µm. A hex adapter to drive the stud with a drill is supplied with each box of ten.

Spin in Studs	length	Max fix thk.	code	list	per 10
M10	30 mm	25 mm	FIXJS10130	£13.84	£8.32
M12	160 mm	34 mm	FIXJS12160	£18.17	£10.55



### J-Fix Polyester Styrene Free Injection Resin

Suitable for use in concrete and other base materials, and in damp conditions. For Dispensing Guns see page 132. Spin in studs are positioned by rotating gently by hand.

Cartridge Polyester Injection Resin	code	list	price
300 ml cartridge and mixer nozzle	FIXJFEA300SF	£21.26	£10.34



### Blow Out Pump and Brush

The pump is suitable for holes of 10 mm upwards. Choose either 10 or 12 mm codes for the brushes.

Hole Cleaning Tools	size	code	list	price
Blow out pump	-	FIXBOP1	£20.97	£17.82
Cleaning brushes	10 mm	FIXCB10	£4.76	£4.04
	12 mm	FIXCB12	£4.94	£4.07

## OTHER FIXINGS



**Plastic Plugs** The standard fixing for masonry. Plastic Plugs will make strong screw fixings in most types of brickwork, concrete and masonry.

General Purpose Plastic Plug	code	per 100			
colour	screws	length	drill bit		
Yellow	No.4 - 8	25 mm	5 mm	FIX4112	£1.56
Red	No.6 - 10	30 mm	5.5 - 6 mm	FIX4110	£1.75
Brown	No.10 - 14	35 mm	7 mm	FIX4111	£2.30

Masonry drill bits are on pages 287.



**Spring Toggles** Ideal for cavity walls, ceilings and fixings on scenery flattage. Suitable for fixing timber, metal, shelving, props, coat hooks, etc. Available in M5 or M6 bolt sizes.

Spring Toggle	size	drill hole	code	price
M5 x 50		13 mm	FIXSTM550	£0.18
M6 x 75		16 mm	FIXSTM675	£0.32



**Hammer-in Fixings** Ideal for speedily fixing timber battens to walls. Drill straight through the batten into the wall and hammer home. Although hammered in they can be unscrewed.

Hammer-in Fixings	plug size	box qty	code	price	100+
	5 x 50	100	FIX214550	£0.09	£0.06
	6 x 70	100	FIX214660	£0.13	£0.10
	8 x 120	50	FIX214812	£0.27	£0.22

# NAILS

We sell fewer nails nowadays, as most carpenters prefer to use screws and cordless screwdrivers. British nail manufacturers have all but disappeared under competition from China and Russia. It is a shame to see nails used so rarely as they can still provide a quick and strong means of fixing, especially when galvanised nails are used dovetailed on glued joints. Due to low margins on nails and their high weight/value ratio, we are unable to offer free carriage on these products.



**Bright Round Wire Nails** A general purpose nail with many uses. The 100 mm\* have a galvanised surface which not only prevents corrosion, but also improves the grip and provides a very secure fixing. For even stronger grip, we suggest using annular nails as an alternative.

Wire Nails	approx no/kg	code	500 g	code	25 kg
25 x 1.8 mm	1847	FIX2004	£2.78	FIX2004B	£52.49
40 x 2.36 mm	661	FIX2008	£3.10	FIX2008B	£56.57
50 x 2.65 mm	441	FIX2012	£2.72	FIX2012B	£52.49
65 x 3.35 mm	216	FIX2016	£1.98	FIX2016B	£52.49
75 x 3.75 mm	145	FIX2018	£1.98	FIX2018B	£49.00
*100 x 4.5 mm	90	FIX2076	£1.85	FIX2076B	£59.14



**Veneer Pins** Very fine pins for fixing small mouldings or temporarily holding veneers while the glue dries.

Veneer Pins	code	250 g
25 mm x 1 mm	FIX2081A	£1.85

## TACKS & DECORATIVE NAILS



**Hardboard Nails** These copper nails will not show rust marks through your newly-laid stage floor.

Hardboard Nails	code	500 g
20 mm	FIX2250	£3.49



**Blued Cut Tacks [Carpet Tacks]** Ideal for tacking out stage cloths and for canvassing flats. When used for canvassing they are generally removed once the glue has set. See also our Magnetic Sweepers [page 361].

Carpet Tacks	code	500 g	code	10 kg
10 mm	FIX2212	£5.79	FIX2212B	£86.85
15 mm	FIX2206	£6.38	FIX2206B	£84.20
20 mm	FIX2208	£6.38	FIX2208B	£84.20
25 mm	FIX2210	£6.38	FIX2210B	£84.20



**Copper Tacks** For canvassing boat decks and repelling intruders.

Copper Tacks	code	500 g
13 mm	FIX2216	£15.15
15 mm	FIX2217	£15.15



Antique on steel

**Upholstery Nails** All sizes are available in "Antique on steel" and certain sizes are available in electro brass and nickel-plate.



Nickel Plate



Electro Brass

Upholstery Nails		code	price	100+
head Ø	finish			
10.5 mm	Antique	FIX2261A	£0.06	£0.04
10.5 mm	Brass	FIX2261B	£0.06	£0.04
18 mm	Antique	FIX2263A	£0.13	£0.11
18 mm	Nickel	FIX2263N	£0.13	£0.11
25 mm	Antique	FIX2264A	£0.31	£0.26
25 mm	Nickel	FIX2264N	£0.31	£0.26

For Nail Pouches see page 328.

## OTHER FIXINGS

### BRAD NAILS FOR ELECTRIC NAILERS



**Type 180 Nails** For Electric Nailers see next page ➔.

Type 180 Nails	length	quantity	code	list	price
	15 mm	2,000	STP18015	£14.80	£8.14
	20 mm	1,000	STP18020	£7.67	£4.19
	25 mm	1,000	STP18025	£8.62	£5.00
	32 mm	1,000	STP18032	£10.60	£6.14
	35 mm	1,000	STP18035	£11.51	£6.61
	40 mm	1,000	STP18040	£12.41	£7.06

### BISCUITS



**Biscuits** Flints stocks sizes No.10 and No.20 at very competitive prices.

Biscuits	code	each	1,000+
No. 10	FIX9166	£0.07	£0.05
No. 20	FIX9167	£0.07	£0.05

### WIGGLE PINS



#### Corrugated Fasteners

**[Wiggle Pins]** A quick fixing for a simple butt joint of two pieces of wood. Butt the pieces together and hammer in the corrugated fasteners, they are usually 'dovetailed' for strength. When

making scenery flattage using these, it is advisable to use a triangular plywood 'plate' over the back of the joint, glued and pinned for extra strength. This method is often referred to as 'Dog and Biscuit'.

Corrugated Fasteners	code	box of 1,000
1/2" x 6 grooves	FIXCF612	£19.11
5/8" x 6 grooves	FIXCF658	£22.76
3/4" x 6 grooves	FIXCF634	£26.93

DOWELS



**Star Dowels** Useful as an economical method of securing mortise and tenon joints while the glue is drying. These fixings are considerably faster than draw pegs although nothing beats the durability of tapered wooden pegs driven through offset holes. Regrettably draw pegged joints seem to be a dying art. I'll shut up now.

Star Dowels	length	qty	code	price
	3/4"	500	FIX9175	£16.28
	1"	500	FIX9176	£18.95



**Dowels** Made from air-dried beechwood. Multigrooved to allow for gluing up.

Dowels	pack	code	price
6 x 30 mm	72	FIXWD630	£3.56
8 x 40 mm	50	FIXWD840	£3.25
10 x 40 mm	35	FIXWD1040	£3.06



**Depth Stops** To ensure exact dowelling depths. Pack of three for 6, 8 and 10 mm drills.

Depth Stops	pack	code	price
	3	FAIDOWDSTOPS	£2.42

POP RIVETS AND RIVETERS



Twister



Lazy Tong

**Lazy Tong & Twister Riveters** The lazy tong can be operated with one hand while the Twister can access tight corners while its handle remains easy to squeeze. See website for full details.

Lazy Tong & Twister Riveters	code	list	Tradeline
Twister	ARRRHT300	£30.72	£27.66
Lazy Tong	TOLHDLTR	£50.48	£43.02



**Heavy-Duty Riveting Kit** This heavy-duty riveter takes 3, 4 and 5 mm [1/8", 5/32", and 3/16"] rivets.

Supplied in a tough moulded plastic tray with: a selection of aluminium rivets.

Heavy-Duty Riveting Kit	code	list	price
	TOLSPI2735	£69.77	£39.68



**Aluminium Pop Rivets** Quick and easy permanent aluminium fixing for plastic and metal.

4 x 12 mm is our best-seller.

Aluminium Rivets	grip range	code	price	1,000+
3.2 x 6 mm	0.5 - 3.0	FIX9110	£0.02	£0.01
3.2 x 12 mm	6.5 - 8.5	FIX9114	£0.02	£0.01
4 x 8 mm	1.5 - 3.5	FIX9117	£0.03	£0.02
4 x 12 mm	5.5 - 7.5	FIX9119	£0.03	£0.02
				500+
4.8 x 8 mm	0.5 - 3.0	FIX9122	£0.03	£0.02
4.8 x 12 mm	5.0 - 7.0	FIX9123	£0.04	£0.03
4.8 x 16 mm	9.0 - 11.0	FIX9124	£0.05	£0.04

POWERED STAPLERS

PNEUMATIC STAPLERS



**Tacwise A7116V Pneumatic Stapler** A professional fast reliable gun suited to the full-time coverer/canvasser.

SPECIFICATION: Takes up to 180 Type 71 staples from 4 mm to 16 mm. With a quick release fitting which fits our 9 mm bore hoses. Air consumption: 1.6 cfm. PSI: 60 - 100. Max 77 dBA on impact.

Supplied in a handy plastic carry case.

A7116V Pneumatic Stapler	weight	code	list	price
	900 g	STPA7116	£114.11	£79.03
Extra fitting to use 8 mm bore hose		TOL831		£1.95

Type 71 Staples [670]

Type 71 Staples	depth	quantity	code	list	price
	6 mm	20,000	STP716	£16.77	£10.20
	8 mm	20,000	STP718	£17.93	£11.19
	10 mm	20,000	STP7110	£18.56	£12.09
	12 mm	20,000	STP7112	£19.91	£13.41
	14 mm	10,000	STP7114	£11.33	£7.89
	16 mm	10,000	STP7116	£21.14	£17.94

Black Type 71 Staples [670]

Black Type 71 Staples	depth	quantity	code	list	price
	8 mm	20,000	STP718B	£20.94	£12.70
	10 mm	20,000	STP7110B	£21.66	£12.86
	12 mm	20,000	STP7112B	£23.28	£15.00
	14 mm	10,000	STP7114B	£13.17	£9.21

NARROW CROWN PNEUMATIC STAPLER



**Tacwise C9725V Narrow Crown Pneumatic Stapler** Ergonomically designed and built to last.

This narrow-crown stapler easily copes with high volume stapling. Ideal for rapid cladding of scenery flattage.

SPECIFICATION: Takes up to 125 Type 97 staples from 10 mm - 25 mm. With a quick release fitting which fits our 9 mm bore hoses. Air Consumption: 1.8 cfm. PSI: 65 - 100. Max 86 dBA on impact. Supplied in a handy plastic carry case.

9725V Narrow Crown	weight	code	list	price
	1.2 kg	STPC9725	£130.81	£85.97
Extra fitting to use 8 mm bore hose		TOL831		£1.95

Type 97 Narrow Crown Staples

Type 97 Staples	depth	quantity	code	list	price
	10 mm	5,000	STP9710	£8.87	£5.51
	15 mm	5,000	STP9715	£11.22	£6.95
	20 mm	5,000	STP9720	£12.41	£7.92
	25 mm	5,000	STP9725	£16.10	£10.27

ELECTRIC NAILER/STAPLER



**Tacwise 191EL Electric Nail and Staple Gun 240 V** With a nail/staple refill window, single shot safety trigger and a rubber nose protector.

SPECIFICATION: Fires 18-gauge Type 180 nails from 15 - 35 mm and Type 91 staples from 15 - 30 mm. 4 shots per second.

Supplied in a heavy-duty case with: 2,000

nails and 2,000 staples. For Type 180 nails see previous page.

191EL Nailer/Stapler	weight	code	list	price
	1.8 kg	STPTAC0327	£138.25	£103.57

Type 91 Staples	depth	quantity	code	list	1 box
	15 mm	1,000	STP9115	£7.34	£5.25
	20 mm	1,000	STP9120	£8.33	£6.95
	25 mm	1,000	STP9125	£10.14	£7.52
	30 mm	1,000	STP9130	£12.95	£8.56

# STAPLES & STAPLERS

## ARROW STAPLERS



**JT21C Staple Gun** Lightweight compact all-steel gun tacker ideal for light-duty work. It has a contoured handle and a visual refill window.

Uses: JT21 staples listed below.

JT21C Staple Gun	weight	code	list	price
	469 g	STP004	£24.33	£19.95

50 years of tested durability



**T50P Staple Gun** Heavy-duty staple gun. The T50's powerful compression spring action drives heavy gauge staples into hard woods, plywood, composition boards, plastics – even soft metals! All-steel construction, with an all-chrome finish. High-carbon hardened steel working parts. It has an easy squeeze double leverage action. Coil spring for long lasting reliability.

Uses: T50 staples.

T50P Staple Gun	weight	code	list	price
	895 g	STP003	£48.17	£39.98



**T50PBN Staple and Nail Gun** The same basic unit as the T50P listed above but this version will shoot staples and also 15 mm brad nails. It also has a high-vis cushioned grip handle.

Uses: T50 staples and T50 Brad Nails.

T50PBN Staple Gun	weight	code	list	price
	1.013 kg	STP003PBN	£52.56	£43.68

## ARROW STAPLES

**JT21 Staples** Box of 1,000.

Arrow JT21 Staples	depth	code	1 box		Tradeline	
			5+	5+	qty	price
	6 mm	STP056	£2.46	£2.16	160+	£1.88
	8 mm	STP057	£2.46	£2.16	250+	£1.88

Use manufacturer's recommended staples

**Arrow T50 Staples** Best-selling staples for use in the Arrow T50 staplers. The 6, 8, and 10 mm staples have divergent points for extra grip. Box of 1,250.

Arrow T50 Staples	depth	code	1 box		Tradeline	
			4+	4+	qty	price
	6 mm	STP050	£3.05	£2.69	160+	£2.24
	8 mm	STP051	£3.39	£2.78	160+	£2.33
	10 mm	STP052	£3.39	£2.60	160+	£2.57
	12 mm	STP053	£3.68	£2.92	160+	£2.79
	14 mm	STP055	£4.20	£3.24	250+	£3.10

## RAPID FINELINE STAPLERS



**Rapid 13E Staple Gun** A handy, lightweight, high-impact force gun in a resistant plastic housing. Suitable for stapling fabrics, canvas etc.

Uses: Fineline staples series 13 [4, 6, 8 and 10 mm deep].

Rapid 13E Staple Gun	weight	code	list	price
	314 g	STP011	£36.95	£28.62



**Rapid 23 Staple Gun** A handy easy to use all-steel staple gun for stapling fabric, plastic, rubber, leather etc. to wood. Less tiring than the heavy-duty guns and ideal for smaller hands. Recoilless for comfortable operation. Our most popular staple gun.

Uses: Fineline staples series 13 [4, 6 and 8 mm deep].

Rapid 23 Staple Gun	weight	code	list	price	6+
	560 g	STP014	£53.20	£37.55	£35.22



**Rapid 33 Staple Gun** A more powerful, sturdy all-steel staple gun, with an adjustable impact force to give perfect stapling of both thick and thin materials into both hard and soft underlays.

Uses: Fineline staples series 13 [6, 8, 10, 12 and 14 mm deep].

Rapid 33 Staple Gun	weight	code	list	price
	900 g	STP018	£80.95	£61.78

Twice as fast!



**Rapid 19 Hammer Tacker** This gun is the ideal choice for rapid felting of flats or fast attachment of posters etc. At just 280 g it will cut fatigue. The fine staples are less obtrusive than the flatwire types.

Uses: Fineline staples series 4 and 6 mm deep.

Rapid 19 Hammer Tacker	weight	code	list	price
	280 g	STP012	£45.85	£35.49

## RAPID PROLINE PROFESSIONAL SERIES

This gun uses the stronger flatwire staples more suited to permanent heavy canvassing jobs rather than felting display flats.



**Rapid 34 Staple Gun** For professional use. Constructed entirely of steel for heavy-duty stapling. Suitable for canvassing and covering using heavier fabrics. Uses: Flatwire staples series 140 [6, 8, 10, 12 and 14 mm deep].

Rapid 34 Staple Gun	weight	code	list	price
	873 g	STP019	£54.80	£41.40

FLINTS STAPLERS



Raised Flush Heavy Stapler

**F Flints 3-in-1 Staple Gun** This multi-functional stapler allows staples to be fired in flush, or raised by 3 mm which is perfect for attaching canvas to flats for easy removal or for temporarily fixing cables. As pictured, the housing can rotate 90° to create a powerful stapler for stapling wads of paper [up to 60 sheets] or other materials. It may obliterate smaller piles of paper which could be stapled with a desktop stapler! Uses: Arrow JT21 and Rapid Series 13.

Flints 3-in-1 Staple Gun	weight	code	price
	495 g	FHSSTP31	£19.50



53 6-14 mm 140 8-14 mm 13 6-14 mm 36 8-14 mm 15 mm 15 mm

**F Flints Heavy Duty 6-in-1 Staple Gun** We were so impressed with this device that we decided to put our name on it! Not only can it fire 6 different types of staples, it can do so on one of two force settings, regular or super! Uses: All the staples we sell! [JT21, T50, 140, 13] Can also be used with Arrow T25, BN1810 and Rapid 53, 140, 13, 36, 8, 9.

Flints 6-in-1 Staple Gun	weight	code	price
	545 g	FHSSTP61	£15.00

RAPID STAPLES



**Rapid Staples Use Fineline for the Rapid 13, 23, 33, and 19 and use Flatwire for the Rapid 11 and 34. Box of 5,000.**

Fineline Series 13 Staples		code	list	1 box	10+	Tradeline	
type	depth					qty	price
13/4	4 mm	STP100	£9.10	£10.28	£8.00	50+	£5.67
13/6	6 mm	STP101	£10.20	£11.53	£8.96	50+	£6.39
13/8	8 mm	STP102	£11.45	£12.85	£10.00	40+	£7.06
13/10	10 mm	STP103	£10.85	£9.80	£7.62	35+	£6.29
13/14	14 mm	STP099	£12.95	£11.64	£9.04	25+	£7.47

Flatwire Series 140 Staples		code	list	1 box	Tradeline	
type	depth				qty	price
140/6	6 mm	STP104	£15.30	£14.78	20+	£11.81
140/8	8 mm	STP105	£16.50	£16.07	20+	£12.85
140/10	10 mm	STP106	£18.65	£18.11	20+	£14.48
140/12	12 mm	STP107	£20.75	£19.90	15+	£15.92
140/14	14 mm	STP108	£23.05	£22.37	15+	£17.89

STAPLE REMOVERS



**Rapid R3 Staple Remover** Ergonomic with a smart construction, the R3 can easily pull out almost any kind of staple without damaging the material.

Rapid Staple Remover	weight	code	list	price
	120 g	STP001	£15.98	£11.51



OK so these boards really don't look like anything impressive, BUT what they represent is very important. These are boards we made in house when testing out staple guns - this is just one tiny example of the testing and sampling work we do on all products before they can be listed in our catalogue. Might seem like overkill, but we take it very seriously, and want to ensure we are always giving you our honest opinions on products, and that they stand up to the mark! When you consider that we have over 850 new product lines that have gone into this edition of the catalogue, it shows you just how much work goes on behind the scenes!

Sadly things sometimes do go wrong, and we know there have been a few problems with our 6-in-1 staple guns, which is why we have dramatically reduced the price! Of course, if you get a faulty one, we'll replace it hassle free. All part of the Flints Service.



# ADHESIVE TAPES

All of our adhesive tapes are chosen on the basis of quality and reliability. We refuse to accept inferior cheaper options.

## GAFFER TAPES



**Gaffer Tape** Flints stocks a consistently high quality gaffer tape. By far our biggest selling gaffer tape is the popular 50 mm wide version which we stock in black, white and silver. We also hold stocks

of these colours in 25 mm, 75 mm and 100 mm wide rolls. We offer a substantial discount on box quantities of gaffer tape. Order your gaffer tape from Flints and we promise not to phone every week asking if you need more. Box quantities may be mixed colours on all widths.

Thickness: 300 microns. Adhesive: 100% natural rubber. Adhesion to steel: 4.9 N/10 mm. Elongation at break: 10.5 %. Tensile strength: 53 N/10 mm.

### 25 mm Gaffer Tape Good for tidying cables.

35 mm Gaffer Tape [50 m]	width	code	price	48 rolls+
Black	25 mm	TAP010	£3.37	£2.86
White	25 mm	TAP011	£3.37	£2.86
Silver	25 mm	TAP012	£3.37	£2.86

### 50 mm Gaffer Tape The industry standard.

50 mm Gaffer Tape [50 m]	width	code	price	24 rolls+
Black	50 mm	TAP020	£6.45	£6.10
White	50 mm	TAP021	£6.45	£6.10
Silver	50 mm	TAP022	£6.45	£6.10

### 75 mm Gaffer Tape Good for large emergency repair tasks.

75 mm Gaffer Tape [50 m]	width	code	price	16 rolls+
Black	75 mm	TAP030	£7.56	£6.80
White	75 mm	TAP031	£7.42	£6.68
Silver	75 mm	TAP032	£7.56	£6.80

### 100 mm Gaffer Tape There's trouble when this arrives on stage!

100 mm Gaffer Tape [50 m]	width	code	price	12 rolls+
Black	100 mm	TAP035	£9.65	£8.69
White	100 mm	TAP036	£9.65	£8.69
Silver	100 mm	TAP037	£9.65	£8.69

## MATT GAFFER TAPES



**Advance Matt Gaffer** A very high quality tape with a non-reflective surface. Used mainly in the film, television, video and photographic industries. Sometimes referred to as camera tape. Can be written on.

Adhesion to steel: 4 N/10 mm. Elongation at break: 8 %. Tensile strength: 85 N/10 mm.

Advance Matt [50 m]	width	code	price	24 rolls+
Black	50 mm	TAP024	£14.95	£14.35
White	50 mm	TAP025	£14.95	£14.35

Advance Matt [50 m]	width	code	price	48 rolls+
Black	25 mm	TAP026	£7.75	£6.95
White	25 mm	TAP027	£7.75	£6.95



**Standard Matt Gaffer** Very popular. Priced between the Advance Matt Gaffer and our standard Gaffer Tape so it can be used more often without draining the consumables budget.

Adhesion to steel: 3.52 N/10 mm. Elongation at break: 10.5 %. Tensile strength: 59 N/10 mm.

Standard Matt [50 m]	width	code	price	24 rolls+
Black	50 mm	TAP040	£8.65	£7.25
White	50 mm	TAP041	£8.65	£7.25



**MagTape 50 mm - 25 m Roll** Matt MagTape from LeMark with natural rubber adhesive and low VOC that comes in recycled packaging and has a recyclable cardboard core. Heavy duty for all surfaces as long as they are clean and dry.

MagTape [25 m]	code	price
Black	TAPMTBK50	£9.84
White	TAPMTWH50	£9.84

## ALL BLACK GAFFER TAPE



**Magtape® Back 2 Black** This tape is black on both sides, with a black adhesive underside and matt black, low-reflection outer surface. Makes onstage joints virtually unnoticeable and is very discrete when applied to blackout fabrics and black stage sets and props. Has minimal light penetration, with excellent adhesion but also very good removability.

Magtape Back 2 Black [50 m]	width	code	price
Black	50 m	TAP028AB	£10.50

## FLAME RETARDANT GAFFER TAPE



**Gaf-fire** A high quality self-extinguishing gaffer tape which complies with BS 5867: 1980 Part 2 Type B. Available in black only.

Gaf-fire [25 m]	width	code	price
Black	50 mm	TAPGF020	£12.70

## COLOURED MATT GAFFER TAPE



**Coloured Matt Gaffer** A superb quality matt tape in glorious colours! Leaves no residue.

Adhesion to steel: 4 N/10 mm. Elongation at break: 16%. Tensile strength: 85 N/10 mm.

Coloured Matt Gaffer Tape [50 m]	width	code	price	24 rolls+
may be mixed colours				
Yellow	50 mm	TAP046A	£10.26	£9.26
Red	50 mm	TAP047A	£10.26	£9.26
Blue	50 mm	TAP048A	£10.26	£9.26
Green	50 mm	TAP049A	£10.26	£9.26

## PERIOD DRAMA MATT GAFFER TAPE



**Period Drama Matt Gaffer Tape** A quality matt gaffer tape used to discreetly cover up modern wiring, for use in period dramas

Adhesion to steel: 8.7 N/10 mm. Elongation at break: 5%. Tensile strength: 87.56 N/10 mm.

Period Drama Tape [22.86 m]	width	code	price	16 rolls+
Tan	25 mm	TAP044A	£7.75	£6.95
Brown	25 mm	TAP042A	£7.75	£6.95
Tan	50 mm	TAP045A	£15.50	£14.50
Brown	50 mm	TAP043A	£15.50	£14.50

**GORILLA TAPE**



**Black Gorilla Tape** It claims to be the "Toughest on Planet Earth®". It's double layer of adhesive makes this a very strong cloth tape which can stick to the most porous roughest surfaces such as brick. It is also all-weatherproof which makes it great for exterior use. All that and it can still be torn by hand!

Adhesion to steel: 9.4 N/10 mm. Elongation at break: 21%. Tensile strength: 89 N/10 mm.

Black Gorilla Tape	length	width	code	price
	11 m	48 mm	TAPGTB11	£7.89

**CLOTH TAPES**



**Dense Black Textile Tape** Like the unbleached cloth tape but in a truly dense very matt black colour. Highly tear resistant and very flexible and conformable. Good adhesion even to rough or oily surfaces. Useful for securing and repairing serge and bolton masking.

Adhesion to steel: 3.6 N/10 mm. Elongation at break 12%. Tensile strength: 120 N/10 mm.

Dense Black Textile Tape [50 m]	width	code	price
	25 mm	TAP106	£21.93
	50 mm	TAP107	£43.90



**Unbleached Cloth Tape** Self-adhesive unbleached cloth tape, with a wide range of uses from fabric repairs to marking out and labelling. This tape takes paint well and is often used for binding armature wire on foliage projects. Tear resistant.

Thickness 0.28 mm. Adhesion to steel 2.2 N/10 mm, Tensile strength 70 N/10 mm.

Unbleached Cloth Tape [50 m]	width	code	price	48 rolls+
	25 mm	TAP100	£6.95	£6.25
	50 mm	TAP101	£9.75	£9.05



**Fluorescent Cloth Tape** Seriously gaudy. Excellent for warning of edges, overhanging pipes, and head obstructions. Can be written on with marker pens. **Matt quality.** Thickness: 280 microns. Adhesive: 100% natural rubber. Adhesion to steel: 3.5 N/10 mm. Elongation at break: 9%. Tensile strength: 70 N/10 mm.

Fluorescent Tape [25 m]	code	25 mm	code	50 mm
Orange	TAPFT1	£11.95	TAPFT5	£20.95
Pink	TAPFT2	£11.95	TAPFT6	£20.95
Yellow	TAPFT3	£11.95	TAPFT7	£20.95
Green	TAPFT4	£11.95	TAPFT8	£20.95

**CHROMAKEY TAPE**



**ChromaKey Tape** These tapes provide high luminance values and colour saturation for keying effects. They colour match the Rosco

Thickness: 292 microns. Adhesion to steel: 5.4 N/10 mm. Tensile strength: 87 N/10 mm.

ChromaKey Matt Gaffer Tape [50 m]	code	price
ChromaKey Green	48 mm ROS571115050	£30.25
ChromaKey Blue	48 mm ROS571015050	£30.25

**MARKING OUT TAPE**



**6 mm Matt Marking Out Tape** Four neutral, three vibrant and four neon colours.

Thickness: 279 microns. Adhesive: synthetic rubber. Adhesion to steel: 8.7 N/10 mm. Elongation at break: 5%. Tensile strength: 87.56 N/10 mm.

6 mm Matt Marking Out Tape [22.86 m]						24+
colour	code	price	colour	code	price	box
Black	TAP6MMBL	£2.63	Brown	TAP6MMBR	£2.63	£2.35
Blue	TAP6MMEB	£2.63	Grey	TAP6MMGR	£2.63	£2.35
Red	TAP6MMRE	£2.63	White	TAP6MMWH	£2.63	£2.35
Yellow	TAP6MMYE	£2.63				£2.35

6 mm Fluorescent Matt Marking Out Tape [22.86 m]						24+
Fluo Green	TAP6MMFG	£2.63	Fluo Orange	TAP6MMFO	£2.63	£2.35
Fluo Pink	TAP6MMFP	£2.63	Fluo Yellow	TAP6MMFY	£2.63	£2.35



**12 mm Gloss Marking Out Tape** Ideal for marking up rehearsal rooms. Rodger Neate approved. Box quantities may be mixed colours.

Thickness: 190 microns. Adhesion to steel: 4.78 N/10 mm. Tensile strength: 31.6 N/10 mm.

12 mm Gloss Marking Out Tape [50 m]						96 rolls+
colour	code	price	colour	code	price	box
Black	TAP001	£2.46	White	TAP002	£2.46	£1.98
Silver	TAP003	£2.46	Red	TAP004	£2.46	£1.98
Blue	TAP005	£2.46	Yellow	TAP006	£2.46	£1.98
Green	TAP008	£2.46				



**12 mm Spike Tapes** A popular choice for marking out tape, they have a matt cloth surface, perfect for writing on. It is strong, durable and has good weather-ability. Adheres to almost any clean, dry surface and removes residue free. In a large range of colours it's a handy little tape to have for photo shoots, colour coding purposes, decorative creative projects, as well as stage blocking. All rolls are 12 mm wide and 5.49 m long. Fluorescent colours are also available in a mixed pack of five as well as individually.

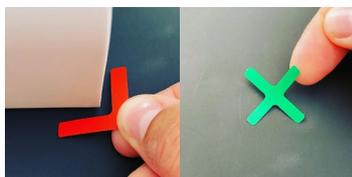
Thickness: 279 microns. Adhesive: synthetic rubber. Adhesion to steel: 8.7 N/10 mm. Elongation at break: 5%. Tensile strength: 87.56 N/10 mm.

12 mm Spike Tapes	code	price
Black	TAPST12BK	£1.98
White	TAPST12WH	£1.98
Red	TAPST12RD	£1.98
Yellow	TAPST12YW	£1.98
Blue	TAPST12BL	£1.98
Green	TAPST12GR	£1.98
Grey	TAPST12GY	£1.98
Brown	TAPST12BR	£1.98
Fluorescent Yellow	TAPST12FY	£1.98
Fluorescent Orange	TAPST12FO	£1.98
Fluorescent Pink	TAPST12FP	£1.98
Fluorescent Blue	TAPST12FB	£1.98
Fluorescent Green	TAPST12FG	£1.98

12 mm Fluorescent Spike Tapes Pack	code	price
Mixed pack of five (colours above)	TAPFT125	£9.70



# STAGE MARK



**Stage Mark** Stage Mark has replaced the need for stage managers to make their own stage markings for scenery, props, and performer locations on a stage, or in a performance area, by providing a simple sheet with a selection of pre-cut markings in a variety of colours.

Rod from our customer services team was blown away by the concept, and when he had a look at the product he was very impressed with the quality - says he'll exclusively be using them in his productions going forward as it will save him hours of time.

- ✓ Quick, simple and easy to apply
- ✓ Round edges to reduce risk of peeling
- ✓ Robust and durable
- ✓ Leaves little residue
- ✓ Can be written on with a sharpie
- ✓ Protectors can be used for extra durability
- ✓ Included in the Stage Managers Kit on page 329

The Multi-Pack contains 276 Stage Marks, split into 6 x A4 sheets in a variety of colours: Red, Yellow, Green, Blue, White, & Grey, PLUS 2 sheets of the clear protectors.

Each sheet contains a total of 46 Stage Marks comprised of:

**CROSSES:** 6 x Medium

**LINES:** 6 x Medium, 4 x Small;

**ANGLES:** 6 x Large, 14 x Medium, 10 x Small

Each sheet of the Clear Vinyl Stage Mark Protectors is designed to be cut-to-size as required.

Stage Mark	code	price
Multi-pack	TAPSMPN	£14.90

## PVC ELECTRICIAN'S TAPE



**19 mm Economy PVC Tape**  
Economy range of Flame Retardant PVC tape 19 mm wide, and each roll is 33 m long. Advance PVC Tape flies off the shelves, this economy version means you'll always have a good alternative when stocks run low.

### PVC Tape 19 mm Economy

colour	code	price	colour	code	price	colour	code	price
Black	TAP250	£1.15	White	TAP251	£1.15	Grey	TAP257	£1.15
Red	TAP252	£1.15	Blue	TAP253	£1.15	Purple	TAP256	£1.15
Green	TAP254	£1.15	Orange	TAP255	£1.15	Brown	TAP258	£1.15
			Green/yellow stripe	TAP259	£1.15			



**Advance PVC Tape** An essential tape to have handy! Our PVC tape is fire retardant to BS 3924 31/90 Tp. Available in three different sizes (19 mm, 50 mm and 75 mm). 19 mm is the industry standard width used by electricians. 50 mm and 75 mm are more commonly used as a means of temporarily joining dance floors. All rolls come as 33 m lengths. To reach the quantity break volumes colours can be mixed [in multiples of 8 rolls for 19 mm width]. These tapes are also useful for wrapping around ropes and wires prior to cutting and for colour coding tools and conduit tubes.

Thickness: 0.13 mm. Adhesion to steel: 2.4 N/10 mm. Elongation at break: 180 %, Tensile strength: 26 N/10 mm.



**19 mm PVC Tape** Industry standard. Roll colours may be mixed in units of eight.

### 19 mm PVC Tape [33 m] 48 rolls+

colour	code	price	colour	code	price	colour	code	price
Black	TAP120	£1.52	White	TAP121	£1.49	Grey	TAP127	£1.49
Red	TAP122	£1.49	Blue	TAP123	£1.49	Yellow	TAP130	£1.49
Green	TAP124	£1.49	Orange	TAP125	£1.49	Brown	TAP128	£1.49
Purple	TAP126	£1.49	Green/yellow stripe	TAP129	£1.49			



**50 mm PVC Tape** Often used to temporarily join dance floors. Roll colours may be mixed for box [18 rolls+] quantities.

### 50 mm PVC Tape [33 m] 18 rolls+

colour	code	price	colour	code	price	colour	code	price	box
Black	TAP220	£4.15	White	TAP221	£4.15	Grey	TAP227	£4.15	£3.55
Red	TAP222	£4.15	Blue	TAP223	£4.15	Yellow	TAP230	£4.15	£3.55
Green	TAP224	£4.15	Orange	TAP225	£4.15	Brown	TAP228	£4.15	£3.55
			Green/yellow stripes	TAP229	£4.15				£2.85



**75 mm PVC Tape** Often used to temporarily join dance floors. Roll colours may be mixed for box quantities.

### 75 mm PVC Tape [33 m] 12 rolls+

colour	code	price	colour	code	price	colour	code	price	box
Black	TAP320	£5.90	White	TAP321	£5.90	Red	TAP322	£5.90	£5.35
Blue	TAP323	£5.90	Yellow	TAP330	£5.90				



## MASKING TAPES

### Masking Tapes

We stock a wider range of products to suit all your needs. Our standard masking tape will happily stick to canvas. We have listed the adhesion strengths so you can choose tapes for delicate surfaces and we also stock some high precision tapes for those perfect crisp graphic stripes [top tip, paint the tape in the base colour first for a really crisp finish]. All the tapes are different colours so they won't get mixed up in your tool box. Remember for best results remove the tape while the paint is tacky and pull away from the paint surface at 45°. If your tape needs to remain in place for long periods choose the yellow or blue types designed to be removed without leaving residue after periods up to 5 months!



### Masking Tape

Good quality, suitable for a range of painting tasks. This tape has a strong enough adhesion to stick directly onto canvas so it is popular for marking out mortar lines for scenic brickwork as well as all general scenic use. When used indoors it will give residue-free removal for up to three days. Adhesion level: medium/high. Adhesion to steel 3 N/10mm. Elongation at break: 10%. Tensile strength: 33 N/10mm.



Masking Tape [50 m]	width	code	price	Tradeline qty price
	12 mm	TAP050	£0.94	144+ £0.82
	19 mm	TAP051	£1.20	96+ £1.02
	25 mm	TAP052	£1.59	72+ £1.39
	38 mm	TAP053	£2.37	48+ £2.04
	50 mm	TAP054	£3.17	36+ £2.71
	75 mm	TAP055	£4.95	24+ £4.45
	100 mm	TAP056	£6.45	18+ £5.85



It's blue!

**3M Blue Painter's Tape** This really is a very superior product. It is easily removable from most surfaces without leaving any residue up to 14 days after application. It can be used indoors or outside.



It gives a crisp edge resisting paint creep. The adhesive is sufficiently strong to adhere well to door handles and awkward fittings. Use it on those special jobs such as masking wood graining and varnish work. Adhesion level: medium. Adhesion to steel: 2.56 N/10 mm. Tensile strength: 48 N/10 mm.

3M Blue Longlife [54.8 m]	width	code	price
	25 mm	TAP2090	£4.50



It's purple!

**Low Tack Masking Tape** Designed for painting on delicate surfaces. We have been to great lengths to source a low tack tape with a distinctive colour so it doesn't get muddled up with standard masking tape. The tape will not pull paint off properly prepared surfaces. Suitable for use on many wall coverings. Adhesion level: low. Adhesion to steel: 1.3 N/10 mm. Elongation at break: 4%. Tensile strength: 25 N/10 mm.

Low Tack [50 m]	width	code	price
	24 mm	TAP045N	£5.65



It's yellow!

**Precision Masking Tape with Longlife Removal** The combination of the extra-thin high-quality backing material and the outstanding special acrylic adhesive formulation allows easy removability up to 5 months after application. This enables multiple working processes in only one covering process. This tape is suited for almost all indoor painting applications and even for spatula application techniques. It is especially suited when a precise razor-sharp paint edge is needed. Adhesion level: low. Adhesion to steel: 1.9 N/10 mm. Elongation at break: 4%. Tensile strength: 30 N/10 mm.

Precision/Longlife [50 m]	width	code	price
	25 mm	TAP4334	£7.04



It's pink!



### Precision Masking Tape for Delicate Surfaces

A low tack, washable masking tape made from Japanese rice paper, provides safe and secure hold, even on slightly structured surfaces. It is especially suited for indoor applications when a precise razor-sharp paint edge is needed. Great for delicate surfaces. Does not leave tape residue. Translucent backing for accurate positioning. Can remain in place for up to 7 days indoors. Adhesion level: low.

Adhesion to steel: 0.5 N/10 mm. Elongation at break: 5%. Tensile strength: 32 N/10 mm.

Precision for Delicate Surfaces [50 m]	width	code	price
	25 mm	TAP4333	£8.31



### Masking Tape for Curves

This heavily creped tape has a very high stretch capacity allowing it to be used around tight corners. Its conformability makes it also useful for masking awkward fittings. When using the tape for curves it is the outside stretched

edge that forms the neat line while the inside edge tends to pucker. Adhesion level: high. Adhesion to steel: 4.5 N/10 mm. Elongation at break: 58%. Tensile strength: 28 N/10 mm.

Masking Tape for Curves [25 m]	width	code	price
	19 mm	TAPM220	£6.31



### Black Masking Tape for Model Makers

This tape is ideal for securing model boxes made from Black Foam Board [page 113]. It forms a very neat fixing which can be easily scalped through to aid transportation. Widely used by photographers for sealing

light leaks. Easy removal even after long periods.

Adhesion to steel: 4 N/10 mm. Elongation at break: 6%. Tensile strength: 32 N/10 mm.

Black Masking Tape for Model Makers [50 m]	width	code	price
	25 mm	TAP150	£4.99
	50 mm	TAP151	£9.99

## FROGTAPE

### Frogtapes

We always have requests for Frog Tape as a familiar brand name however we find it pales in comparison to our precision masking tapes (both for long-life removal and for delicate surfaces). Also, it comes in totally unnecessary plastic packaging, so we're not fans of its poor environmental credentials.



**Frogtape** Designed for use with emulsion paint, Frogtape can be used to create crisp lines, minimising paint bleed. Available in a multi-surface and a delicate version. The multi-surface tape will adhere to wood, glass, metal and stone and can be used for most paint applications. The delicate tape is recommended for decorative painting and can be applied to freshly painted materials or sensitive surfaces.

Frogtape	width	code	list	price
Multi-surface	24 mm	TAPFROGM24	£6.75	£5.32
Multi-surface	36 mm	TAPFROGM36	£7.89	£6.39
Delicate	24 mm	TAPFROGD24	£7.07	£5.51
Delicate	36 mm	TAPFROGD36	£8.22	£6.62

## MASK IT

Right, Mask It peels away cleanly. Below, before and after application of Mask It.



A textured backing paper peels away to reveal the tacky side



**Mask It** A very low tack saturated paper which is 4' wide. It should not damage existing wallpaper or paint and Mask It can be painted! Perfect for location work, just cover the existing wall coverings with Mask It and paint it whatever colour suits your shot. It will wrinkle when wet but soon dries out flat. After the filming is complete just peel it off to reveal the old wallpaper. Also useful for stencilling and general masking. 22.8 m rolls. Try a sample first – we also sell it by the metre. Avoid using on flaking or poor surfaces.

Mask It [22.8m]	width	code	price	code	Tradeline per 22.8 m full roll
	4 ft	TAPMASKIT	£18.82	TAPMASKITD	£364.40



## Easy Cover Painting Tape

Remarkable concept in adhesive masking. This smooth kraft paper has a self-adhesive strip along the top edge, that enables the painter to mask off large areas quickly and efficiently. Not suitable for use on fabrics.

Easy Cover Painting Tape [25 m]	width	code	price
Narrow	180 mm	TAP4364180	£5.50
Wide	300 mm	TAP4364300	£8.21

## PEELABLE MASKING PAINT



**Peelable Masking Paint** is a unique system that will temporarily decorate or cover large structures indoors or outside for up to 12 months. When it is time to uncover again just peel it off. Use it to blank off unwanted signage, mask off complex areas, change the colour of items that need to be restored to their original state such as camouflaging helicopters or cars for film use. Use it as a protective cover during winter periods to keep the frost off varnish etc. Grey. Tack-free in approximately 140 mins.

Peelable Paint	size	code	price
	5 kg	PATSMG5	£75.55

## HAZARD TAPES



**Barrier Tape** A non-adhesive barrier tape in soft plastic. Tie to objects to form temporary barriers. Very long 500 m rolls.

Barrier Tape [500 m]	width	code	price
Red/White	75 mm	TAP095	£9.18



**Pyrotechnics Tape** Non-adhesive barrier tape with "PYROTECHNICS IN USE DO NOT CROSS" plus logos stating No Smoking and No Mobiles. Red and black on white.

Pyrotechnics Tape [250 m]	width	code	Tradeline
	75 mm	TAP103	£23.85



**Hazard Tape** Distinctive self-adhesive hazard tape with broad diagonal bands.

- ✓ Red / White indicates danger/prohibition
- ✓ Black / Yellow indicates danger/hazard

Hazard Tape [33 m]	width	code	price
Red/White	50 mm	TAP091	£5.35
Black/Yellow	50 mm	TAP090	£5.35



**Wet Paint Tape** Non-adhesive barrier tape to encourage people to put their fingers on your paintwork to see if it really is wet. Reads "CAUTION WET PAINT" in 2" black lettering on yellow background.

Wet Paint Tape [91 m]	width	code	price
	75 mm	TAP097	£10.65



**Overhead Working Tape** Non-adhesive barrier tape with "Overhead Working, Do not cross" plus logos stating Hard Hats and Exclamation Mark. Black on yellow.

Overhead Working Tape [250 m]	width	code	Tradeline
	75 mm	TAP102	£21.23



**Slip Way** A unique 145 mm wide cloth tape especially designed to reduce the trip hazard of cables running across stages. Only the outside edges of this tape are adhesive, the tough inner section being plastic-lined so that cables can be pulled through without sticking. Even the adhesive strips have been selected to leave little residue on the stage floor. The top surface is black/yellow diagonal striped and it is printed with "ACHTUNG, CAUTION, ATTENTION". Also available plain black. Really useful during fit-up periods.

Slip Way Tape [30 m]	width	code	price
Black/yellow	145 mm	TAP098	£34.90
All Black	145 mm	TAP099	£27.15



**Arrow Floor Direction Tape** This highly durable and high grip tape is perfect for guiding visitors through spaces, ensuring they follow any route you desire. Laminated for durability, the tape gives a continuous run of black arrows on the standard hazard yellow background. SPECIFICATION:

Thickness: 52 microns, Adhesion to Steel: 24 N / 10 mm, Tensile Strength: 47 N / 10 mm

Arrow Floor Direction Tape [33 m]	width	code	price	36+
	50 mm	TAPAFDT	£7.20	£4.25

## PROTECTIVE TAPES



**Shrink Wrap** Mainly used for wrapping pallets to protect them from rain and to help secure loose boxes in place. Available in black, to help prevent pilfering, and clear so you know what's inside. It's not adhesive but sticks to itself.

Shrink Wrap [300 m]	code	price
width thk		
Black 500 mm 23 microns	TAPSWB	£17.07
Clear 500 mm 20 microns	TAPSWC	£16.91



**Roll and Stroll Protectors** A useful product ideal for protecting surfaces near to redecoration or scenic work.

- ✓ Prevents costly damage to carpets/wooden floors
- ✓ Quick and easy to unwind
- ✓ Use it to protect glazed stage floors from gritty shoes
- ✓ Safer than dust sheets – reduce trip risk
- ✓ Available in two types to suit carpets & hard floors

Roll and Stroll Protectors [25 m]	width	code	list	price
For carpets	600 mm	TAPROLL20	£32.16	£28.95
For hard floors	600 mm	TAPROLLH20	£22.80	£20.52

## METALLIC TAPES



**Gold & Chrome Tape** Top quality bright chrome and gold polyester tapes for all sorts of decorative uses.

Thickness: 50 micron. Adhesive base: acrylic. UV resistance: high. Temperature range: 0-180°C. Adhesion to steel: 2.74 N/10 mm. Elongation at break: 110%. Tensile strength: 235 N/10 mm.

Gold and Chrome Decorative Tapes [50 m]						10+
width	thk	gold code	price	chrome code	price	
15 mm	50 microns	–	–	TAP3015C	£2.00	£1.80
19 mm	50 microns	–	–	TAP3019C	£2.93	£2.65
25 mm	50 microns	TAP3025	£3.72	TAP3025C	£3.72	£3.35
50 mm	50 microns	TAP3050	£7.02	TAP3050C	£7.02	£6.31



**Premium Gold Foil Tape** This is a much thicker metallic tape. At 80 microns it is less likely to highlight woodgrain or blemishes in the substrate. Comes on a release liner.

Adhesion: low. Thickness: 80 micron. Adhesive base: pressure sensitive. Temperature range in service: 5° - 80°C.

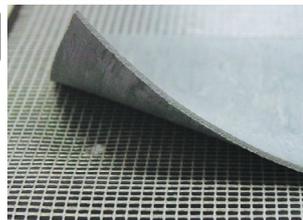
Premium Gold and Foil Tapes [50 m]						Tradeline 10+
width	thk	gold code	price	chrome code	price	
15 mm	80 microns	TAP10515	£9.98	TAP10515C	£9.28	£8.35
25 mm	80 microns	TAP10525	£16.04	TAP10525C	£14.31	£12.88
50 mm	80 microns	TAP10550	£29.98	TAP10550C	£26.85	£24.17



**Aluminium Tape** Ideal for securing foil to polystyrene plugs prior to casting. The reflective aluminium finish makes these tapes useful for many prop and scenic uses.

Aluminium Tape [45 m]	width	code	price
	50 mm	TAP081	£4.00
	75 mm	TAP083	£6.00
	100 mm	TAP084	£8.05

## DANCE FLOOR TAPE



**ReUseIt** The revolutionary way to install flooring! Now you can install virtually any floor surface over any existing sub-floor\* without messy adhesives, or having to hire expensive flooring contractors. A semi-permanent installation with permanent performance and feel! The ReUseIt system gives you all the benefits of a permanent installation with the ease of a semi-permanent installation without the use of top tape or the hassle of resetting your floor every two years. Yet when you need to remove the floor you simply peel it up and take it away. Simply purchase new supply of ReUseIt and install at your new location. Used ReUseIt can be removed from the sub-floor and thrown away. You can install it yourself and it's idiot proof.

\*An exception is MDF which can be very dusty even when you think it is clean as because of the way it is made there are always particles in the pores. MDF is almost never used for any type of flooring but if it is used make sure it is sealed MDF so then bonding won't be an issue.

ReUseIt [25 m]	width	code	Tradeline
	1 m	SSRU1000	£127.80



**Advance Clear Dance Floor Tape** A clear heavy-duty vinyl self-adhesive tape with a low sheen. See also Tape Residue Remover. Adhesion To Steel: 2.6 N/10 mm. Elongation At Break: 300 %. Tensile Strength: 16 N/10 mm.

Clear Dance Floor Tape [33 m]	thk	code	price	18 rolls+
	50 mm	TAP075	£5.89	£4.92



**Advance Grey Dance Floor Tape** This slightly grey translucent tape works very well on the popular grey dance floors. See also Tape Residue Remover. Adhesion To Steel: 3.5 N/10 mm. Elongation At Break: 130 %, Tensile Strength: 26 N/10 mm.

Grey Dance Floor Tape [33 m]	width	code	price	18 rolls+
	50 mm	TAP075G	£7.19	£6.41



**Le Mark Dance Floor Tape** Great quality Dance Floor Tape a good alternative to Advance Clear Dance floor tape. 50 mm x 33 m

Le Mark Dance Floor Tape [33 m]	width	code	price
	50 mm	TAPDFPT50	£4.44

## DOUBLE-SIDED TAPES



**High Grab** is a high quality double-sided cloth tape that will form an immensely strong bond between tape and surface, so strong it will tear veneers off plywood. Appears white. Also in Medium Tack version .

Adhesive: hydro carbon resin. Adhesion to steel: 11.5 N/10 mm. Tensile strength: 29 N/10 mm.

High Grab [50 m]	width	code	price
	50 mm	TAP061	£10.95



**Expo Tack** is a tape which has one side low tack to avoid floor damage. The other side is medium to high grab. Choose this tape for temporary fixing of carpets to floors or for fixing drape surrounds to rostra. Apply the open side to the floor leaving the high tack for the carpet. It will remove without leaving residue. It is NEC approved. Transparent.

Low tack side adhesion to steel: 1.2 N/10 mm. High tack side adhesion to steel: 9.2 N/10 mm. Temperature service range: -20° - +120°C.

Expo Tack [50 m]	width	code	price
	50 mm	TAP064	£11.60



**Medium Tack** is an economical general purpose tape which will release with reasonable ease. Acrylic adhesive and good transparency. The narrow width is often used

to secure seams prior to sewing.

Adhesion to steel: 5 N/10 mm. Elongation at break: 140%. Tensile strength: 35 N/10 mm. Service temperature: -15° - 120°C. UV Resistance: excellent.

Medium Tack [50 m]	width	code	price
	50 mm	TAP062	£6.10
	12.5 mm	TAP063	£2.15



**Very High Bond Tape [VHB tape]** Permanently bonds most metals, sealed wood, and glass as well as most plastics, composites and painted surfaces, with

fantastic strength. Replaces rivets, spot welds, liquid adhesives and other fasteners. Ideal for decorative trims. Prepare surface with cleaner before adhering.

Adhesion to steel: 30 N/10 mm. Temperature tolerance: Short term 149°C. Long term 93°C.

VHB Tape [30 m]	width	thk	code	price
	19 mm	0.635 mm	TAP4936VHB	£76.18
Cleaning Sachet			TAPSCS	£0.48

## TAPE RESIDUE REMOVER AND PRE-CLEANERS



**Wipeout Plus** This is an improved eco-friendly version of the old Wipeout. It now removes tape adhesive residue as well as scuffs, dye marks, unwanted stains and general grime. Penetrates, loosens, breaks down and dissolves many unwanted stains from all vinyl and non-porous surfaces. Pump spray bottle.

✓ Clears away tape residue and scuff marks!

For Blue Rolls see page 363.

Wipeout Plus	size	code	price
	200 ml	SAFWP	£33.86



**Isopropyl Alcohol Wipes** These sealed wipes are great for small cleaning jobs such as preparing surfaces prior to adhering tapes. For Isopropyl Alcohol see page 61. For Blue Rolls see page 363.

Isopropyl Cleaning Sachet	code	price
Cleaning Sachet	TAPSCS	£0.48

## GUNGEY TAPES

NEW

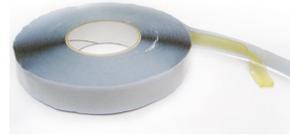


**Nano Tape** Gungy double sided tapes can sometimes damage surfaces but Nano tape is completely removable leaving no sticky residue and the surface intact. Great for securing props in place on set. Can

even be rinsed and re-used, though we can't be sure how many times! Thanks to Pat from Manta Ray for the recommendation.

Specification: Width: 24mm. Length: 2 metres

Nano Tape	code	price
	TAPNAN24	£2.98



**Toffee Tape** A pressure-sensitive rubber resin adhesive designed for bonding to "difficult" substrates, such as polythene and polypropylene. It cannot be used in

combination with plasticised PVC. Used for joining polythene sheeting, mounting lightweight items and making any product adhesive. It is considerably more sticky than the Black and White Tack below. It will hold quite heavy objects up for display purposes but it is a bit harder to remove than standard Black and White Tack.

Toffee Tape [20 m]	width	thk	code	price	20 rolls+
	19 mm	1 mm	TAPM348	£11.24	£9.63



**Black & White Tack** The 'gungy' double-sided tape, like a heavy duty Blue Tac. The article stuck by this method can be peeled off. Absolutely indispensable for positioning exhibition displays,

price labels, props etc [our ABTT stand is normally held together with the stuff!]. Adhesion to steel: 10 N/10 mm.

Black/White Tack [22.5 m]	width	code	price
Black	19 mm	TAP069	£11.15
White	19 mm	TAP068	£11.15

## HEAT RESISTANT TAPE



**Heat Resisting Black Foil Tape**

Blacktak is a heat resisting matt black foil tape which can be used to mask off lamps and light leaks without leaving residue. Do not confuse with "Black Tack", the gungy, blobby tape [see above]. See also Cinefoil [page 350].

Heat Resisting Foil Tapes [25 m]	width	code	price
Blacktak	50 mm	TAP071	£21.84
Matt Black Foil Tape	50 mm	TAP071MF	£19.95

### CRYSTAL CLEAR TAPES



**Gel Repair Tape** An optically clear polypropylene film coated with a non-yellowing acrylic adhesive. This tape won't be affected by exposure to UV light. Thin at just 89 microns but still able

to resist edge tears and splits. Specifically designed for splicing and repairing lighting gels and scrollers where temperature resistance and film stability are necessary. Thickness: 89 microns. Adhesion to steel: 3.33 N/10 mm. Elongation at break: 140%. Tensile strength: 70 N/10 mm. Service temperature range: -28°C - 82°C.

Gel Repair Tape [33 m]	width	code	price	18 rolls+
	50 mm	TAPGRT	£13.95	£13.25



**Clear to the Core Tape** Typically used to over-laminate labels etc. to provide extra protection. It makes a very smart means of sealing up cartons and boxes and it is useful for unobtrusive

repairs. It is completely clear and will not yellow. It is stronger than cellophane and acetate. Biaxially oriented polypropylene film with a solvent-based acrylic adhesive. Adhesion to steel: 3.28 N/10 mm. Elongation at break: 140%. Tensile strength: 70 N/10 mm.

Clear to the Core [66 m]	width	code	price	18 rolls+
	50 mm	TAPJLARC50	£12.45	£11.20

### STRUCTURAL TAPES



**Filament Cross-weave Tape** This fibreglass-reinforced tape is incredibly strong and suitable for providing structural support in model making. The cross-weave filaments give the tape bi-directional strength. Specially formulated to give good adhesion to fibreboard surfaces. Adhesion To Steel: 10 N/10 mm.

Elongation At Break: 5%. Tensile Strength: 240 N/10 mm. Thickness: 120 microns

Filament Cross-weave Tape	width	code	price
	25 mm	TAPFRCT25	£2.49
	50 mm	TAPFRCT50	£4.52

### WINDOW LEAD TAPE



**Window Lead Tape** A self-adhesive lead tape for creating stain glass windows. Use with French Enamel Varnish and Hatolite Glass Paint see pages 30-31. To darken and give an aged effect use Regasheen [page 96]

Window Lead Tape [50 m]	width	code	price
	4.5 mm	TAP161	£16.07
	6 mm	TAP162	£16.50
	9 mm	TAP163	£21.22
	12 mm	TAP164	£29.95

### NON-SLIP & LUMINOUS TAPES



**Non-Slip Tape** Self-adhesive tape with a black gritted texture surface, suitable for step treads and any surface that forms a slip hazard.

Adhesion to steel: 5.78 N/10 mm. Elongation at break 25 %. Tensile strength 23 N/10 mm.

Non-Slip Tape [18 m]	width	code	price
	50 mm	TAP076	£21.06



**Luminous Non-Slip Tape** A strong phosphorescent non-slip tape which glows in the dark. Tenacious adhesive. Ideal for marking the edges of get off treads. Often

used on boat decks. See also plain luminous tape below ↴ .

Adhesion to steel: 5.78 N/10 mm. Elongation at break: 25 %. Tensile strength: 23 N/10 mm.

Luminous Non-Slip Tape [18.5 m]	width	code	price
	25 mm	TAP7700	£28.07
	50 mm	TAP7701	£49.68



**Luminous Tape** Phosphorescent tape that retains light, when the lights go out it emits a yellow/green glow. Suitable for step edges, prop setting marks, scenery marks and any hazard identification. Self-adhesive. See also non-slip tape ↴ .

Luminous Tape [5 m]	width	code	price	10 rolls+
	25 mm	TAP065	£12.75	£11.95

### GUMMED PAPER TAPE



**Brown Gummed Paper Tape** Available in 2 widths. Commonly used by picture framers, and artists. Useful for arts and crafts. Gummed on the inside. 200 m roll.

Brown Gummed Paper Tape [200 m]	width	code	price
Brown	25 mm	TAPBGP25	£2.98
Brown	50 mm	TAPBGP50	£5.49

### PACKAGING TAPE



**Parcel Tape** Standard quality strong brown parcel tape. For use with tape dispenser guns for all those packaging tasks. The rolls are 66 m long but I'm not sure why. I wonder who decides these things or is it just random? For bubble wrap see page 363.

Parcel Tape [66 m]	width	code	price	36 rolls+
	50 mm	TAP070	£3.30	£2.95



**Universal Tape Gun** A parcel tape gun to speed up sealing boxes etc. This new version is great because it can take virtually any core-size. Our warehouse team think works much better than the old type too!

Dispenser Gun	code	price
takes width 50 mm	TAP072N	£7.50

## NEOPRENE TAPE



**Neoprene Tape** Foam self-adhesive sound-deadening tape. The 25 mm wide x 6 mm thick tape is useful under rostra tops to prevent rattling and drumming. Use tabs on stage doors to silence them. Other widths and thicknesses are available to order.

Neoprene Tape [10 m]		code	price	10 rolls+	50 rolls+
width	thk				
25 mm	6 mm	TAP085	£7.95	£6.15	£5.70

## SELF-BONDING TAPES



**Self-Amalgamating Tape** Conventional self-amalgamating rubber tape which bonds to itself and not to your fittings. The 100 mm wide version is commonly used as a mast coat and will effectively make a watertight seal over large gaps (available only at 1.5 m length). The 25 mm width is available in a 10 m length.

Self-Amalgamating Tape	width	code	price
Black 10 m	25 mm	TAPPS1205	£17.45
Black 1.5 m	100 mm	TAPPS1220	£13.57



**Rescue Tape** The ultimate multi-purpose repair tape! Rescue tape is an award-winning self-fusing silicone repair tape for emergencies and all-purpose repairs. It is the strongest, fastest fusing repair tape. Just stretch Rescue Tape and wrap it around any object and it will fuse onto itself.

- ✓ Wrap tool handles for great non slip grip
- ✓ Whips the ends of ropes
- ✓ Waterproof electrical connections and terminals
- ✓ Seals leaky hoses, pipes, tubing & fittings [up to 8 Bar]
- ✓ Resists 260°C and insulates to 8,000 volts [or 12,000 v Industrial]
- ✓ Use it as an emergency fan belt
- ✓ Works – and can be applied – under water!
- ✓ Leaves no sticky residue

Rescue Tape [3.65 m]	width	thk	code	price
Red	25 mm	0.5 mm	TAPRESSR	£10.98
Yellow	25 mm	0.5 mm	TAPRESSY	£10.98
Blue	25 mm	0.5 mm	TAPRESSBL	£10.98
Clear	25 mm	0.5 mm	TAPRESSC	£10.98
Black	25 mm	0.5 mm	TAPRESSB	£10.98
White	25 mm	0.5 mm	TAPRESSW	£10.98

## PLUMBING TAPES



**P.T.F.E. Tape** Used to lubricate and seal air hose joints.

P.T.F.E. Tape [5 m]	width	code	price
	12 mm	TAP077	£0.90

For P.T.F.E. Spray see page 363.

## HOOK AND LOOP TAPES



Prices Reduced!

**Self-Adhesive Hook and Loop** The best quality hook and loop with a powerful self-adhesive backing. It has a huge range of uses [securing props, drapes, scenic pieces, costumes, special effects, etc.]. We supply hook or loop in black or white. For non-adhesive tape see ↓.

Self-Adhesive [25 m]		black	price	white	price	10 + rolls
Hook	25 mm	TAP172	£15.15	TAP170	£15.15	£14.75
Loop	25 mm	TAP173	£15.15	TAP171	£15.15	£14.75
Hook	50 mm	TAP176	£23.80	TAP174	£23.80	£23.55
Loop	50 mm	TAP177	£23.80	TAP175	£23.80	£23.55

**Hook and Loop [Non-adhesive]** Occasionally it is preferable to have the hook and loop tapes with no adhesive, either so it can be sewn in place or so that a special adhesive can be applied for specific applications. We only hold stocks of non-adhesive hook and loop in 25 mm wide black. We can order other sizes or colours on request.

Non-Adhesive Hook and Loop [25 m]		width	code	price
Hook		25 mm	TAP172NA	£16.33
Loop		25 mm	TAP173NA	£16.33



Personal favourite!

**One Wrap** This is one of the most useful products in the catalogue. One Wrap is a black double-sided hook and loop fastener. The hooks are on one side and the loops are on the other. Just wrap it around and it will secure to itself! It allows the tape to be used as a replacement to cable ties or as a tidy for hemp lines, extension leads or airlines. It leaves no sticky mess associated with adhesive tapes and no sharp edges like those on nylon cable ties. It is surprisingly strong yet easy to release. A roll of this on tour will keep everything neat and tidy. 20 mm is the most popular size.

One Wrap [25 m]	width	code	per m	code	per 25 m
					full reel
	16 mm	GEN244	£1.65	GEN244D	£33.04
	20 mm	GEN245	£1.90	GEN245D	£38.91
	25 mm	GEN246	£2.11	GEN246D	£46.74
	50 mm	GEN248	£3.52	GEN248D	£85.65

For Cable Ties and Wrap Backs see page 347.



**3M Dual Lock** A reclosable fastening system made up of 25 mm x 25 mm black plastic squares of mushroom-like hooks that is 5 times stronger than Velcro. Useful for hanging pictures, fixing removable panels and securing set dressing. There is no "hook" or "loop". Each square locks onto another with a precise action. Backed by a rubber adhesive. Sold individually.

3M Dual Lock	LxW	code	price	300+
Each	25 x 25 mm	TAP190	£0.47	£0.34



**3M Duotec Transparent** If you need to secure glasses, crockery or other props which are used during stage action this transparent tape using the same precise action of the Dual Lock will solve the problem. Backed by VHB acrylic adhesive. Sold in a 100 mm strip or a 25 m roll.

Duotec Transparent	width	code	price
100 mm Strip	25 mm	TAPDU0T100	£0.52
25 m Roll	25 mm	TAPDU0T025	£103.95

# POWER TOOLS

Flints stocks power tools which we believe are perfectly suited to our industry. We would welcome the opportunity to quote on other tools not listed here and can provide competitive tailored quotations for orders of Tool Kits for students or stage crew [pages 329-330].

## CORDLESS DRILLS



**Makita CLX224AJ Cordless Drill & Impact Driver Set 12 V 2.0AH Li-ion CXT** This fantastically priced set will keep you out of trouble. We used to sell a similar set by

the pallet load, and we're sure this type will prove just as popular. Great value, and good for taking to fit-ups.

- ✓ Soft Grip Handles
- ✓ LED work lights
- ✓ Variable Speed
- ✓ Compatible with both 2.0 Ah & 4.0 Ah 12V slide on batteries

SPECIFICATION: **Drill Driver:** Max. capacity: Steel: 10 mm, Wood 21 mm. Max. torque: 30 Nm. No load speed: 0 - 1700 rpm. Weight: 0.87 kg. **Impact Driver:** Max bolt Ø: 12 mm. Takes 1/4" hex bit. Max torque: 110 Nm. No load speed: 0 - 2600 rpm. Weight: 1.2 kg.

☐ Set supplied in a MakPac carry case containing: 12 V Drill Driver, 12 V Impact Driver, 2 x 12 V 2.0 Ah Li-ion batteries, 1 x 70 min charger.

Makita CLX224AJ Set	code	<b>Tradeline</b>
	POWCLX224AJ	£149.95



**Makita DDF484 Drill Driver 18V Brushless 5.0 Ah Li-ion** This powerful, lightweight and compact driver drill packs a punch. The compact design [172 mm long] and LED job light allows for working in confined poorly-lit spaces. The brushless motor will keep this tool going for years to come.

SPECIFICATION: 18 V. Chuck capacity: 1.5 - 13 mm. Battery: 5.0 Ah Li-ion. No load speed: 0 - 500/0 - 2,000 rpm. Torque settings: 30/54 Nm. Max drilling capacity: wood/38 mm, steel/13 mm. Weight: 1.8 kg.

☐ Full kit supplied in a MAKPAK type 2 connector case with inlay, 2 x 5.0 Ah batteries, and a Compact Charger.

Makita Drill Driver	code	list	<b>Tradeline</b>
Full kit	POWDDF484RTJ		£319.00
Barebody only	POWDDF484Z		£109.00
Spare Battery	POWBL1850B		£70.00
Compact charger	POWBL18RC	£125.00	£43.98

## JIGSAWS



**Hikoki CJ90VST** A good quality jigsaw packed with features at a fantastic price.

- ✓ Tool-free blade lock
- ✓ Dust extraction adapter available
- ✓ Adjustable base up to 45°
- ✓ Variable speed
- ✓ 4-stage orbital action

SPECIFICATION: Power input: 705 W. No load speed: 850 - 3,000 rpm. Length of stroke: 20 mm. Min cutting radius: 25 mm. Capacity: wood/90 mm, mild steel plate/8 mm. Overall length: 228 mm. Weight: 2.2 kg.

☐ Supplied in a carrying case with: blade, and blade change tool.

Hikoki CJ90VST	code	list	<b>Tradeline</b>
Jigsaw 240 V	POWCJ90VST	£143.27	£85.00



**Bosch GST150BCE** Bosch invented the jigsaw and still make some of the best. Fitted with a new blade clamping system for excellent cut precision. Plus all the features you would expect from Bosch including dust extraction and robust magnesium base

plate. Tool-free blade change system, variable speed control and 4-stage pendulum action. SPECIFICATION: Output: 780 W. No load speeds: 500 - 3,100 spm. Stroke length: 26 mm. Maximum capacity: wood/150 mm, steel/10 mm, aluminium/20 mm. Weight: 2.7 kg. ☐ Supplied in a carrying case with: saw blade [T144DP], anti-splinter guard, dust extraction set, and glide shoe.

Bosch GST150BCE	code	list	<b>Tradeline</b>
Jigsaw 240 V	POW038	£160.16	£139.95
Jigsaw 110 V	POW038110V	£160.16	£139.95

## OSCILLATING MULTI TOOLS



**Makita DTM52 Bare Unit** Cordless Oscillating Multitool that comes with great reviews. Compared to its rivals the Makita DTM52 is much lighter and quieter which offers great

value for its performance. Great for a multitude of uses in sanding and cutting, multitools are unrivalled in their flush cutting abilities. See page 285 for blades. SPECIFICATION: Battery: 18V Li-Ion Battery. Fits all StarLock, StarLock Plus & StarLock Max accessories. Variable Speed Control. Brushless Motor. Anti-vibration for comfort in use. Accessories can be attached at 12 different angles

Makita DTM52 Bare Unit	code	<b>Tradeline</b>
Full kit + 1 x Battery	POWDTM52K	£247.00
Barebody only	POWDTM52	£179.00

## RECIPROCATING SAWS

**DeWalt DCS380M2 Reciprocating Saw 18 V XR 4 Ah Li-ion** The XR 4.0 Ah Li-ion battery technology delivers high performance, long life and maximum runtime.



Powerful and highly efficient fan-cooled motor for fast cutting action maximising productivity. Optimised power to weight ratio and intelligent variable speed trigger, lock-off switch and electronic brake give quick controlled cuts and enhanced work safety. It has a lever-action keyless blade clamp. SPECIFICATION: Power output: 560 W. No load stroke rate: 0 - 2,950 spm. Stroke length: 28.6 mm. Dims: 425 x 195 mm [LxH]. Weight: 3.3 kg.

☐ Supplied in a case with: 2 x 4 Ah Li-ion batteries+ multi-volt charger.

DeWalt DCS380M2	code	list	<b>Tradeline</b>
Reciprocating Saw	POWDSC380M2	£677.00	£299.00

## CIRCULAR SAWS



**Hikoki C7SB3** A medium-sized rip snorter offering great value for money for a proven reliable machine.

SPECIFICATION: 230 V. Power input: 1710 W. No load rate: 6,000 rpm. Blade diameter/bore: 185/30 mm. Max depth of cut: 62 mm [47.5 mm at 45°]. Weight: 4.3 kg.

This circular saw is supplied with carrying case.

Hikoki C7SB3	code	list	Tradeline
Circular Saw	POWC7SB3	£177.61	£99.95

## MITRE SAWS



**DeWalt DWS777 Mitre Saw**

Upgrade from DW777 model. Now includes XPS Shadow Line cut tech for accurate alignment, and dust-extractor port for safe dust-free use. Traditional pull and tilt design. The head lock function allows the head to be fixed, restricting the traverse function for trimming, groove cutting and ease of transportation. 5 pre-set mitre stops at 0°, 15°, 22.5°, 30°, 45°, quick release up to 50°, and fixed marked fences both sides.

SPECIFICATION: Power input/output: 1800/1100 W. Blade speed: 6,300 rpm. Blade diameter/bore: 216 x 30 mm. Bevel cap: 48°. Mitre cap: [right/left] 50°/50°. Cutting cap at 90°/90° [W x H]: 270 x 62 mm. Cutting cap at 45°/90° [W x H]: 189 x 62 mm. Cutting cap at 90°/45° [W x H]: 173 x 62 mm. Cutting cap at 45°/45°: 190 x 48 mm. Max depth of cut [saws]: 80 mm. Dims: 490 mm x 550 mm x 590 mm [LxDxH]. Weight: 14.0 kg.

Supplied with: 24-tooth blade, blade Allen keys, and material clamp.

DeWalt DWS777	code	list	Tradeline
Mitre Saw 240 V	POWDWS777	£386.00	£295.00
Mitre Saw 110 V	POWDWS777L	£386.00	£295.00
Spare Blade	DEW1952		

## GRINDERS



**Hikoki G12STX/J7 115 mm Mini Grinder Set**

Once we stocked a cheap grinder. It was intended as a "get you out of trouble tool" but the burnt-out wrecks would come back to us for refunds. We decided to stock a more expensive but great value grinder. Now

we don't need to sort out refunds and you get the job done.

600 W. Spindle thread: M14 x 2. Arbor: 22.23 mm. No load speed: 11,500 rpm. Weight: 1.8 kg.

Supplied in a case with: a diamond blade.

Hikoki G12SS/CD	code	list	Tradeline
Mini Grinder	POWG12STX	£79.35	£49.95



**Hikoki G23ST 230 mm Angle Grinder**

A powerful 2,000 W motor with a spindle lock. This machine is suited to workshop production work and will provide a long service life.

SPECIFICATION: 2,000 W. Spindle Thread: M14 x2. No load speed: 6,600 rpm. Weight: 5.1 kg.

Supplied in a case with: diamond blade, spanner and a side handle.

Hikoki G23ST/J1	code	list	Tradeline
Angle Grinder	POWHIT23STCD	£184.16	£99.95

For Grinding and Cutting Discs see page 291. For carving timber with your grinder see the brilliant Arbortech [page 282].

## SANDERS & POLISHERS

### Sanders and Abrasives

Flints stocks a wide range of top quality abrasives at very competitive prices. It is a wise investment to stock up on quality industrial-grade products which will far outlast the rather inferior and overpriced ranges that can be found in many of the "sheds". Our abrasives can be found from page 290.



**DeWalt DWE6423 Random Orbital Sander 125 mm**

Powerful enough for any job but especially useful for spot sanding small and curved areas. Weighs just 1.28 kg. One-handed operation; textured grip

and palm design for comfort. The small orbit size gives a smooth finish. Takes hook and loop 125 mm sheets [page 290]. Dust bag fitted.

SPECIFICATION: Paper size: 125 mm Ø. Pad size: 125 mm Ø. Speed: 8,000 - 12,000 opm.

DeWalt DEW6423	code	list	Tradeline
Palm Sander	POWDWE6423	£116.00	£99.95



**Makita 9403 Belt Sander**

The quietest belt sander in its class with a 500 m/min belt speed for fast material removal and dust bag with 360° swivel for convenience.

SPECIFICATION: Power input: 1,200 W. Paper size: 610 x 100 mm. Belt speed: 500 ppm. Weight: 5.9 kg.

Supplied with: sanding belt and dust bag.

Makita 9403 Belt Sander	code	list	Tradeline
Belt Sander	POW9403	£403.00	£249.00



**Bosch GP014 CE 240 V Professional Polisher**

Particularly useful when combined with the tapered thread and wire brush listed.

✓ 6-stage speed pre-selection for working on a wide variety of materials

- ✓ Plastic-shielded gear housing with improved insulation
- ✓ Specially developed air inlets ensure optimum motor cooling for a long lifetime
- ✓ D-handle for easy grip adjustment in different work positions
- ✓ Triple-control safety switch for controlled switching-on of the machine
- ✓ Cut-out carbon brushes for a high level of motor protection.

Specifications: Rated input power: 1,400 W. No-load speed: 750 - 3,000 rpm. Power output: 800 W. Grinding spindle thread: M14. Rubber sanding plate Ø: 180 mm. Wire cup brush Ø: 100 mm. Cup wheel Ø: 180 mm. Polishing sponge Ø: 160 mm. Surface brush Ø: 175 mm. Weight: 2.5 kg

Bosch GP014 CE	code	list	price
Bosch GP014 CE	POWGP014CE	£159.91	£149.00
		code	price
Tapered cone adapter [M14 internal thread]	POWM14TC		£35.58
Wire brush wheel [120 mm Ø x 16 mm. 0.08 mm steel wire]	ABR120ST		£23.55

## ROUTERS

Incredible value!



FREE 12 piece set worth £34.39



### Trend T4EK 240 V 1/4" Variable Speed Router Includes FREE 12 piece cutter set while stocks last

This lightweight router is fantastic value and perfect for light use. Features:

- ✓ Variable speed control
- ✓ Spindle lock
- ✓ Hex collet nuts for easy cutter changers
- ✓ Removable collar base for carving, die grinding, and pillar drill fitment
- ✓ Twin dust spout fixing holes
- ✓ Adjustable twin rod side fence for guiding along a straight edge
- ✓ Includes special 16 mm guide brush for use with hinge jig.

SPECIFICATION: 230 V Power Input: 850 W. Ampage: 3.7 amp. No load speed: 11,500 - 32,000 rpm. Collet sizes: 1/4", 6 mm, 8 mm [all hex]. Dust spout size ID: 34 mm. Guide Brush Ø 16 mm. Rod Ø: 8 mm. Rod length: 300 mm. Rod centres: 84 mm. Base Size: 143 x 102 mm. Max cutter diameter: 30 mm. Plunge stroke in wood: 35 mm. Weight: 2.8 kg

☐ Supplied in a storage case with: 3 x collets [1/4", 6 mm, 8 mm], bolt-on dust spout [34 mm], guide brush [16 mm], hinge jig guide brush [16 mm], 2 spanners, 1 side fence, 1 hex key, and while-stocks-last a 12 piece cutter set.

Cutter Set, provided in hard plastic case, includes:

- Straight: 1 x 6.3 mm Ø x 16 mm and 1 x 12.7 mm Ø x 19 mm
- Guided Round Over: 1 x 6.35 mm rad and 1 x 9.5 mm rad
- Guided Trimmer: 1 x 12.7 mm
- Dovetail: 1 x 104° x 12.7 mm Ø
- Guided Chamfer: 1 x 45°
- Guided Cove: 1 x 6.3 mm rad
- Guided Ogee: 1 x 4 mm rad
- Guided Rebater: 1 x 9.5 mm
- 'V' Groove: 1 x 45°
- Core Box: 6.35 rad

Trend T4EK	code	list	Tradeline
Router inc free set	TRET4EK	£102.92	£89.95

## WOOD CARVERS



**Arbortech Mini Wood Carver** Works well in confined spaces. This is a tough tool with a miniature grinding system which can take a range of accessories making it suitable for:

- ✓ Freehand power carving
- ✓ Medium and detailed wood carving
- ✓ Rough shaping to the finest detail
- ✓ Busts, totem poles, relief carvings, sculpting, even removing grout from tiles!
- ✓ Small head size enables excellent access
- ✓ Excellent blade visibility
- ✓ Also useful for cutting difficult materials such as ceramics and corrugated sheets using diamond or TCT blades

SPECIFICATION: Power input: 710 W. 18,000 rpm. Blade diameter: 50 mm. Weight: 1.83 kg.

☐ Supplied in a tool bag with: mini industrial blade, 3 sanding discs: 80, 180, 320 grit, rubber sanding pad, dust extraction attachment.

Arbortech Mini Carver and Accessories	code	price
Mini carver power tool	ABR456	£234.98
Mini carver 50 mm blades [pack of 2]	ABR454	£13.44
Industrial 50 mm TCT cutter	ABR600495	£18.51
50 mm Diamond cutter	ABR476684	£14.82
50 mm Assorted sanders [40, 60, 80, 120 grit]	ABR455	£12.40

## HEAT GUNS



**Metabo Hot Air Gun** has a powerful motor with two heating and three blower levels. The ergonomic design and rubber-coated handle provides ideal handling and a safe application. Ideal for:

- ✓ Dust-free removal of paint and varnish
- ✓ Drying samples and filler/texture compounds
- ✓ Applying heat shrinks
- ✓ Heat shrinking mirrors
- ✓ Softening thermoplastics.

SPECIFICATION: Rated input power: 1,600 W. Air volume: 240 - 450 L/min. Air temp: 300 - 500° C. High service life due to easy-to-clean air filter. Weight without power cable: 700 g.

☐ Supplied in a plastic carry case with: 50 mm wide jet nozzle, and 20 mm reducing nozzle.

Metabo H16 500	code	list	Tradeline
Heat Gun	POWM16500	£61.05	£48.72



**Clarke CHG2000C Hot Air Gun** This version of Clarke's economical hot air gun has twin heat settings at 350°C and 550°C. Includes four assorted nozzles and complies with British and European safety standards. Weight: 0.7 kg.

Clarke CHG 2000C	code	list	Tradeline
Hot Air Gun	POW3400764	£34.91	£29.98

## BLOW LAMPS



**Campingaz® Handy Auto Blow Lamp** This auto blow lamp has a highly ergonomic, shock-resistant polypropylene handle for comfortable use. With Piezo automatic ignition, it is extremely easy to light. The brass burner produces a flame which allows fine

adjustment via a nozzle. It can be operated off either the Campingaz® CG1750 or CG3500 valve cartridges.

Gas consumption: 175 g/h. Flame temperature: 1,750° C. Runtime: 1 h with CG1750. Weight: 227 g

☐ Supplied with a CG1750 gas cartridge.

Campingaz Blow Lamp	code	price
Handy Auto Blow Lamp	GAZTH2000PZ	£29.95
Replacement Cartridge [170 g]	TAYTH1750	£5.05
Replacement Cartridge [350 g]	TAYTH3500	£6.60

# DREMEL® MULTI-TOOL

## DREMEL® 3000



**Dremel® 3000 Variable Speed Multi-Tool Kit** After years of requests we have now added this Dremel® Multi-Tool to our range of power tools. Whilst we're sure many people will find this tool useful, it's most likely to be found in the propmaking

department. This incredible little tool has interchangeable accessories and attachments that allows the user to tackle almost any detailed task. With the correct accessories and the Dremel, it possible to do the following tasks: ✓ Carving ✓ Engraving ✓ Routing ✓ Cutting ✓ Sanding ✓ Grinding ✓ Sharpening ✓ Polishing ✓ Cleaning

### Features:

- ✓ EZ Twist™ nose cap to quickly swap out accessories and switch from cutting to sanding in a jiffy
- ✓ Variable speed, 10,000 - 33,000 RPM: gives the user ultimate control and comfort when using
- ✓ Ergonomic design, makes the tool comfortable in hand
- ✓ Integrated hanging hook for easy storage on your work bench
- ✓ Carry case for when you're on-the-go.

SPECIFICATION: Rated power input: 130 W, Voltage: 230 V, Weight: 0.55 kg, Dims [LxWxD]: 190 x 50 x 45 mm, No load speed: 10,000 - 33,000 min<sup>-1</sup>, Sound pressure: 77.1 dB(A), Sound power: 88.1 dB(A), Vibration: 12.8 m/s<sup>2</sup>

☐ Tool supplied in a cardboard box with: 2 x mandrel [1 x 401, 1 x 402], 13 mm Ø sanding mandrel with 60 grit sanding band [407], 1 x 13 mm Ø 60 grit sanding band [408], 2 x 13 mm Ø 120 replacement grit sanding band [432], 1 x 9.5 mm Aluminium Oxide grinding stone [cylinder - 932], 2 x 13 mm Ø polishing wheel [414], 1 x 19 mm Ø bristle brush [403], 4 x 32 mm Ø cut-off wheel [540], 1 x 3.2 mm Ø drill bit [150], soft carry bag, instruction manual.



100 piece set

150 piece set



TOLDRE401

TOLDRE402

TOLDRESC402

TOLDRE932



TOLDRE952



TOLDRE4922



TOLDRE421



TOLDRE414



TOLDRE429



TOLDRE403



TOLDRE409



TOLDRESC456



TOLDRE430



TOLDRE431  
TOLDRE438



TOLDRE407



TOLDRE408  
TOLDRE432

Dremel® 3000 Kit and Accessories	code	Tradeline
Dremel 3000 kit	TOLDRE3000	£46.86

## DREMEL® ACCESSORIES

### 100 piece Dremel® Multipurpose Accessory Set

☐ Supplied in a hard case, containing: 1 x 3.2 mm drill bit [150], 1 mandrel [401], 1 x mandrel [402], 1 x EZ SpeedClic Mandrel [SC402], 1 x high speed cutter [191], 1 x 9.5 mm Ø Aluminium Oxide grinding stone [cylinder - 932], 1 x 9.5 mm Ø Aluminium Oxide grinding stone [cone - 952], 1 x 4.8 mm Ø Silicon Carbide grinding stone [cone - 84922], 1 x 22.4 mm Ø Aluminium oxide grinding wheel [541], 1 x pot of polishing compound, 10 x 13 mm Ø polishing wheel [414], 5 x 26 mm Ø polishing wheel [429], 1 x 19 mm Ø bristle brush [403], 36 x 24 mm Ø cut-off wheel [409], 3 x 38 mm Ø EZ SpeedClic wheel [456], 10 x 19 mm Ø 180 grit sanding disc [411], 8 x 19 mm Ø 240 grit sanding disc [413], 1 x 6.4 mm Ø mandrel with 60 grit sanding band [430], 1 x 6.4 mm Ø 60 grit sanding band [431], 1 x 6.4 mm Ø 120 grit sanding band [438], 1 x 13 mm Ø sanding mandrel with 60 grit sanding band [407], 1 x 13 mm Ø 60 grit replacement sanding band [408], 1 x 13 mm Ø 120 replacement grit sanding band [432].

### 150 piece Dremel® Multipurpose Accessory Set

☐ Supplied in a hard case, containing: 1 x 3.2 mm drill bit [150], 1 mandrel [401], 1 x mandrel [402], 1 x EZ SpeedClic Mandrel [SC402], 1 x high speed cutter [191], 1 x 9.5 mm Ø Aluminium Oxide grinding stone [cone - 952], 1 x 4.8 mm Ø Aluminium Oxide grinding stone [cylinder - 8153], 1 x 3.2 mm Ø Silicon Carbide grinding stone [bullet - 83322], 1 x 4.8 mm Ø Silicon Carbide grinding stone [cone - 84922], 1 x 22.4 mm Ø Aluminium Oxide grinding wheel [541], 1 x pot of polishing compound, 10 x 13 mm Ø polishing wheel [414], 6 x 26 mm Ø polishing wheel [429], 2 x 10 mm Ø polishing point [422], 1 x 13 mm Ø bristle brush [404], 1 x 19 mm Ø carbon steel brush [428], 36 x 24 mm Ø cut-off wheel [409], 1 x 24 mm Ø heavy duty cut-off wheel [420], 3 x 38 mm Ø EZ SpeedClic wheel [SC402], 10 x 19 mm Ø 180 grit sanding disc [411], 10 x 19 mm Ø 240 grit sanding disc [413], 1 x 6.4 mm Ø mandrel with 60 grit sanding band [430], 1 x 6.4 mm Ø 60 grit sanding band [431], 1 x 6.4 mm Ø 120 grit sanding band [438], 1 x 13 mm Ø sanding mandrel with 60 grit sanding band [407], 1 x 13 mm Ø 60 grit sanding band [408], 1 x 13 mm Ø 120 grit sanding band [432].

Dremel® 3000 Accessory Set	code	list	price
100 piece Accessory Set [723]	TOLDRE100SET	£33.71	£28.65
150 piece Accessory Set [724]	TOLDRE150SET	£43.25	£36.67

Dremel® 3000 Accessories	code	price
<b>Mandrels</b>		
Mandrel [401]	3 TOLDRE401	£2.06
Mandrel [402]	4 TOLDRE402	£5.18
EZ SpeedClic Mandrel [SC402]	1 TOLDRESC402	£9.08
<b>Grinding Stones:</b>		
9.5 mm Ø cylinder Aluminium Oxide [932]	3 TOLDRE932	£4.66
9.5 mm Ø cone Aluminium Oxide [952]	3 TOLDRE952	£4.66
4.8 mm Ø cone Silicon Carbide [84922]	3 TOLDRE4922	£5.66
<b>Polishing</b>		
Polishing Compound [421]	1 TOLDRE421	£2.12
13 mm Ø Polishing Wheel [414]	6 TOLDRE414	£1.82
36 mm Ø Polishing Wheel [429]	3 TOLDRE429	£3.10
19 mm Ø Bristle Brush [403]	2 TOLDRE403	£4.14
<b>Cutting</b>		
24 mm Ø Cutting Wheel [409]	36 TOLDRE409	£8.50
38 mm Ø EZ SpeedClic Cutting Wheel [456]	5 TOLDRESC456	£9.08
<b>Sanding</b>		
6.4 mm Ø Mandrel + 60 Grit Sanding Band [430]	2 TOLDRE430	£5.18
6.4 mm Ø 60 Grit Sanding Band [431]	6 TOLDRE431	£1.92
6.4 mm Ø 120 Grit Sanding Band [438]	6 TOLDRE438	£1.92
13 mm Ø Mandrel + 60 Grit Sanding Band [407]	2 TOLDRE407	£2.54
13 mm Ø 60 Grit Sanding Band [408]	6 TOLDRE408	£2.12
13 mm Ø 120 Grit Sanding Band [432]	6 TOLDRE432	£2.12

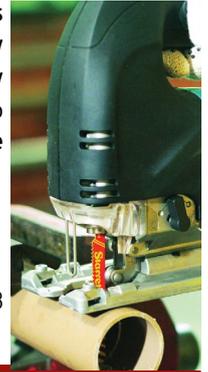
8: POWER TOOLS

# POWER TOOL ACCESSORIES

## STARRETT JIGSAW BLADES



**Starrett Unified Shank Bi-Metal Jigsaw Blades** These Starrett blades impressed us so much during a demonstration that we decided on the spot that we had to stock them. We would highly recommend that you try them. ✓ Unified shank fits all jigsaw machines ✓ Unique bi-metal technology joins the steels by solid state diffusion bonding ✓ Unbreakable during normal use ✓ Typically lasts 25% longer than directly competing products ✓ 170% greater resistance to tooth breakage ✓ Each blade performs many functions so fewer types are needed



Unified Shank Bi-Metal Jigsaw Blades		equivalent blades		qty	code	price
	cuts up to [mm]	TPI	toothed/blade length			
Fine [Fast Wood Blades]	30 - 45	6	75/100 mm	T101D, T101DP, U101D, U101DP	5 POWBU36T	£10.58
Metal	1.6 - 3.2	24	50/75 mm	T118A, T118AF, T218A, U118A, U118AF	5 POWBU224	£8.21

## BOSCH JIGSAW BLADES



**Bosch Jigsaw Blades** Bosch make more jigsaw blades than anyone else – over 6 billion! They fit Bosch, Festool, Hitachi, AEG, Elu, Holzher and Metabo etc.

Bosch Jigsaw Blades										qty	code	list	price
type	description	cuts up to	tooth spacing	toothed length	wood	plastic	metal	ply					
<b>FOR WOOD</b>													
T101B	Clean cutting [progressive teeth]	3 - 30 mm	2.7 mm	74 mm	Y	Y	N	Y	5	POWT101B	£10.99	£7.05	
T101BR	Splinter-free cuts with down-facing teeth	3 - 30 mm	2.5 mm	74 mm	Y	Y	N	Y	5	POWT101BR	£11.99	£7.40	
T101AO	Curve and right angle cuts. Also laminated chipboard	1.5 - 15 mm	1.4 mm	56 mm	Y	N	N	Y	5	POWT101AO	£9.98	£6.46	
T101D	Quick cutting [progressive teeth]	10 - 45 mm	4 - 5.2 mm	74 mm	Y	Y	N	Y	5	POWT101D	£10.89	£7.31	
T144D	Quick cutting popular blade [progressive teeth]	5 - 50 mm	4 - 5.2 mm	74 mm	Y	N	N	Y	5	POWT144D	£8.47	£5.48	
T244D	Curve cutting [progressive teeth]	5 - 50 mm	4 - 5.2 mm	74 mm	Y	N	N	Y	5	POWT244D	£10.99	£6.24	
T111C	Coarse cutting wood	4 - 50 mm	3 mm	74 mm	Y	N	N	Y	5	POWT111C	£5.47	£3.54	
T119B	Wavy set teeth for wood	2 - 15 mm	1.9 - 2.3 mm	50 mm	Y	Y	N	Y	5	POWT119B	£6.24	£4.04	
<b>FOR WOOD AND METAL</b>													
T345XF	Progressor for construction timber with nails	3 - 65 mm	2.4 - 5 mm	106 mm	Y	Y	Y	Y	5	POWT345XF	£19.31	£12.51	
	Glass fibre, reinforced plastic/epoxy	3 - 10 mm											
	Metal plate, pipes/profiles including aluminium [Ø]	3 - 10 mm											
<b>FOR METAL AND PLASTICS</b>													
T101A	Perspex, polycarbonate, acrylic sheet	2 - 20 mm	2 mm	75 mm	N	Y	N	N	5	POWT101A	£20.15	£12.86	
T123X	Progressor for metal plate	1.5 - 10 mm	1.2 - 2.6 mm	74 mm	N	Y	Y	N	5	POWT123X	£12.85	£8.88	
	Pipes/profiles including aluminium [Ø]	1.5 - 30 mm											
T127D	Curved cutting for metal plate	3 - 15 mm	3 mm	74 mm	N	Y	Y	N	5	POWT127D	£11.38	£7.37	
	Pipes/profiles special for aluminium [Ø]	< 30 mm											
	Glass fibre, reinforced plastic/epoxy	< 30 mm											
T118A	Mild steel plate [progressive teeth]	1 - 3 mm	1 - 1.5 mm	50 mm	N	Y	Y	N	5	POWT118A	£10.50	£6.81	
T118B	Mild steel plate [progressive teeth]	2.5 - 6 mm	1.9 - 2.3 mm	67 mm	N	N	Y	N	5	POWT118B	£10.50	£6.81	
<b>FOR SOFT MATERIALS</b>													
T313AW	Cardboard, polystyrene, carpet, leather, rubber	< 100 mm	knife ground	126 mm	N	N	N	N	3	POWT313AW	£10.50	£8.96	



**Reciprocating Sabre Saw Blades** These bi-metal blades fit DeWalt, Bosch, Black and Decker, Hitachi, Metabo, Makita and Skil. The metal cutting blades will swiftly cut through metals 1.5 - 10 mm thick including non-ferrous, pipe conduit, steel sheet and stainless steel. The wood, and metal/wood [nail embedded] blades will rapidly cut wood 5 mm and thicker. See page 280 for the 18 V cordless DeWalt Reciprocating Saw.

Reciprocating Sabre Saw Blades										code	price
description	detail	cuts up to	TPI	toothed/blade length	quantity						per box
Metal cutting	Ferrous and non-ferrous	1.5 - 10 mm	14 [1.4 mm]	130/150 mm	2	TOL10506424					£6.60
Wood cutting	Very fast wood	> 3 mm	6 [4.2 mm]	130/150 mm	5	TOL10504150					£14.09
Metal/Wood	All wood, plastics and metals [e.g. wood and nails]	> 5 mm	6 [4.2 mm]	130/150 mm	2	TOL10506429					£7.56

Flints can supply other makes and types of Jigsaw Blades. For Jigsaws see pages 280.

## STARLOCK BLADES FOR OSCILLATING MULTI-TOOLS

NEW



### Starlock 'Metal Buster' - 35 mm Metal Cutting Blade

Stubby Tungsten Carbide Multitool Blade  
Useful for cutting tough steel bolts, fibreglass, fibre cement board, and non ferrous metals. Compatible with the Makita DTM52 Cordless Multitool on page 280.

Stubby Tungsten Carbide Multitool Blade code list Tradeline  
ST35MB1 £28.20 £25.38

NEW



### Starlock Plus 32mm Bi-Metal Blade

Deep Cutting Multitool Blade for Wood & Non Ferrous Metals StarLock fittings have more of a 'cake tin' style fitting that enables greater transfer of power from the tool to the blade. On previous Multitools longer blades increased the risk of shearing off the pins that used to hold the blade in place, this is no longer the case with StarLock. Compatible with the Makita DTM52 Cordless Multitool on page 280.

Starlock Plus 32mm Deep Cut Bi-Metal Blade code list Tradeline  
ST32BML1 £29.46 £26.52

NEW



### Starlock Plus 32mm Rapid Wood & Plastics Blade

Deep Cutting Multitool Blade for Wood & Plastics. StarLock fittings have more of a 'cake tin' style fitting that enables greater transfer of power from the tool to the blade. On previous Multitools longer blades increased the risk of shearing off the pins that used to hold the blade in place, this is no longer the case with StarLock. Compatible with the Makita DTM52 Cordless Multitool on page 280.

Starlock Plus 32mm Deep Cut Rapid Wood Blade code list Tradeline  
ST32RWL1 £13.25 £11.93

## STARLOCK SETS FOR OSCILLATING MULTITOOLS

NEW



**SMART Starlock 4pc Blade Pack** Four piece Multitool Blade Set for cutting wood, plasterboard, nails, non-ferrous metal & plastic. Compatible with the Makita DTM52 Cordless Multitool on page 280.

- Set contains:
- 1 x 32 mm Bi-Metal Blade (Wood & Nails, non-ferrous metals)
  - 1 x 44 mm Bi-Metal Blade (Wood & Nails, non-ferrous metals)
  - 1 x 32 mm Rapid Wood Cutting Blade (Plasterboard & Plastics)
  - 1 x 63 mm Rapid Wood Cutting Blade (Plasterboard & Plastics)

SMART Starlock 4pc Blade Pack code list Tradeline  
ST4MAX £29.26 £26.34

NEW



### Starlock 31 Piece Complete Sanding Kit

F31 Piece Sanding Kit for Multitool for all your sanding needs. Comes with 10 sheets of 3 different grits to get you started, see Abranet triangular sanding sheets for larger pack sizes in a grit of your choice, hook and loop attachment. StarLock type fastening for backing pad. Compatible with the Makita DTM52 Cordless Multitool on page 280.

- Set Contains:
- 1 x 93mm Triangular Backing Pad
  - 10 x 60 Grit Sanding Sheets
  - 10 x 80 Grit Sanding Sheets
  - 10 x 120 Grit Sanding Sheets

Starlock 31 Piece Complete Sanding Kit code list Tradeline  
STS93KIT £25.33 £22.80

## DRILL BITS



**Irwin HSS Twist Bits [Jobber Length] Din Standard 338** [Durability] combined with efficient cutting. 118° point shape for drilling a wide selection of materials. Precision ground cutting edges.

HSS Bits	Ø	code	price	10+	Ø	code	price	5+
1 mm	TOL200	£0.75	£0.64	7.5 mm	TOL2013	£3.10	£2.66	
1.5 mm	TOL2001	£0.75	£0.64	8 mm	TOL2014	£3.48	£2.98	
2 mm	TOL2002	£0.83	£0.72	8.5 mm	TOL2015	£3.71	£3.18	
2.5 mm	TOL2003	£0.88	£0.75	9 mm	TOL2016	£4.28	£3.67	
3 mm	TOL2004	£0.94	£0.81	9.5 mm	TOL2017	£4.71	£4.04	
3.2 mm	TOL20042	£1.67	£1.51	10 mm	TOL2018	£4.88	£4.18	
3.5 mm	TOL2005	£1.10	£0.94	10.5 mm	TOL2019	£5.85	£5.02	
3.8 mm	TOL20058	£1.12	£1.01	11 mm	TOL2020	£6.44	£5.52	
4 mm	TOL2006	£1.20	£1.03	12 mm	TOL2022	£7.78	£6.66	
4.5 mm	TOL2007	£1.38	£1.18	12.5 mm	TOL2023	£8.14	£6.98	
5 mm	TOL2008	£1.55	£1.33	13 mm	TOL2024	£8.51	£7.29	
5.5 mm	TOL2009	£1.95	£1.67					
6 mm	TOL2010	£2.21	£1.89					
6.5 mm	TOL2011	£2.46	£2.11					
7 mm	TOL2012	£2.70	£2.32					

## DRILL SETS



**Irwin Metric HSS Pro Drill Set** High quality HSS Pro Drill bits listed above, but in a strong carrying case. Will efficiently tackle the toughest jobs.

19 drill bits [1 - 10 mm HSS PRO bits in 0.5 mm increments]

Irwin	code	list	Tradeline
19 bits	TOL10502500	£41.22	£34.13



**Dormer Drill Set** New case! Same renowned Dormer drills but in a robust plastic case. Less weight. Drills fit snugly into their slots and each size is marked clearly in white print.

25 drill bits [1 mm to 13 mm in 0.5 increments].

Dormer	code	list	Tradeline
25 bits	DORSET204	£259.00	£138.55



**Budget Drill Set** This set is suitable for the occasional user such as students or stage managers rather than full-time trades staff. Considering the price, they really are pretty good. 19 pieces all in a metal box.

19 bits [1 - 10 mm in 0.5 increments]

Budget	code	price
19 bits	TOL2069	£13.05



**Faithfull 25 HSS Metric Drill Set & Case** Professional high speed steel drill bits manufactured from high quality M2 grade tool steel.

25 drill bits [1 - 13 mm in 0.5 increments]

Jobber	code	list	Tradeline
25 bits	FAIMSET25PRO	£124.97	£96.85

## FLAT BITS



**Irwin Flat Drill Bits** These are the

longest lasting and fastest boring flat bits made. The extended spurs scribe the hole while the patented micro groove point gives faster, cleaner cutting. The hex shank fits any chuck over 6.5 mm. Designed to be used at speeds over 1,000 rpm.

- ✓ Will bore twice as fast as any other flat bit
- ✓ Will stay sharper and last 3 times as long as other flat bits

Flat Bits	diameter	length	code	price
	13 mm	152 mm	TOL2173	£6.65
	16 mm	152 mm	TOL2174	£7.34
	32 mm	152 mm	TOL2178	£12.00
	40 mm	152 mm	TOL2179B	£12.72

**Irwin Flat Drill Bit Set** A handy 6-piece set in a plastic wallet. Contains 10, 13, 16, 19, 22 and 25 mm bits.

Flat Drill Bit Set	code	list	Tradeline
	TOL217SET	£43.55	£38.12

## BLUE GROOVE 6X WOOD BORING BITS



**Blue Groove 6X Bits** for very rapid cutting with crisp clean cuts.

- ✓ "Tri-Flute" design for fast chip ejection
- ✓ Full screw tip for ease of use
- ✓ Cutting spurs for clean holes and minimal "break out"
- ✓ Full length heat treatment for durability



Blue Groove 6X	diameter	length	code	list	Tradeline
6-piece set of all the below in handy box			TOLBGSET	£58.54	£49.77
	22 mm	165 mm	TOLBG22		£9.96
	25 mm	165 mm	TOLBG25		£10.87

## EXPANSIVE BITS



**Expansive Bits**

These bits will fit a standard drill chuck.

At slow speeds the adjustable cutting blade will drill holes in wood from 22 to 76 mm.

- ✓ With just one expansive bit you can drill a full range of holes

Bahco Expansive Bits	code	list	Tradeline
	BAH9528MDL	£69.79	£49.45

## SDS DRILL BITS

**Irwin SDS Speedhammer Bits** These SDS bits will drill up to 25% faster and are capable of boring through reinforcing rod [providing it is safe to do so!]. Available from stock in the popular sizes listed below. Other sizes available to order.

SDS Bits	Ø	suits	length	masonry anchors	code	list	Tradeline
	12 mm	300 mm	M6	TOL31230	£9.68	£8.71	
	14 mm	300 mm	M8	TOL31430	£14.40	£12.96	
	20 mm	300 mm	M12	TOL32030	£36.99	£33.29	

## MASONRY DRILLS

**Irwin Masonry Drill Bit Set** 7-piece set containing 4, 5, 6, 7, 8, 10 and 12 mm in a plastic cassette.



Masonry Drill Bit Set	code	list	Tradeline
7-piece	TOL10501940	£38.03	£34.23

## HOLE SAWS



**Starrett Hole Saws** High speed steel, bi-metal high performance hole saws for heavy-duty performance. Maximum cutting depth 41 mm. Note: to get started the 51 mm holesaw and Arbor are required. Arbor has a hex shank to improve chuck grip. Hole saw set contains 6 top quality Starrett hole saws [22, 29, 35, 44, 51, and 64 mm] with A1 and A10 arbors. Supplied in a sturdy EVA case.



✓ Cuts through cast iron, tool steel, stainless steel, brass, bronze, aluminium, plastics and wood.

Arbors	shank	code	price	
A10 Arbor with drill to suit 32 - 152 mm hole saws	8.75 mm hex	TOL1968	£19.44	
Hole Saws	diameter	code	list	price
	51 mm [for round boss plates]	TOLHS51*	£16.25	£13.98
Hole Saw Set		code	list	Tradeline
		TOLHSSET	£121.59	£68.65

## COUNTERSINKS



**Countersinks for Drill Bits** These countersink bits produced from the highest grade carbon steel, leave a clean cut finish by virtue of their multi-tooth deep ground gullets. Not suitable on abrasive materials or metal. Drill bit not included.

Countersinks for Drill Bits	to fit drill Ø	code	Tradeline
	4 mm	TOL6204WS	£10.58



**Trend Snappy Countersinks** Great value HSS countersinks that can be used directly in the drill or for super fast changeover use them with a Snappy Quick Chuck. They produce a 3/8" and 1/2" [No 12 only] counterbore to fit standard woodplugs. See also plug cutters.

Trend Snappy Countersinks	to fit screw size	code	price
	4 mm [No 6 & 8]	TRESNAPCS8	£7.53
	5 mm [No 8 & 10]	TRESNAPCS10	£7.53
Set of 5 for No 4, No 6, No 8, No 10, No 12		TRESNAPCSSET	£30.06



**Hexibit** A high speed steel countersink bit with a 6 mm hexagon shaft for three-jaw chucks or hexagon adapters. Three fluted bit is for use on metal and the five fluted bit is for wood.

Hexibit	head Ø	angle	code	Tradeline
Three Flute [metal]	10.4 mm	90°	TOLXCM10	£17.84
Five Flute [wood]	10 mm	90°	TOLXCW10	£14.80

## PLUG CUTTERS



**Plug Cutters** For cutting plugs from off-cuts of timber to make a perfectly grain matched plug. Made from tool steel. Can be used in Snappy Chucks or directly in a standard chuck – ideally in a pillar drill. They produce 9.5 mm [3/8"] or 12.7 mm [1/2"] plugs. See the Trend Snappy Countersinks [ ] for producing the perfect matching counterbore.

Trend Plug Cutters	plug size	code	price
	9.5 mm [3/8"]	TRESNAPPC38	£13.85
	12.7 mm [1/2"]	TRESNAPPC12	£17.63

## FAITHFULL ROUTER BIT SETS



**Faithfull Router Bit Sets** Four sets designed to suit the needs of most professionals and routing enthusiasts. Supplied in a sturdy aluminium storage case representing fantastic value. Every Faithfull cutter tip is made from tungsten carbide brazed to the steel body and balanced to ensure vibration-free operation.

Faithfull Router Bit Sets	code	list	Tradeline
12-piece 1/4" shank	FAIRBS12	£39.96	£31.15
15-piece 1/2" shanks	FAIRBS15	£52.90	£38.70
30-piece 1/4" shanks	FAIRBS30	£89.94	£67.68
35-piece 1/2" shank	FAIRBS35	£123.16	£91.88

## BIT HOLDER SYSTEMS FOR CORDLESS DRIVERS



**Snappy Quick Chuck** Designed for rapid changing of Trend Snappy accessories such as the countersinks listed above but it will also hold any 1/4" hex bits.

Snappy Quick Chuck	code	price
	TRESNAPQC	£13.22



Snap Collet+Magnet Type

**Rapidaptor Snap Collet** Precision made by Wera to DIN 3126-D/E. Superb quality universal bit holder with rapid-in, rapid-out, and magnet for 1/4" hex bits. Wobble-free.

Rapidaptor Snap Collet	code	price
	WER052502	£12.47



Snap Collet+Magnet Type

**Stanley Magnetic Bit Holder** A popular and economical bit holder for 1/4" hex bits. Not suitable for stainless steel bits.

Magnetic Bit Holder	code	price
	STA168732	£5.25

## BIT HOLDERS



**Bit Pits** We really love these - allows the user to keep on hand a little hex bit, and not lose it in a pocket. Held in place with a magnet, and attached to a key ring.

Bit Pit	code	price	5+
holds one hex bit	TOLBPBHS	£6.99	£6.00

## SCREWDRIVER BITS

NEW



**Wera Torx Bit - TX** Used widely in Europe and gaining popularity in the UK, the design of Torx head screws/bits means you can use a much higher torque without camming out/damaging the screw head. This means they require far less effort to drive into wood. See also the new Torx screwdrivers on page 303.

Drive:	Universal 1/4" hexagonal	code	price
bit length	Torx size		
25mm	TX10	WER485001	£1.08
25mm	TX15	WER486001	£1.08
25mm	TX20	WER487001	£1.08
25mm	TX25	WER488001	£1.08
25mm	TX30	WER490001	£1.08
152mm	TX20	WER198001	£9.27



**Wera Diamond-Coated Pozidriv Bits** These are the ultimate bits with diamond particles

to bite into the screw head resulting in less wear on the bit and the screw, and reducing the driving force required.

Diamond Coated Pozidriv Bits	shaft length	code	price	5+	10+
PZ2	25 mm	WERA056702	£2.76		£2.49
PZ3	25 mm	WERA056704	£2.76		£2.49
PZ2	50 mm	WERA059902004	£4.18	£3.62	

**Pozidriv Insert Bits** Some Wera, some Stanley, all good.

Pozidriv Insert Bits	shaft length	screw size	code	price
PZ1 [1 pt]	25 mm	No 6	STA168945	£0.99
PZ2 [2 pt]	25 mm	No 8, No 10	STA168949	£0.99
PZ2 [2pt]	50 mm	No 8, No 10	STA168926	£2.28
PZ2 [2pt]	150 mm	No 8, No 10	WER060038	£7.38
PZ3 [3 pt]	25 mm	No 12	STA168953	£0.99

### Stanley Phillips Bits

Phillips Bits	code	price		
size	shaft length	screw size		
PH1	25 mm	No 6	STA168942	£0.99
PH2	25 mm	No 8, No 10	STA168946	£0.99
PH3	25 mm	No 12	STA168950	£0.99

### Irwin Slotted Bits

Slotted Insert Bits with a 25 mm shaft	code	price		
slot width	shaft length	screw size		
3 mm	25 mm	No 2	TOL10504358	£0.48
4.5 mm	25 mm	No 4 - 6	TOL10504359	£0.48
6.5 mm	25 mm	No 8	TOL10504361	£0.48
8 mm	25 mm	No 10	TOL10504362	£0.55

## SETS OF SCREWDRIVER BITS



**Stanley 7-Piece Bit Set** The lid of the plastic case twists to allow access to the bits.

Supplied in a case with: magnetic bit holder, PH1, PH2, PZ1, PZ2, slotted 0.8 x 5 mm, 1.2 x 6.5 mm.

7-Piece Bit Set	code	price
	STA168737	£10.73



**WERA Bit-Check Diamond Bi-Torsion Rapidaptor** The ultra flat construction of the Bit-Check case has proved hugely successful. The push button allows the case to swing out providing easy access to the bits and holder. Special tempering of the bi-torsion bits allows higher peaks

to be absorbed in the torsion zone. The blade itself also has a bi-torsion zone to absorb the impact of load peaks. The Rapidaptor bit holder allows bits to be quickly fitted by just inserting in the holder. Guaranteed secure and wobble-free. Release by pushing the clamping sleeve forward. Both one-handed operations. The outer sleeve is free-spinning to give an additional grip point. The bits are coated with thousands of particles of diamonds which bite into the screw head dramatically reducing the chance of cam out – a great advantage when working near delicate surfaces. They're also colour coded for easy identification. What's not to love?

Supplied in a Bit-Check case with: 1/4" x 50 mm Rapidaptor, 25 mm bits: slotted 5.5, 6.5 mm; Phillips PH1, PH2, Pozidriv PZ1, PZ2.

Bit-Check Diamond	code	list	price
	WER057416	£36.39	£26.75



**WERA Bit-Check® Diamond Bi-Torsion Bits and Holder** 10 pieces. Torsion bits are designed to divert torque peaks. More details about the Rapidaptor bit holder above.

Supplied in a Bit-Check® case with: 1/4" x 75 mm Rapidaptor, 25 mm bits: Phillips PH2, Pozidriv PZ1, PZ2 [x2], Torx 10, 15, 20, 25, and 30.

Bit-Check® Torsion	code	list	price
	WER0505711	£56.71	£39.95

## QUAD-DRIVERS AND SNAPPY FLIP OVERS



**Makita Quad-Driver** The Makita Quad-driver is a popular accessory for driver drills with carpenters who appreciate the speed saving of this clever device. The Quad-driver will drill a pilot hole, countersunk, counterbore in one operation and by reversing the bit holder it will drive the screws home.

Makita Quad-Driver	for screw size	code	list	price
	No.8	POW023	£13.40	£11.85
	No.10	POW025		£11.50



**Trend Screwdriver Snap/Flip Set** 4 pieces. Flip-over drill and screw driving set. Suitable for quick chucks and power drills. Good value.

Supplied in a plastic case with: quick change shank, drill bits: 2.4 mm, 2.8 mm, 3.2 mm. No 2 Pozi: 3.5 mm,

4.0 mm, 4.5 mm.

Trend Snap/Flip	code	price
	TRESNAPFLIP	£16.65

# WELDING

## WELDING CONSUMABLES



**Electrodes** We stock them for steel but can order for cast iron, stainless steel 308 [for 304] or 316, and aluminium. Please allow 5 days.

Electrodes for steel [GY38]	pack size	code	price
Ø 2.0 mm	50	MET084421	£5.50
Ø 2.5 mm	50	MET084438	£6.10
Ø 3.2 mm	50	MET084445	£8.20



**Welding Wire Reels** We stock reels for welding steel but we can easily order reels for welding other materials. Please allow 5 days.

Reels for steel (SG2)	Ø/mm	length	weight	code	price
	Ø 0.6 mm	200 m	5.0 kg	MET086111	£26.70
	Ø 0.8 mm	200 m	5.0 kg	MET086128	£23.20
	Ø 1.0 mm	200 m	5.0 kg	MET086135	£22.00

## SUNDRIES

**Sundries** are listed in more detail elsewhere in the catalogue.

Sundries	pack	code	list	price
Deb Barrier Cream	100 ml	SAF548314		£3.10
Swarfega Orange Hand Cleaner	4 L	SAFSWASOR4LMP	£35.01	£28.00
Methylated Spirit	5 L	PAT502		£14.95
Sparks for the grinder	Box	APR1F	available early April	

## MAGNETIC CLAMPS



**Magnetic Clamps** Choose between, a fixed clamp to hold steel items at 90°, 45°, or 135°, or a double magnet to form any angle. See also Solo Clamps with Metal Feet [page 306].

Magnetic Clamps	code	price
Fixed	MET044203	£7.40
Variable	MET044302	£12.80



**Chipping Hammer** An economical chipping hammer. Weight: 280 g.

Chipping Hammer	code	price
	MET044159	£4.20

## PROTECTIVE GEAR



### Flip Flap Welding Helmet

This welding helmet is suitable for all welding except laser, gaz, or Oxy-Acetylene, The flip front [shade 11] is for welding, the fixed clear screen for vision before welding or for grinding. Ideal for MMA up to 150 or MIG up to 200.

SPECIFICATION: Viewing area: 97 x 80 mm. CE conformity EN 175, EN 166 and EN 168. Weight: 429 g.

Welding Helmet Flip Flap	pack	code	price
Welding Helmet	each	MET042513	£16.50
Spare Screens Internal Tinted	20	MET042698	£7.30
Spare Screens External Clear	20	MET042735	£3.50



### LCD 9.13 G Welding Helmet

This updated welding helmet is designed for ARC, MIG/MAG and TIG welding as it operates from just 10 A upwards. The electro optical filter automatically switches from a clear shade [4] to dark shades [9 to 13] immediately the arc is formed and switches back to clear as soon as the arc shuts down. Reaction time is 0.3 ms and it returns to clear automatically.

SPECIFICATION: Conformity: EN 379 and EN 175. Weight: 460 g.

LCD 913 G Welding Helmet	pack	code	price
LCD Welding Helmet	each	MET040861	£52.20
Inside Screens [103.5 x 53 mm]	5	MET040786	£3.20
Outside Screens [116.1 x 89.5 mm]	5	MET040779	£5.00



### Welding Screen and Frame

An economical welding screen to protect bystanders from welding glare.

SPECIFICATION: Compliance EN 1598. 2 m x 2 m.

Screen	code	list	price
8.3 kg	MET060227	£149.00	£137.53



### Professional Welding Apron

A tough leather apron with pouches which will withstand sparks and touching against hot metal.

Welding Apron	code	price
	MET045217	£35.90



### Welder's Gauntlets [T10]

Multipurpose heavy-duty gloves suitable for welding [MMA/MIG/Plasma].

Welder's Gauntlets	code	price
	MET045101	£9.30

# ABRASIVES



Flints' abrasives are chosen for their quality and value. Ultimately, hand sanding achieves the best results prior to painting or varnishing but it can be very time consuming. A good compromise is to use an orbital sander on the large flat areas and hand sand any rounded and convex parts which would be cut away too quickly with a machine. Watch the video to see the results.



## Choosing the grit

600 grit and finer	Used prior to polishing.
400 grit	Used prior to topcoat of varnish or enamel on best brightwork.
320 grit	Used prior to top or second to topcoat.
240 grit	Used to flatten undercoats and early varnish coats
120 grit	Used to prepare raw timber prior to first primer coats of varnish or paint.
80 grit	Used to remove old paint and filler prior to finer sanding.
60 grit and coarser	Used for rapid removal of excess filler and for shaping timber.

## Choosing the abrasive type

**Waterproof Paper** can be used wet on plastics or previously painted or varnished surfaces. The water helps to lubricate the surface and reduces clogging. It also prevents dust. However, it is hard to judge where the paper has fully matted the surface while it is wet and the water will penetrate small screw holes and may take many hours to dry. Waterproof paper can also be used dry.

Typical applications would be for fine finishing of display cabinets, finishing prior to gold leaf or Dutch metal, hand prop finishing, preparation prior to spraying and marine varnishing.

**Glass Paper** is suitable for the carpentry shop prior to painting and for removal of splinters where a block plane cannot be used. Most conveniently supplied on a roll.

**Hook and Loop Abrasives** are becoming more and more popular. They are quickly attached to hand blocks which are normally supplied with one medium and one very soft side. The lack of waste and speed of sheet changing plus the ease of storage makes this a good versatile choice for the proshop. All the Mirka sanding sheets listed attach this way.

**Emery Cloth** has a blue twill cloth backing and is used in engineering shops for cleaning of rust, surface preparation and fine finishing.

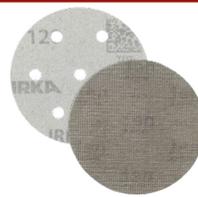
**Abrasive Pads** are available in four grades from ultrafine for denibbing and keying between paint coats to heavy-duty for removal of corrosion on steel and aluminium. They can be used dry or with water. When used with a hose they will clean and prepare in one quick operation.



## Mirka Iridium Triangular Sheets

**Festool Compatible** Hook and loop fastened sheets. Premium abrasive for universal sanding. Mix of ceramic and aluminium oxide grains on a flexible paper with precision coating that prevents clogging and reduces pilling. Top stuff.

Mirka Iridium Abrasives		code	list	price
size	grit	pack quantity	per pack	
93 mm triangular	P40	50	ABRMT04050	£22.48 £20.29
93 mm triangular	P60	50	ABRMT06050	£20.91 £18.87
93 mm triangular	P80	50	ABRMT08050	£16.55 £14.94
93 mm triangular	P100	50	ABRMT10050	£16.55 £14.94
93 mm triangular	P120	50	ABRMT12050	£16.55 £14.94
93 mm triangular	P150	50	ABRMT15050	£16.55 £14.94
93 mm triangular	P180	50	ABRMT18050	£16.55 £14.94



## Mirka Iridium & Abranet Sanding Discs Festool Compatible

We stock 2 types of Festool-compatible discs. The 90 mm Iridium abrasives have a mix of ceramic and aluminium oxide grains on a flexible paper with precision coating that prevents clogging and reduces pilling. The 125 mm and 150 mm feature the Abranet technology, which means the whole sheet is a mesh reducing the need to perfectly orient the sheet onto the tool, and allows for maximum dust extraction. This allows for truly dust-free sanding (when used with a dust extractor). We really rate them. Both have velcro-like attachment.

Granat Abrasives	code	list	price		
size	grit	holes	pack quantity	per pack	
90 mm Ø	P40	6+1	50	ABRM9004050	£28.23 £25.49
90 mm Ø	P60	6+1	50	ABRM9006050	£26.29 £23.74
90 mm Ø	P80	6+1	50	ABRM9008050	£20.28 £18.31
90 mm Ø	P120	6+1	50	ABRM9012050	£20.82 £18.80
90 mm Ø	P150	6+1	50	ABRM9015050	£20.82 £18.80
90 mm Ø	P180	6+1	50	ABRM9018050	£20.82 £18.80
90 mm Ø	P240	6+1	50	ABRM9024050	£20.82 £18.80
125 mm Ø	P80	mesh	10	ABRM12508010	£16.03 £14.48
125 mm Ø	P80	mesh	50	ABRM12508050	£48.14 £43.46
125 mm Ø	P100	mesh	50	ABRM12510050	£42.90 £38.73
125 mm Ø	P120	mesh	10	ABRM12512010	£16.03 £14.48
125 mm Ø	P120	mesh	50	ABRM12512050	£42.90 £38.73
125 mm Ø	P180	mesh	10	ABRM12518010	£16.03 £14.48
125 mm Ø	P180	mesh	50	ABRM12518050	£42.90 £38.73
125 mm Ø	P240	mesh	10	ABRM12524010	£16.03 £14.48
125 mm Ø	P240	mesh	50	ABRM12524050	£42.90 £38.73
125 mm Ø	P320	mesh	10	ABRM12532010	£16.03 £14.48
125 mm Ø	P320	mesh	50	ABRM12532050	£42.90 £38.73
125 mm Ø	P400	mesh	50	ABRM12540050	£42.90 £38.73
150 mm Ø	P80	mesh	10	ABRM15008010	£17.87 £16.13
150 mm Ø	P80	mesh	50	ABRM15008050	£56.00 £50.55
150 mm Ø	P100	mesh	50	ABRM15010050	£48.98 £44.22
150 mm Ø	P120	mesh	10	ABRM15012010	£17.87 £16.13
150 mm Ø	P120	mesh	50	ABRM15012050	£48.98 £44.22
150 mm Ø	P180	mesh	10	ABRM15018010	£17.87 £16.13
150 mm Ø	P180	mesh	50	ABRM15018050	£48.98 £44.22
150 mm Ø	P240	mesh	10	ABRM15024010	£17.87 £16.13
150 mm Ø	P240	mesh	50	ABRM15024050	£48.98 £44.22
150 mm Ø	P320	mesh	10	ABRM15032010	£17.87 £16.13
150 mm Ø	P320	mesh	50	ABRM15032050	£48.98 £44.22
150 mm Ø	P400	mesh	50	ABRM15040050	£48.98 £44.22

## Mirka Abranet Sanding Sheets - Delta [100 x 152 x 152 mm] & Strips [81 x 133 mm] Available online: P80 - P400.



## Sia Quick Fit Abrasive Discs [125 mm Ø]

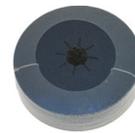
8 holes for dust extraction [DID3]. Velcro-type attachment. Great value.

Abrasive Discs 125 mm Ø	code	price	100+	500+
grit		per disc		
40	ABR640	£0.44	£0.40	£0.35
60	ABR660	£0.44	£0.40	£0.35
80	ABR680	£0.44	£0.40	£0.35
120	ABR6120	£0.57	£0.50	£0.44
180	ABR6180	£0.52	£0.44	£0.40
240	ABR6240	£0.44	£0.40	£0.35
320	ABR6320	£0.44	£0.40	£0.35
400	ABR6400	£0.44	£0.40	£0.35



**Sia Quick Fit Abrasive Discs [150 mm Ø]**  
6 holes [DID2]. Velcro-type attachment. Excellent quality abrasives. Great value.

Abrasive Discs 150 mm Ø	code	price	100+	500+
grit				
40	ABR840	£0.59	£0.51	£0.47
60	ABR860	£0.59	£0.51	£0.47
80	ABR880	£0.59	£0.51	£0.47
grit		price	100+	500+
120	ABR8120	£0.75	£0.66	£0.60
180	ABR8180	£0.64	£0.55	£0.50
240	ABR8240	£0.59	£0.51	£0.47
320	ABR8320	£0.59	£0.51	£0.47
400	ABR8400	£0.59	£0.51	£0.47



**Sia Fibre-Backed Sanding Discs**  
Industrial quality discs manufactured from heavy-duty fibre backing coated with aluminium oxide.

Fibre-Backed Sanding Discs	code	price		
Ø		per pack		
grit				
pack quantity				
115 mm	80	25	ABR064B	£23.25
115 mm	60	25	ABR063B	£23.25
115 mm	50	25	ABR062B	£23.25
115 mm	36	25	ABR061B	£23.25
125 mm	80	25	ABR073	£26.25
125 mm	60	25	ABR072	£26.25
125 mm	36	25	ABR071	£26.25
125 mm	24	25	ABR070	£26.25

## BELT SANDING



**Sia Cloth Sanding Belts [100 x 610 mm]**  
To suit Makita 9402 and Ryobi belt sanders. Swiss quality at our special prices.

Cloth Belts 100 x 610 mm	code	price	100+
grit			
40	ABR050	£2.56	£2.05
60	ABR052	£2.56	£2.05
80	ABR053	£2.56	£2.05
100	ABR055	£2.56	£2.05
120	ABR054	£2.56	£2.05
150	ABR049	£2.56	£2.05



**Sia Powerfile Belts [30 x 533 mm]** To suit Makita 9031 powerfiles.

Powerfile Belts 30 x 533 mm	code	price
grit		
60	ABR2800P60	£4.12
80	ABR2800P80	£4.12

## GRINDING AND CUTTING DISCS FOR STEELWORK



**Nylon Backing Pads** To fit angle grinders and mini grinders. They are supplied with metal inserts and locknuts.

Nylon Backing Pads	code	price
Pad to suit 115 mm discs and M14 x 2 angle grinder	ABR181	£7.88
Pad to suit 125 mm discs and M14 x 2 angle grinder	ABR180	£8.45



**Sia Flap Discs** Can be fitted directly to a grinder without the need of a backing pad and they last up to 25 x the life of sanding discs and provide a better finish. Suits the majority of grinding applications.

Flap Disc	code	price	10+
disc Ø x bore Ø	grit		
115 x 22 mm	40	ABR71540	£4.69 £4.08
115 X 22 mm	60	ABR71560	£4.69 £4.08
125 x 22 mm	40	ABR72740	£5.66 £4.92
125 x 22 mm	60	ABR72760	£5.66 £4.92

## Cut Off Wheels for Portable Cut Off Saws

Cut Off Wheels	code	price	15+
14" wheel Ø x 1" bore Ø	ABR230	£7.03	£5.81



**Cutting Wheels [3mm]** Grade suitable for cutting mild steel, wrought iron, hard aluminium, and angle iron. They are not suitable for grinding. All the wheels are flat and 3 mm thick.

Cutting Wheels 3 mm	code	price	10+
wheel Ø x bore Ø			
115 x 22 mm	ABR402	£1.34	£1.21
125 x 22 mm	ABR403	£1.61	£1.46
230 x 22 mm	ABR405	£3.09	£2.81



**Cutting Wheels [1mm]** Grade suitable for cutting sheet metal, stainless steel, pipes and profiles, brick, stone, ceramic tiles, plastic and PVC. These wheels are 1 mm thick. Provided in a useful tin.

Cutting Wheels 1 mm	code	price	per 10
wheel Ø x bore Ø			
100 x 16 mm	TOLFAI10010MUL	£15.56	
115 x 22 mm	TOLFAI11510MUL	£18.21	
125 x 22 mm	TOLFAI12510MUL	£23.37	



**Grinding Wheels [6.5mm]** Grade suitable for stock removal on ferrous and non-ferrous metals. All our wheels are 6.5 mm thick with depressed centre.

Grinding Wheels	code	price	10+
wheel Ø x bore Ø			
115 x 22 mm	ABR412	£2.20	£1.99
125 x 22 mm	ABR413	£2.28	£2.06
230 x 22 mm	ABR415	£5.56	£5.06

## HAND SANDING



**Glass Paper [280 x 230 mm]** Good old-fashioned sandpaper for use on timber prior to painting. F2, M2 and S2 are the most popular sizes. For really effective hand sanding why not try the hook and loop system? Don't forget your Puggy Gloves [page 343].

Glass Paper 280 x 230 mm	code	price	10+	50+
grit	type		per sheet	
180	0	fine	ABR011	£0.22 £0.20 £0.19
120	1 1/2	medium	ABR013	£0.25 £0.22 £0.20
100	F2	medium	ABR014	£0.26 £0.24 £0.22
60	M2	medium	ABR015	£0.27 £0.25 £0.23
40	S2	coarse	ABR016	£0.28 £0.26 £0.25

**Waterproof Paper – Wet and Dry [280 x 230 mm]** For fine work. Wet and dry paper can be used wet or dry. When used wet on varnish or enamel it works quickly without dust to provide a smooth matt surface perfect high gloss for top coats.

Waterproof Paper 280 x 230 mm	code	price	10+	50+
grit		per sheet		
600	ABR020	£0.82	£0.75	£0.70
400	ABR021	£0.82	£0.75	£0.70
320	ABR023	£0.83	£0.75	£0.70
240	ABR024	£0.83	£0.75	£0.70
180	ABR027	£0.85	£0.76	£0.72
120	ABR028	£0.94	£0.85	£0.80

**Emery Cloth [280 x 230 mm]** For the engineering shop.

Emery Cloth 280 x 230 mm	code	price	25+
grit	type	per sheet	
120	F	ABR043 £1.38	£1.25
100	1	ABR044 £1.38	£1.25
60	2	ABR046 £1.38	£1.25
40	3	ABR048 £1.38	£1.25



**Abrasive Rolls [115 mm x 50 m]** Handy rolls for workshop use. Good quality aluminium oxide. If you are hand sanding – try out the Puggy Gloves [page 343], you won't regret it!

Abrasive Rolls 115 mm x 50 m	code	price
grit		
220	ABR086	£46.41
120	ABR082	£46.41
100	ABR081	£46.41
80	ABR080	£46.41



**Hook and Loop System [125 x 70 mm]** We can highly recommend using this system for sanding. The

high quality abrasive sheets are quickly attached to the hand block which provides a very comfortable grip for ease and effectiveness of use. There is no wastage and you have great control. The abrasive sheets are of the highest professional quality so they last well and work fast.

- ✓ Superb control
- ✓ Fast cutting
- ✓ No wastage
- ✓ Good packaging
- ✓ Ideal for varnish and enamel work

Hook and Loop System Hand Blocks	code	price
Sanding Block [medium and very soft]	ABR301	£13.18
Single Side Block with hand grip [medium]	ABR305	£9.84

Hook and Loop Sheets 125 x 70 mm	code	price	50+
grit		per sheet	
40	ABR310	£0.67	£0.55
60	ABR311	£0.53	£0.43
		price	100 +
80	ABR312	£0.44	£0.35
120	ABR314	£0.38	£0.32
180	ABR316	£0.38	£0.32
240	ABR319	£0.38	£0.32
320	ABR321	£0.38	£0.32
400	ABR322	£0.38	£0.32



See also the **Mirka Abranet Strips** [81 x 133 mm] online

**ABRASIVE PADS**



**Abrasive Pads [152 x 229 mm]** May be used dry or with water. These pads are an excellent choice for paint preparation on old dirty pre-painted surfaces. When used with running water from a hose, they will clean, denib, and matt the surface in one action leaving it ready to accept paint. Sold each.

Abrasive Pads		code	price	20+
Ultra Fine	Denibbing and keying between paint coats	ABR500E	£1.47	£1.02
Very Fine	Fine metal cleaning and keying prior to paint	ABR501E	£1.47	£1.02
General	Scouring and cleaning	ABR502E	£1.63	£1.02
Heavy-duty	Removal of corrosion on steel aluminium etc.	ABR503E	£1.63	£1.02

**WIRE WOOL & BRUSHES**



**Wire Wool** Use for abrading, cleaning, buffing, polishing and removing. We also highly recommend the above abrasive pads.

Wire Wool		code	price
grade	sandpaper equivalent	quantity	
0000	300 - 600	1/2 lb	ABR198 £3.99
000	280 - 320	1/2 lb	ABR197 £3.99
00	150 - 220	1/2 lb	ABR196 £3.99
0	100 - 150	1/2 lb	ABR192 £3.86
1	80 - 120	1/2 lb	ABR193 £3.86
2	60 - 80	1/2 lb	ABR194 £3.86
3	40 - 60	1/2 lb	ABR195 £3.86



**Mini Wire Brush Set** Like oversized toothbrushes these are great for getting at difficult to access places to clean up and de-rust prior to painting. They have a comfortable soft grip handle. One of stainless steel, one of brass and one of nylon. Length: 175 mm. Bristles: 40 mm x 10 mm wide.

Mini Wire Brush Set	code	price
3 brush set	TOLROU52005	£7.30



**Purdy Cushion Grip Wire Brush** This short handled brush has unique criss-cross bristles made from rustproof stainless steel. The handle is rubberised for comfort, has a pistol grip, and a hammerhead end. The brush head has side grips so you can really attack your rust. It's really lightweight too! Sadly Purdy have discontinued their rather good Block Brush which could be used with an extension pole. Qué será, será!

Purdy Wire Brushes	length	weight	code	price
Short Handled Wire Brush	11"	200 g	PBR144910100	£6.85



**Economy Wire Brush** We now stock a really good value wire brush with a wooden handle.

Wire Brush	code	price
Three Row	TOL731	£3.50
Four Row	TOL732	£4.05
Four Row with Scraper	TOL734	£5.64



**Faithful Wire Brush** A useful good value steel wire brush with plastic handle.

Faithful Wire Brush	code	price
4-Row Wire Brush	MET044241	£2.20

# HAND TOOLS

Flints' choice of hand tools is based on over thirty years' of experience in the trade. Whilst our main range consists of top quality tools for the full-time professional, we have chosen some budget tools more suited to the occasional user. Some of the tools are specially imported and are unlikely to be found anywhere else. We have also put together a selection of keenly-priced tool kits which are listed on pages 329-330. If you need to purchase special tool kits for students or your crew we can offer excellent discounts for multiple orders.

## MEASURING & MARKING

### TAPE MEASURES



**Stanley Powerlock Tape Measures** Comes with a chromium-plated plastic case, removable belt clip, a Tru-Zero end hook and a power return with sliding lock. The yellow blade with black markings has a Mylar coating which increases blade life by up to ten times. The 8 m tape also has transparent blade armour on the first 150 mm for maximum durability and reduced breakages. Marked with both metric and imperial markings. Replacement blades available to order. For Tape Pouches see page 328.

Stanley Powerlock	blade	code	list	Tradeline
3 m [10']	19 mm	STA033523	£9.26	£7.88
5 m [16']	19 mm	STA033553	£15.91	£13.55
8 m [26'] [with armour blade]	25 mm	STA033526	£21.19	£18.82
10 m [33']	25 mm	STA033443	£25.18	£21.37



4 m  
standout!

**Stanley FatMax™ Xtreme** With a heavy-duty case, a rubber grip and an extra wide Mylar-coated blade that gives a long standout of 4 m! For maximum durability and reduced blade breakage the FatMax™ Xtreme is coated with Mylar giving 10 times more resistance

to abrasion than a lacquered blade plus it has a transparent blade armour. The high visibility blade measures an amazing 32 mm in width and is now fitted with a 150% larger end hook. Marked with both metric and imperial markings.

Stanley FatMax Xtreme	blade	code	list	Tradeline
8 m [with blade armour]	32 mm	STA533891	£35.36	£30.00



Also available as an All Metric version

**Hultafors Big T [All Metric or Metric/Imperial]** As most measurements onstage tend to be metric, many users find the imperial measurements along one side of the tape an irritation as they often appear on the side that you want to read from! This tape can be read right up to the end as the newly-designed extra tough hook is mounted below. We also stock the metric/imperial version.

Hultafors Big T	code	list	price
8 m All Metric	TOL356223	£27.83	£23.65
8 m [26'] Old Codger's Version	TOL356213	£26.14	£22.13



**Flints Budget Tapes** Chunky rubber-protected tape measures with a wide blade marked in metric and imperial. Fitted with a temporary brake underneath and a blade lock on the front. Treble riveted hook. Great value.

Flints Budget Tape	code	price
5 m	TOLM45025	£5.94
10 m	TOLM410025	£9.43

### STAGE TAPES



**RST Budget Long Tapes** A popular budget-quality 13 mm wide fibreglass tape, marked with both metric and imperial markings, in a tough plastic case.

RST Long Tape	code	price
20 m [66']	RSTRDM23	£10.04
30 m [100']	RSTRDM24	£16.82



Up to 100 m long

**Bahco LTS Open Reel Fibreglass Tapes** Metric/imperial open frame long tapes. The strong fibreglass blade will withstand a pulling force of near to 500 kg! Double nylon blade coating for extra wear resistance. Comfortable winding handle.

Bahco Open Reel Tape	code	list	price
30 m	BAHLTS30E	£33.58	£26.03
50 m	BAHLTS50E	£46.30	£35.88
100 m	BAHLTS100E	£97.65	£75.68

### DIGITAL CALIPERS



**Faithfull Digital Calipers** Manufactured from hardened stainless steel, this three-function electronic digital caliper provides precision readings through a liquid crystal display. Features include a fine adjustment roller, which allows precise measurements to be taken quickly and easily. Readings are displayed in metric or imperial. The four-way measurement function provides readings in external, internal, depth and step modes. Powered by LR44 3 V coin cells [included]. Supplied in a strong case. 150 mm with 0.01 mm graduations.

Faithfull Digital Calipers	code	list	price
	TOLD06	£51.77	£44.11
Coin Cell [spare batteries]	code		
LR44 [1.5 V Alkaline] pack of 2	DURLR44		£1.50

## STRAIGHT EDGES & RULES

It's really handy!



**Fisher Stainless Steel Rules** Imperial and Metric on one side and just Imperial on the other. Rustless stainless steel



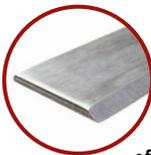
with clear permanent markings. The little 6" pocket-sized version [152] is very handy and only a couple of pounds. Width: 30 mm. Thickness: 0.75 mm.

Stainless Steel Rule	code	price
150 mm [6"]	TOLF106ME	£1.74
300 mm [12"]	TOLF112ME	£3.41
600 mm [24"]	TOLF124ME	£5.77



**Safety Rule** With a unique M profile which keeps the fingers well away from any knife edge when used for cutting or scoring card etc. Stainless steel with both metric and imperial scales.

Safety Rule	weight	code	price
300 mm [12"]	117 g	MAU1773012	£2.57



**Carbon Steel Straight Edge** Surface ground all over with an accurately finished bevel edge. Accuracy is 0.01% of the length of the straight edge. Ideal for model making, propwork and any job that requires accurate marking or cutting out.

Carbon Steel Straight Edge	code	list	Tradeline
1 m	MAU17001	£64.24	£56.55



It's too big to fit in the picture box.

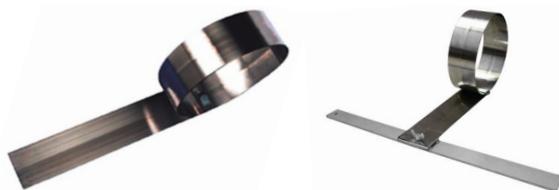
**8' Aluminium Feather Edge** Long hollow aluminium straight edge with one feather edge. Ideal for marking out large pieces of scenery and sheets of plywood. Tubular handles [not included, see page 252] can be self-tapped onto the back to provide an easier grip for working vertically on paint frames.

Aluminium Feather Edge	DxH	code	list	price
2,438 mm [8']	93 x 25 mm	TOLFAIFE8	£62.93	£56.65



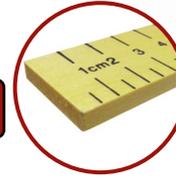
**Folding Rulers** A virtually unbreakable plastic folding rule. Also available: a 2 m European-style six-fold rule which is the preferred choice of Polish carpenters and surveyors.

Folding Ruler	marking	code	list	Tradeline
1 m [39"] Plastic Rule	Metric/imp	TOLFSCXFB1ME	£16.40	£14.50
2 m Surveyor's Rule	Metric	FSCSR2M	£72.99	£51.83



**Carpenter's Roll-Up Straight Edges** A very popular rule consisting of a section of sprung steel which unrolls to a 2.05 m x 80 mm straight edge. Perfect for full scale marking out of treads and raked stages. Our roll-up T-Square version is 4 m long!

Carpenter's Roll-Up Straight Edges	code	price	
2.05 m Straight Edge	80 mm	TOL850	£32.50
4 m Roll-up T-Square		TOLTMM004	£94.50



**RST Metre Stick** Hardwood bench rule graduated both sides in metric and imperial. Very popular with scenic artists.

RST Metre Stick	code	price
1 m	RST670	£5.65

For flexible curves and circle templates have a look at the drawing section of our catalogue [pages 111 - 112].

## CHALKLINES



**Stanley Chalkomatic** Professional quality chalkline with a die cast aluminium case. Handle folds into case for convenience and can act as a lock so you can use it as a plumb bob.

Chalkomatic	code	list	Tradeline
30 m	STA047100	£14.27	£12.68



**Stanley Chalkline** Comes in a tough yellow polypropylene case. Handle does not lock.

Chalkline	code	list	Tradeline
30 m	STA047440	£8.47	£7.19



**Irwin Strait-Line Chalk Reel**

- ✓ 3 times faster than traditional chalk reels
- ✓ 3.5:1 ratio gearing with a metal handle
- ✓ Wide pronged hook
- ✓ Nylon/Polyester braided line
- ✓ Lightweight ABS plastic housing

Chalk Reel	code	price
30 m	TOL10507676	£12.95



**Chalk Refills** Neatly packaged in 113 g containers.

Chalk Refills	code	price
Blue	STA147403	£4.44
Red	STA147404	£4.24
White	STA147405	£4.24

## MORTISE AND MARKING GAUGES



**Mortise & Marking Gauges**

2 options: A simple version made of beech with a plastic thumbscrew, and a hardened steel marking pin, and a rather lovely rosewood and brass

version which includes a double set of mortise pins on one side of the stem and a single marking pin on the other.

Marking Gauge	code	price
Budget Beechwood	TOLC135	£7.98
Beautiful Rosewood and Brass	TOLC153	£29.84

## PROFILE GAUGE



**Profile Gauge** Perfect for working out tricky corners and mouldings. Imperial and Metric scales, magnetic catches too. Length: 250 mm

Profile Gauge	code	price
	TOLFAITLPROF	£16.09

## TRAMMELS



**Trammel Heads Eclipse 33** Used to mark out large arcs and circles. The size is restricted only by the length of the timber beam onto which they need to be

clamped. Final small adjustments can be made by rotating the pin which has a clever offset point. See also Blackboard Compasses and Circle Templates [page 112].

Trammel Heads Eclipse 33	code	price
Set of two	ECL33	£56.12

## SQUARES & BEVELS



**Stanley 1912 Combination Square**

Probably the most useful square. This model is widely used by carpenters and engineers and has a robust cast iron stock. Can be used as a try square, mitre square, depth gauge, 12" rule, spirit level and it is fitted with a small scriber.

Stanley 1912 Combination Square	code	list	Tradeline
300 mm [12"]	STA046151	£45.73	£38.80



**Hultafors Combination Square** A lighter weight but still very serviceable combination square ideally suited to students

and touring tool kits. 12" stainless steel blade graduated metric on one side and imperial the other.

Combination Square	code	list	price
300 mm [12"]	TOL265203	£13.87	£12.46



**Carpenter's Try Squares** Made to BS 3322, these try squares come in "Plantation grown" rosewood with a 1/8" [3 mm] brass facing strip. The hardened, tempered and blued steel blade is fixed to the wood stock by brass rivets.

Try Square	code	price
6" [150 mm]	TOLC125	£16.29
9" [225 mm]	TOLC126	£19.60



**Rosewood Sliding Bevel**

Made to BS 3322. Used for marking, checking and transferring angles. The blued steel blade is held in place with a brass lever.  Supplied in a wallet.

Rosewood Sliding Bevel	code	price
267 mm [10 1/2"]	TOLC117A	£24.20



**Miniature Try Square and Bevel Slide** For the discerning woodworker and model maker these miniature tools are made to the same exacting standards as their regular sized counterparts.  Try Square supplied in a wallet.

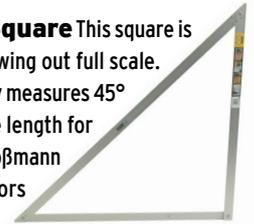
Miniature Try Square & Bevel Slide	code	price
3" Try Square	TOLC133M	£18.15
Sliding Bevel with brass wing nut	TOLC115M	£12.35



**Stanley Roofing Square** Although these squares are designed for the roofing trade they are ideal for marking out full-size scenery. Graduated in 2 mm intervals and printed with rafter tables on both sides. All metric version.

**Stanley Large Folding Square** This square is ideal for laying out floors and drawing out full scale.

Aluminium construction accurately measures 45° and 90° angles. Folds into a single length for easy storage. Also look at the Großmann Square for working on paint floors [page 80].



Stanley Squares	code	list	Tradeline
610 x 400 mm Roofing Square	STA145530	£35.68	£31.45
4' x 4' Folding Square	STA145013	£59.17	£52.44

## SPIRIT AND LASER LEVELS, & PLUMB BOBS



**Stanley FatMax I-Beam Level 3**

magnified solid block vials provide an accuracy of 1.0 mm / m in 8 orientations. Super strong thanks reinforced box-beam construction, but lightweight

and easy to handle. Scale rule for easy marking. 1.2 m long, with shock absorbing end caps. Perfect.

Stanley FatMax I-Beam Level	code	list	Tradeline
1.2 m	STA143555	£34.24	£30.82



**Spectra Precision LP51 5-Beam Self-Levelling Laser Pointer**

This rugged self-levelling laser is ideal for spotting blocks in the grid. Just place the downward pointing laser over your mark on the stage and it will throw a 30 m beam plumb above into your grid.

It also features two level beams at right angles to each other making it also the ideal tool for setting up stage floors etc. Even withstands 1 metre drops!  Supplied in a soft pouch with: magnetic mounting accessory, target, and batteries [2 x AA].

- ✓ Saves valuable fit-up time
- ✓ More accurate flying
- ✓ Fast setting up of level floors

Self-Levelling Laser Level	code	Tradeline
	TOLLP51	£180.25



**DeWalt DW083K Self-Levelling 3 Beam Laser Level**

This level is accurate to +/-0.2 mm/m and is self-levelling up to 4° surface angle with the pointer able to be rotated 180°. One button operation for fast and easy activation of the laser. The pendulum

locks when in "off" position and the focused laser beam keeps the laser dot small, even over long distances for improved accuracy and visibility. Location magnets allow it to be used on metal. It also has a 1/4" standard tripod connection. Ideal for general levelling up to 25 m distance and for positioning overhead grid blocks.

SPECIFICATION: Laser type: laser 2 < 1 mW. Self-levelling range: ± 4°. Number of beams: 3. Direction of beams: up/down/level. Indoor visibility range: 30 m. Power source: 6 V - 4 x AA alkaline batteries. Weight incl. battery: 0.55 kg.

DeWalt Self-Levelling Laser	code	list	Tradeline
	DEW083K	£281.14	£159.95



**Stabila Pro 81 Series Level with Magnetic Base and Holster** This is a very useful 250 mm level for use in grids and for erecting steel staging. The magnetic base allows hands-free adjustment of scaffold tubes etc. Includes belt holster. Measurement accuracy: 0.029° = 0.5 mm/m.

Stabila Pro 81 Series	weight	code	list	price
250 mm [10"]	225 g	STB81S10MH	£42.78	£37.48



**Monument Solid Brass Plumb Bob** Useful for gridding out cloths, spotting blocks, tiling and decorating. Bit of a shocking price but it is rather lovely. Weight: 128 g.

Plumb Bob	code	list	price
Size 2	MON249	£30.11	£21.41

## HAMMERING & PUNCHING

### HAMMERS



**Magnetic Tack Hammer** This solid forged head tack hammer features a magnetic fork face to aid placement of the nail when hammering. Head coated with a lacquer for improved rust protection.

Magnetic Tack Hammer	code	price
7 oz	TOLTH7	£21.18



**Warrington Joiner's Hammer** Designed for all light woodwork assembly and general use. The straight cross pein opposite the striking face is designed for starting a panel pin between finger and thumb or for driving nails into corners where the round face will not fit. These Warrington hammers have heat-treated and polished forged steel heads with Evertite-fixed ash handles.

opposite the striking face is designed for starting a panel pin between finger and thumb or for driving nails into corners where the round face will not fit. These Warrington hammers have heat-treated and polished forged steel heads with Evertite-fixed ash handles.

Warrington Hammer	code	list	price
227 g [8 oz]	TOLSJWA8	£15.30	£12.62



Leather version



Vinyl version



**Estwing Claw Hammers** Traditionally regarded as the ultimate hammer to own, made from one piece of high quality tempered steel. Perfectly balanced and fitted with either a laminated leather handle or a nylon/vinyl grip. A tool to last a lifetime. I bought mine in 1976 and it's still lovely!

Estwing Claw Hammer	code	list	price
16 oz leather	ESTE16C	£76.37	£53.84
20 oz leather	ESTE20C	£87.39	£61.69
16 oz vinyl	ESTE316C	£63.44	£41.81
20 oz vinyl	ESTE320C	£72.80	£51.24



**Estwing Roofer's Pick Hammer** A pick hammer complete with a magnetised recessed striking head for starting nails accurately. Smooth faced head with leather handle.

Roofer's Hammer	code	list	price
22 oz	ESTE239MS	£92.27	£60.81



The Estwing Weight Forward hammer is no longer available.



**Stanley Steelmaster Hammer** Individually heat treated and polished forged steel head. Plated tubular shaft with vinyl grip.

Stanley Steelmaster Hammer	code	list	Tradeline
20 oz	STA151033	£21.95	£19.60



**Traditional Claw Hammer** These economically priced claw hammers feature hardened and precision ground heads fitted to the finest hickory handles. Manufactured in accordance to BS 876.

Traditional Claw Hammer	code	list	price
20 oz	FAICAH20	£17.86	£15.15



**Fibreglass Claw Hammer** There's nothing wrong with this hammer! Shock-absorbing fibreglass shaft with nylon surround. Polished head and a Hi-grip rubber handle. So if you are fed up with lending people

your lovely leather-handled Estwing hammer why not buy one of these as a spare? Ideal for student tool kits, stage tool cupboards or anyone who needs a hammer for occasional use but can't justify laying out on the lovely Estwing range. Staggering value.

Fibreglass Economy Claw Hammer	code	price
16 oz	TOLHA10	£7.66



**KIKUDO Hammer 115** This lightweight Japanese Hammer has an octagonal head with one convex and one flat side. The flat side is great for striking Japanese chisels [see page 300] and the convex head is slightly curved, designed to only strike the nail and not damage the surface of the wood.

Specifications: Head Dimensions: 18 x 16 x 63mm and 115g. Overall Length: 305mm

KIKUDO Hammer 115	code	price
115g	TOL1028610	£17.00

## PODGER HAMMER



It's so ugly!

**Podger Hammer** The world's ugliest hammer, surprisingly popular! Produced from a one-piece forging. Please do not confuse this bent hammer with Bent Hamer the brilliant Norwegian film director [Kitchen Stories is a triumph].

Podger Hammer	length	code	list	price
660 g [23 oz]	270 mm	TOLPH1	£23.12	£20.30

**Don't miss the world's first ratchet hammer! Give your bolt some welly then tighten it up! Just one tool - the Koloss [page 321].**

## TRUSS HAMMER



**Thor Plastic Truss Hammer** You can give a solid thump with this well-balanced hammer without damaging what you are striking. Pound UVPC, aluminium, even leather and it doesn't leave a mark. The metal head has serrations that keep the

white nylon faces in place. The plastic handle has a rubber grip. The faces last ages and are replaced in seconds by simply screwing-in. Quieter than a metal hammer. Made in England. Face diameter: 38 mm. Length: 305 mm.

Plastic Truss Hammer	code	price
650 g	TOLTH0712	£18.74
Spare nylon face	TOLTH0712NF	£2.84

NEW



**Oak Mallet - with soft metal cap** White Oak Construction, fitted with soft metal cap on one side. For those delicate jobs where you don't want to damage what you're striking. Made in Japan. 32 mm head.

Oak Mallet	code	price
	TOL1042770	£15.00

## CLUB HAMMERS & PAVIOUR'S MAULS



**Thor Copper and Rawhide Hammer** The malleable iron head takes inserts of pure copper on one side to provide a high impact blow, and compressed buffalo hide on the

other to give a non-damaging hard impact. Good for trusswork. Very popular. Face diameter: 38 mm.

Copper and Rawhide Hammer	code	list	price
1.07 kg [2 1/2 lbs]	TOLTH0212	£30.15	£28.65
Spare copper face	TOLTH0312C	£8.17	£7.76
Spare rawhide face	TOLTH12R	£6.95	£6.60



## Stanley Club Hammer

This club hammer with its fibre-glass core and drop forged alloy steel head has excellent shock absorbing qualities and will withstand the harshest conditions.

Now with an ergonomic, anti-slip handle for more comfortable use.

Stanley Club Hammer	code	list	Tradeline
1.25 kg [2 3/4 lbs]	STA054127	£27.41	£23.26



**Paviour's Maul** As used by Opera North and Glyndebourne for making those minor adjustments to the scenery that are normally reserved for stage weights! The massive rubber head will cause less damage to the scenery and make less noise. Be careful not to overstrike the object and land the shaft as it may cause damage. Avoid pushing the handle through the maul further than shown in

picture, or you may split the maul on striking. SPECIFICATION: Length: 1,040 mm. Head weight: 4.6 kg. Head dims: 330 x 130 mm Ø.

Paviour's Maul	code	list	price
Maul and Handle	FAIPAVMAUL	£71.18	£59.33
Spare Handle	FAIPAVSH		£16.73

## CARPENTER'S MALLET



**Carpenter's Mallet** This traditional English mallet is made from the finest quality kiln-dried beech with a tapered mortise head.

Carpenter's Mallet	code	price
114 mm [4 1/2"]	TOLC106	£13.33

## NAIL AND PIN PUNCHES



### Square Head Punches

The square head provides a wider striking area while stopping the punch rolling off the bench.

Square Head Punch	Ø	code	price
1.6 mm	1/16"	TOL1040	£4.04
2.4 mm	3/32"	TOL1041	£4.04
3.2 mm	1/8"	TOL1042	£4.04
4 mm	5/32"	TOL1043	£4.04

## CENTRE PUNCHES



### Automatic Centre Punch

Delivers a punch without need for a hammer.

Priory Automatic Centre Punch	code	list	price
	TOL1035	£18.10	£16.29

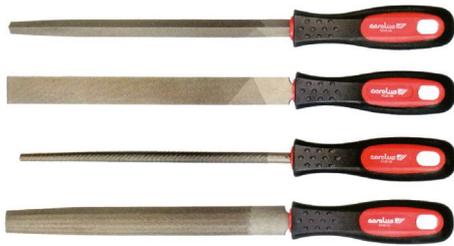


### Square Head Centre Punch

The square head provides a wider striking area and also stops the punch rolling off the bench.

Eclipse Square Head Centre Punch	code	price
	TOL1046	£4.18

# FILING



**Files** Good value files fitted with tough PVC handles.

SPECIFICATION: File length: 200 mm. Overall length: 310 mm.

Files	visual	weight	code	list	price
Triangular		176 g	TOL9310	£10.30	
Flat		197 g	TOL9320	£10.00	
Round		115 g	TOL9330	£7.60	
Half-round		180 g	TOL9340	£9.80	



**Set of Key Files** A set of six smaller files. SPECIFICATION: File length: 100 mm. Overall length: 177 mm.

□ Supplied in a plastic wallet with: flat, triangular, round, half-round and square files.

Set of Key Files	visual	weight	code	list	price
6-piece set		850 g	TOL9300	£18.40	

## DE-BURRING TOOL



**Disposable De-Burring Tool**

The swivelling blade rotates freely to allow all sorts of de-burring operations to be carried

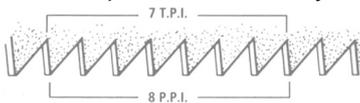
out inside tubes, on sheet materials, inside holes etc. Suitable for use on steel, copper, brass, plastics, wood and castings.

Disposable De-Burring Tool	code	price
	TOLMON3020	£7.02

# SAWING

## Hand Saws

Saws are classified by the blade length and the number of teeth per inch [TPI] or points per inch [PPI]. Universal tooth saws will cut along and across the grain. Fleam tooth saws are for cross cutting and cut on both strokes. Hardpoint saws have been high frequency hardened to stay sharp



longer and will have a blue/black edge. All our saws are now hardpoint saws.



**Irwin Jack 880 UN20 Handsaw** This is a hugely popular saw due to its fast cut and fine finish. Flints buys by the 100's so we can pass on great value. The handle incorporates 45° and 90° angles and a comfortable soft grip. Universal cut teeth.



✓ Very economically priced ✓ Fast Cut ✓ Fine finish

Jack 880 Saw	TPI	PPI	code	list	price
508 mm [20"]	7	8	TOLJACK880	£15.90	£10.98
Tradeline per 10+					£10.03



The world's most comfortable saw system



**Bahco Ergo Handsaw System**

A revolutionary and professional approach to sawing incorporating the most advanced and comfortable Bahco ERGO® handle ever and a range of interchangeable Bahco Superior blades, this truly flexible system combines maximum versatility with superior sawing performance.

- ✓ Asymmetrical handle design eliminates pressure points and stops the hand sliding on the handle
- ✓ Removing the handle makes the saw much easier to stow into toolbags for working onsite
- ✓ Just one handle but a whole range of possible saws
- ✓ Thermoplastic Elastomer for optimum friction and a warm feel
- ✓ The angle and position of the handle in relation to the blade teeth reduces sawing forces and increases efficiency
- ✓ Available for left- or right-handed users
- ✓ Two different handle sizes\* provide maximum grip, comfort and safety. \*Left-handed handle is available in one size only.

Ergo Handsaw System – Handles	code	list	Tradeline
Handle only Right-Hand Large Grip	TOLBAHEXRL	£31.74	£26.60
Handle only Right-Hand Medium Grip	TOLBAHEXRM	£31.74	£26.60
*Handle only Left-Hand Large Grip	TOLBAHEXLL	£31.74	£26.60

Ergo Handsaw System – Blades	TPI	code	list	Tradeline
Barracuda 22" general purpose blade	7	TOLBAHEX244P22	£22.18	£16.25
Superior 14" tenon blade	11	TOLBAHEX14TEN	£30.68	£23.80
Superior 14" veneer blade	11	TOLBAHEX14VEN	£25.84	£21.65
Superior 16" general purpose blade	15	TOLBAHEXGNP	£26.89	£20.87
Superior 20" laminator blade	11	TOLBAHEX20LAM	£37.81	£29.34
Superior 20" fine cut blade	11	TOLBAHEX20XT11	£37.02	£28.48
Superior 22" plaster blade	7	TOLBAHEX22PLS	£33.79	£26.22
Superior 22" coarse blade	7	TOLBAHEX22XT7	£37.02	£31.05
Superior 22" medium blade	9	TOLBAHEX22XT9	£37.02	£31.05
Superior 24" coarse blade	7	TOLBAHEX24XT7	£38.33	£28.75



**Bahco Superior 2600XT Panel Saw** This modern top quality saw has the following outstanding features:

- ✓ Thicker blade than conventional handsaws
- ✓ Hardpoint teeth with XT geometry
- ✓ Extra fast cutting across and along the grain
- ✓ Black friction reducing coating
- ✓ Lower handle position for better distribution of power
- ✓ Fine tooth setting also suitable for plastics

Bahco Superior 2600XT Saw	TPI	code	list	Tradeline
blade length: 550 mm	9	BAH260022XT	£54.27	£26.00



**Bahco Prizecut Toolbox Saw** No, not a saw for cutting up toolboxes but so called

because its convenient 360 mm size will actually fit in your toolbox!

A really useful little saw

A really useful little saw with hardpoint fine fleam teeth which will perform well as a standard handsaw but will serve as a tenon or even gentleman's back saw. Great for tours. Widely used by boat builders. Cuts through wood, aluminium and plastics.

Includes tooth guard. Fleam toothing, hard point. Good value.

Treat yourself.

Prizecut Toolbox Saw	TPI	code	list	price	Tradeline
355 mm	15	TOLBAH30014	£22.41		£16.00

## TENON SAWS



**Irwin Tenon Saw** Has a very fine toothing and a reinforced back which provides maximum

stability ideal for all fine carpentry. Triple-ground tooth technology not only increases efficiency but also optimises cutting performance on both the push and pull strokes – so you don't have to work so hard.

Irwin 1360 Tenon Saw	TPI	code	list	price
12"	13	TOL10503534	£13.66	£11.62

## KEYHOLE SAWS



**Stanley Fatmax™ Compass Saw** This saw has triple-edged teeth which cuts both on

the push and pull stroke. The fine teeth make it easier to start off and control for detailed work. With induction hardpoint teeth for longer life and an improved bi-material handle to maximise user comfort. Suitable for curved or straight cuts in most woods, boards and PVC pipe.

Compass Saw	TPI	code	list	price	Tradeline
300 mm	11	STA217205	£11.98		£11.21

NEW



**Key Hole Saw Push & Pull** Japanese made Key Hole Saw that cuts on

both the Push and Pull strokes. The sharp tip and coarse teeth allow for quick punching of holes into thin plywood or plasterboard. Great for hand cutting circles, and for getting into those awkward places hacksaws just can't reach.

Specifications: Blade Length: 120 mm. Blade Material: Carbon Steel. Blade Thickness: 1 mm. Teeth Per Inch: 9

Key Hole Saw	TPI	code	price
120 mm	9	TOL1003941	£14.50

## JAPANESE-STYLE PULL SAWS

**Japanese Shark Saws** These saws are designed to cut on the pull stroke and as a result the blade can be thinner without jumping or buckling. As the blades are flexible they are well suited for trimming draw pegs from mortise work. The long-lasting hardpoint teeth give a precision cut. The blades disengage with the push of a button making them easy to transport and they are perfect for the touring or fit-up carpenter. See also for Gerber and Felco folding saws.



**Shark General Purpose Saw** Fast clean cuts even on impregnated materials. Designed for cross and angled cuts.

Shark General Purpose Saw	code	price
length	tooth	tpi
12" [300 mm]	general pull	14
Replacement Blade fine cut	SHK112312	£19.61
	SHK112312G	£13.00



**Shark Super Fine Cut Saw** Thinner blades with a back support for detailed cutting, dovetailing, mitring, mouldings, composite materials and plastics. The fine cut allows even 1 mm slices to be made.

Shark Fine Cut Saw	code	price
length	tooth	tpi
10 5/8" [270 mm]	extra fine pull	19
Replacement Blade	SHK112410	£18.57
	SHK112410G	£12.68



**Shark "Burger Flippers"** This saw is excellent for trimming pegs, undercutting sticking doors, and general carpentry work. Double-sided cutting

edge. Rubbish on burgers and they trash non-stick pans. For neater finishes see the Topman Flush Cutting Saw [Page 298]

Shark Double Blade Pull Saw	code	price
length	tooth	tpi
9 1/2" [240 mm]	fine/medium	17/9
Replacement Blade	SHK112440	£16.64
	SHK112440G	£13.89



**Neo Saw 300 mm Traditional Japanese Pull Saw** With rattan-covered wooden handle and an extra thin blade. The triple edge teeth with minimal set enables this saw to rip as well as make fine cross cuts.

Neo Saw 300 mm Pull Saw	code	price
length	tooth	ppi
300 mm	fine cross/angle/rip	12
Replacement Blade	NEO300M	£24.60
	NEO300MS	£18.03

NEW



**SEIUN SAKU 300mm Rattan Handled Double Sided Saw** A new addition to our Japanese Pull Saw range, this double-sided saw has a high-quality finish, the finest burger

flipper we stock! Great for undercutting sticking doors, trimming pegs and general carpentry work. Double sided for cross cuts & rip cuts. Blade is secured with a bolt for a secure fastening with no wiggle room. Specification: Blade Length: 300 mm

Seiun Saku Double Sided Saw		code	price
length	tooth	tpi	
12" [300 mm]		9 & 5	TOL616 £41.20
Replacement Blade			TOLS616 £26.00

NEW



**Handiwork Micro Saw 160mm for wood & non-ferrous metal**

Made in Japan this fine cutting saw is suitable for wood, non ferrous metals like aluminium, copper and brass, and even some sheet materials like perspex [not intended use]. We think this handy saw is great for model makers, tested by our very own Gary Cross, Flints Projects Manager and key member of The Southwark Model Railway Club. Gary's thoughts: "I found that the saw cut cleanly and accurately through a wide range of materials. I tried it on ABS, Perspex, soft and hard woods, printed circuit boards with both glass fibre and Paxolin bases. I have also tried it on copper pipes and brass sheet and it worked very well on those too."

Specification: Blade Length: 160 mm, Blade Thickness: 0.4 mm

Handiwork Micro Saw		code	price
length	tooth	tpi	
160 mm	fine	26	TOL100741 £15.00
Replacement Blade			TOL100724 £9.90

**FOLDING SAWS**

NEW



**Folding Stainless Steel Saw** Japanese Folding Saw with Ultra Thin Stainless Steel Blade.

The teeth of Japanese saw blades are sharpened on three sides and these 'trapezoid' teeth produce the characteristic clean cuts of Japanese saws. The blade is also manufactured in Stainless Steel to avoid rust and corrosion, folding away into a lightweight wooden handle. This saw is for fine wood working, cutting on the pull stroke the ultra thin blade is likely to buckle if used too roughly. Excellent value.

Specifications: Blade Length: 180 mm, Blade Thickness: 0.7 mm, Blade Material: Stainless Steel

Folding Stainless Steel Saw		code	price
length	tooth	tpi	
180 mm		15	TOL1002950 £20.00



**Felco Folding Saw** A while ago we were upset when Gerber stopped making their

handy folding saw so we decided to stock this excellent quality Felco version. Then, Gerber decided to re-introduce their saw so now there's a choice. Fast cutting pull action with rust-resistant hard chrome blade. Ideal for emergency use. Will easily fit in a small tool bag [only 200 mm when closed] and at 135 g it won't weigh you down.

Felco Folding Saw	weight	code	price
160 mm	135 g	TOLF600	£31.48

NEW



**Gerber Gator Saw Exchange-A-Blade** The reason we like these so much is they are small enough to fit in a

£

NEW

compact tool box and they are supplied with a strong cordura pouch. The coarse blade cuts rapidly through timber and the fine blade is designed to cut through bone [nice!]. They are such good value we think they've made a mistake.

☐ Supplied in a tough ballistic nylon pouch with: coarse and fine blade in stainless steel.

Gerber Gator Saw	weight	code	price
157 mm	238 g	TOL2241457	£19.98

**HACKSAWS**



**Bahco Ergo Hacksaw**

A professional frame for high tension and quick blade changes. Rubber-coated front and rear handle with thumb support for superior grip. Base of handle is raked upwards to minimise obstruction near the cutting point.

Bahco Ergo Hacksaw	code	list	Tradeline
12" [300 mm]	BAH325	£59.77	£42.08



**Bahco 317 Hacksaw**

The compact slim design gives good access to confined spaces. Blade adjustable to 90° for flush cutting. Tensionable to 75 kg.

Bahco 317 Hacksaw	code	list	Tradeline
12" [300 mm]	BAH317	£24.16	£17.98



**Bahco 268 Minisaw** A

comfortable glass fibre handle with blade tensioning screw.

Bahco 268 Minisaw	code	list	price
6" [150 mm]	BAH268	£16.64	£14.15

**HACKSAW BLADES**



NEW

**Irwin Blades** Bi-metal blades are virtually unbreakable with a level of cutting power which is far superior to hardened or flexible blades. The extra durability, cutting speed and convenience make these blades excellent value. Recommended for grid work as the possibility of shattered blades is minimal. Junior Hacksaw Blades are not bi-metal.

NEW

Bi-metal Blades	TPI	code	price	10+
12" [300 mm]	24	TOL498	£3.36	£2.88
Junior Hacksaw Blades		code		per 10
6" [150 mm]	32	TOL499		£7.10



**Topman Japanese Flush Cutting Saw** This handy little

tool is ideal for getting extremely neat finishes when woodworking. There is no set on the teeth so it won't scratch the surface as you trim off the excess dowel, peg or tenon. Lightweight and easy to handle. What more could you ask for?

Topman Japanese Flush Cutting Saw		code	price
length	tooth	tpi	
6" [150 mm]	extra fine pull	21	TOL8808 £9.98

# SMOOTHING

## RASPS



**Japanese Shinto Saw Rasps** These are really useful tools for anyone who needs to shape timber with great control. The coarse side will rapidly remove stock while the fine side will smooth the timber down until just fine scratch marks remain. Just a quick sand will give you a superb smooth result. Now available in 2 lengths - the shorter 200 mm version, is also available with an extra top handle for improved control when shaping.



- ✓ Almost impossible to clog even with very resinous timber – waste just falls through the lattice
- ✓ Good for all wood, laminates, plasterboard, ferrous and non-ferrous metals, soft plastics etc.
- ✓ Made of double-edge saw blade material strips
- ✓ Double-sided – coarse and fine
- ✓ Cuts on push stroke



Shinto Saw Rasp	width	code	price
200 mm	25 mm	TOLSSR20	£12.50
200 mm 2 handed version	25 mm	TOLSSR30	£19.95
200 mm spare blade	25 mm	TOLSSR40	£9.61
250 mm original version	25 mm	TOLSSR10	£14.50

## PLANES



**Record No.4 Smoothing Plane** Record planes are still made to very high standards. After much moaning from the carpenters who actually use these tools they eventually reinstated the wooden handles. We stock wooden plane handles from "plantation grown" rosewood which can be used as spares.

Record No.4 Smoothing Plane	code	list	Tradeline
Smoothing Plane	REC04	£95.64	£79.25
Spare rosewood handles	TOLC318		£32.11



**Faithfull Plane Set** This set includes a traditional No.4 bench plane plus the most popular size of block plane: the 60 $\frac{1}{2}$ . Both planes are manufactured from fine quality cast grey iron for strength and stability. They have the finest hardwood handles and solid brass fittings.  
 Supplied in a wooden box.

Faithfull Plane Set	code	list	Tradeline
	FAIPLANE4AV	£70.24	£49.50



**Stanley 9 $\frac{1}{2}$  Block Plane** The classic block plane has been in use for over 100 years. The cutter is fitted at 21° and is adjustable for depth and alignment. The mouth can be set for fine or coarse work. The perfect tool for removing the arris from timber to prevent splinters. Its handy size makes it a good choice for a touring tool kit.

Stanley 9 $\frac{1}{2}$ Block Plane	code	list	Tradeline
	STA512020	£79.10	£61.77

## SURFORMS



**Stanley Surform 21-102** This flat file with a 140 mm blade has a GRP handle with a thumb screw to adjust the blade. Ideal for smoothing glass fibre, body filler, nylon and wood. Can be used in environments that would ruin a decent plane.

Surform 21-102	code	price
140 mm	STA521102	£9.25
Spare blade 140 mm	STA521398	£4.13



**Stanley Surform 21-115C** This neat surform with a 63 mm blade is designed for pull action when stripping paint and fillers in awkward corners.

Surform 21-115C	code	price
63 mm	STA521115	£4.37
Spare blade 63 mm	STA521515	£2.39



**Stanley Surform Block Plane** This 140 mm block plane has a GRP body with a thumb screw for quick release of the blade. Use with one or two hands. Reversible blade for use in bullnose work in confined spaces.

Surform Block Plane	code	price
140 mm	STA521104	£9.25
Spare blade 140 mm	STA521398	£4.13

## SHARPENING STONES

### Sharp Tools

"If you have eight hours to chop down a tree, spend six hours sharpening your axe." Abraham Lincoln



**Faithfull Quad Diamond Whetstone** Each side of this four sided sharpening stone has a continuous diamond surface backed by colour coded panels to indicate the grit value.

- Comes in a plastic non-slip base.
- 4 grades of grit: 200 / 300 / 400 / 600

Diamond Whetstone	code	price
50 x 50 x 150 mm	FAIDWQUAD	£23.15



**Mini Diamond Whetstone** This fine grade mini whetstone slides out of a plastic case to use. Very portable, comes with a split ring and a swivel. Use dry. Ideal for sharpening knives etc.

Mini Diamond Whetstone	code	price
70 x 25 x 4 mm	TOL597M	£22.59

**NEW**

Water Stone

**Water Stone** This two sided Japanese Water Stone is designed for sharpening Chisels and Planes; a very high quality whetstone. Supplied with a holder. Two sided it is 1000/3000 grit Dimensions: 173 x 57 x 33 mm [LxWxH]

code	price
TOL4005590	£25.00

**NEW**

Flattening Stone

**Flattening Stone** Over time Whetstones can develop grooves where the stone has worn away, this makes for uneven contact on Knives/Chisels. This flattening whetstone maintains your sharpening whetstone by flattening

out any grooves to ensure the best contact with the sharp edge of your Knives/Chisels. Now if only a whetstone could be developed to maintain this whetstone.....the cycle continues.....

Dimensions: 170 x 50 x 40 mm [LxWxH]

code	price
TOL4005540	£23.98

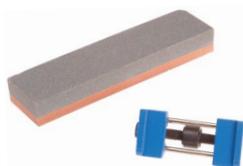
**NEW**

Klein Pocket Size Knife Sharpener

**Klein Pocket Size Knife Sharpener** This is not a pen but a pocket sized Knife Sharpener. Bright orange design means it's easily visible but small enough to keep in the tool bag/on you because no one keeps a whetstone in their top pocket. [Prove us wrong?]. Sharpening rod unscrews and stores in the handle. Magnetised to trap metal particles while sharpening. Comes with pocket clip for ease.

Specifications: Rod Length: 95 mm. Overall Length: 140 mm. Weight: 22.7g

code	price
TOL44151	£33.55



Oil stone + Honing Guide LxDxH

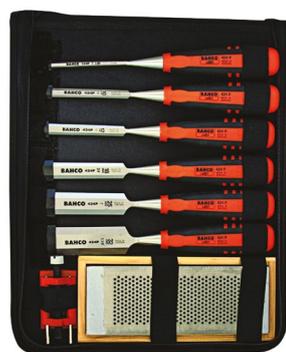
**Faithfull Oil Stone and Honing Guide** Ideal kit to sharpen HSS and carbon steel chisel and plane blades. We can also supply a wooden box to keep it in.

code	price	
FAIOS8CHG	£18.33	
Wooden Box for oil stone	TOL599	£12.30

**CHISELS**

**Bahco 424P Chisels Two-Component Handle** A great range of chisels designed by professionals to cope with delicate cabinet making, general joinery and some rough site work. The two-component handle maximises control and comfort and will withstand the occasional hammer blow although a mallet is preferred for repeated pounding. Precision ground for maximum sharpness. They are supplied honed and ready to use in protective holsters. We sell 2 sets - both well below list.

Bahco 424P Chisel Set	code	list	Tradeline
3 chisels [12, 18, 25 mm]	TOL424PS3EUR	£52.52	£42.38

**Bahco 424P Chisel Set with Diamond Stone and Honing Guide**

This very popular specially assembled set includes:

- ✓ Six Bahco 424P chisels: 6, 10, 12, 18, 25 & 32 mm
- ✓ Diamond stone
- ✓ Honing guide for fast accurate sharpening
- ✓ High quality canvas zip case

Bahco Chisel Set inc. Stone + Guide	code	list	Tradeline
6-piece set	BAHB424PS6ZC	£102.15	£66.38



Un-breakable chisels!

**Marples M373 Chisels**

**Split-Proof Bevel Edge** Guaranteed unbreakable handles allow the user to employ a hammer rather than mallet. The industry's most popular chisel suited to heavy everyday use. Marples will replace any chisel with a split handle free of charge, regardless of age!

- ☐ Supplied in a special offer wooden box with: 1/4", 3/8", 1/2", 3/4", 1" and 1 1/4" chisels.

Marples M373 Box Set	code	list	Tradeline
6 chisels listed above	MARSET	£150.70	£59.98

**Leather Chisel Roll**

Tan leather with strap and buckle. The 100 mm deep pockets will hold nine chisels up to 330 mm long.

Leather Chisel Roll	code	list	price
500 x 360 mm	BBPCONR3	£34.87	£32.01



Makes a great present

**Crown Butt Chisel Set**

This unique set of small chisels is ideal for very precise hand cutting and paring of joints. The overall length is just 6" with 3 1/2" high carbon blades and 2 1/2" "Plantation grown" rosewood handles.

- ☐ Supplied in a display box with: 1/4", 1/2", 3/4" and 1" butt chisels.

Butt Chisel Set	code	price
4-piece set + display box	TOLC174RB	£74.67

**NEW****3 Piece White Oak Chisel Set**

Japanese Chisel Set comprised of forged steel with White Oak Handles. High quality, great value. Metal capped end for tapping. Check out the companion mallet on page 295.

Specification: Overall length including handle: 220 mm

- ☐ Set contains 3 chisels: 1 x 9 mm, 1 x 15 mm, 1 x 24 mm.

3 Piece Chisel Set	code	price
9, 15, 24 mm set	TOL108073	£39.50

# DRIVING

Complete with belt pouch



## Wera Kraftform Kompakt 20 Bit Holding Bayonet Screwdriver Kit

This versatile screwdriver can be used with the blade retracted, almost as a stubby, or extended [as shown]. Features the removable Rapidaptor bit holder which allows bits to be easily changed one-handed and used in power tools. The push button pop-up bit storage in the multi-component Kraftform handle holds six 25 mm bits. Ideal for touring kits.

❑ Supplied in a rugged pouch with belt loop with: Kraftform handle, Bits: slotted SL5.5 mm, SL6.5 mm; Phillips PH1, PH2; Pozidriv PZ1, PZ2.

Wera Kraftform Kompakt 20	code	list	price
7-piece kit	WER051021	£56.50	£42.95



## Wera Kraftform Kompakt 40

These sets make so much sense – why cart around 6 handles when one will do and the bits can be used in cordless drivers too! This neat belt pouch set has extra long

89 mm bits to fit in the precision-made Rapidaptor 816 handle.

❑ Supplied in a pouch with: Rapidaptor 816 handle; Bits: slotted SL5.5 mm, SL6.5 mm; Phillips PH1, PH2; Pozidriv PZ1, PZ2.

Wera Kraftform Kompakt 40	code	list	price
	WER059298	£31.89	£23.79



## Wera Series 900 Chisel Drivers

Admit it, you've given a screwdriver a whack with a hammer before now. These are engineered to withstand really severe work. Use them to knock off ceramic tiles, force off rusted hose clamps, knock holes through walls! The tough handles are fitted with a hex bolster

so that a 13 mm spanner can be used for extra torque to break loose corroded fastenings. The tip is to DIN 5264-A ISO2380 Black Point.

✓ Give them some stick, the Chisel Drivers can handle it

## Wera Series 900 Chisel Drivers Set

Buy a complete set. ❑ Supplied in a hanging rack with: slotted 3.5 x 80 mm, 4.5 x 90 mm, 5.5 x 100 mm, 7 x 125 mm; Pozidriv PZ1 x 80 mm, PZ2 x 100 mm.

Wera Series 900 Chisel Drivers	code	list	price
6 chisels as listed above	WER018287	£41.37	£32.90



## Stanley Screwdriver Set

**Cushion Grip** Good value 10-piece set.

❑ Supplied in a plastic carry case with: flared slotted 3 x 75 mm, 5 x 100 mm, 6.5 x 45 mm, 6.5 x 150 mm, 8 x 150 mm; Pozidriv PZ0 x 60 mm, PZ1 x 100 mm, PZ2 x 45 mm, PZ2 x 100 mm, PZ3 x 150 mm.

Cushion Grip Screwdriver Set	code	list	price
10-piece set	STA265014	£41.11	£33.29



Standard heavy-duty



Insulated VDE

One screwdriver fits 6 screwheads!

as standard heavy-duty and insulated VDE tested to 1,000 V. The blade is made from high-grade hardened steel with a 6 mm hex shaft and a 10 mm hex bolster for application of extra torque. The soft feel handle gives powerful and comfortable grip. I've been told a Fender Stratocaster can be entirely dismantled with one of these screwdrivers! 100 mm shaft.

✓ They will fit Phillips PH1, PH2, PH3, and Pozidriv PZ1, PZ2, PZ3!

King Dick 1 for 6	code	list	price
Standard heavy-duty	TOL14610	£9.96	£7.79
Insulated VDE to 1,000 V	TOLINS14610	£10.24	£8.00



## Wera TORX Screwdriver

Used widely in Europe and gaining popularity in the UK, the design of Torx head screws/drivers means you can use a much higher torque without camming out/damaging the screw head. This means they require far less effort to drive into wood. The ergonomically designed handle is marked with TX size for easy identification. For Torx bits see page 288.

TX Screwdriver	code	price
TX 20 Screwdriver	WER010001	£7.01
TX 30 Screwdriver	WER015001	£8.62

## ACCESSORIES



## Wera Screw Gripper

Grips your screws! This handy little accessory fits on to the end of your bit/screwdriver/allen key securing your screw to the driver and releasing it once fastened.

Specifications: Fits on to most popular screwdrivers, 4.5-6mm. Overall Length: 41mm

Wera Screw Gripper	code	price
	WER681001	£5.58



## Klein Magnetizer/Demagnetizer

This Key Chain Magnetiser/Demagnetiser from Klein uses permanent rare earth magnets to magnetise or demagnetise your screwdrivers, screws or driver bits so you never

drop a screw again! (you probably will but this will help). With a stainless steel keyring this little accessory is handy enough to attach to the zipper of your tool pouches or bags.

Klein Magnetizer/Demagnetizer	code	price
	TOLMAG2	£12.98

Our favourite kit! Check out the Wera Tool Check Plus on page 323.



**RATCHET SCREWDRIVER**



**Wera 816 RA Ratchet Screwdriver** With a ratchet screwdriver less wrist movement means less fatigue. There is no interruption to your work and you do not have to remove the tip from

the bit in order to adjust your hand position. This ratchet screwdriver has Wera's fine-tooth mechanism which ensures a minimal return of only 5° - 6°. The switchover ring enables right, locked or left working. Locked is the neutral position for fine adjustment. It copes with a maximum torque of up to 50 Nm. Takes hex socket insert bits in a 1/4" hex chuck. Comfortable multi-component Kraftform handle with Rapidaptor bit-collecting technology with the addition of magnetic bit holding. The Wera Diamond Coated Pozidriv PZ2 bit [page 288] has a shaft length of 50 mm. See page 288 for other bits.

Wera 816 RA Ratchet Screwdriver	code	list	price
142 mm	WER051461	£41.81	£29.98

**ELECTRICAL SCREWDRIVERS**



Best-seller!

**Kraftform Kompakt® VDE** For safe work around live voltage. Compact, versatile, secure. A superb quality 18-piece set.

☐ Supplied in a pouch with:

Kraftform® 817 VDE handle for Wera interchangeable blades; 154 mm VDE blades: Phillips PH1, PH2; Phillips PHS1, PHS2 minus blades for combination screws; Pozidriv PZ1, PZ2; Pozidriv PZS1, PZS2 minus blades for combination screws, slotted 0.4 x 2.5, 0.6 x 3.5, 0.8 x 4, 1.0 x 5.5 mm; 89 mm switchboard cabinet blades: square 6.3, 8.1 mm, triangular, round; and voltage tester.

- ✓ All supplied in an easily portable pouch with belt loop
- ✓ Complete with cabinet opening blades

Kraftform Kompakt VDE	code	list	price
18-piece set	WER003471	£86.46	£61.60



**Wera Voltage Tester** A tough insulated screwdriver/mains circuit tester with many other uses such as tracking cables. Voltage tested from 150 - 250 V.

Wera Voltage Tester	blade length	tip width	code	price
	70 mm	3.5 mm	WER005655	£6.96

**NUTSPINNERS**



**Nutspinners** By far the fastest way to hand fasten small nuts. Useful for all sorts of fiddly applications and frequently purchased for tightening the fiddly nuts on wire rope grips. Top quality German manufacture. Picture shows the Flexi version - WER028150.

Nutspinners	fits wire grip	fits wire grip	code	list	price
	commercial type	DIN 1142 type			
5.5 mm	2 mm SS*	N/A	TOL1600	£11.62	£9.64
7 mm	3-4 mm, 3 mm SS	N/A	TOL1597	£11.62	£9.64
Flexi → 7 mm	3-4 mm, 3 mm SS	N/A	WER028150	£17.00	£14.11
8 mm	5-6 mm	5 mm	TOL1598	£12.16	£10.09
10 mm	8 mm	6 mm	TOL1599	£19.23	£15.96

\* Insufficient clearance between nuts to finally tighten down.

**TIGHTENING**

**Hex Keys or "Allen® Keys"**

The term "Allen Key" refers to the Allen Manufacturing Company, USA who registered the trade mark. They frown upon its general use but like "Hoovers" and "Jubilee Clips" the word has become part of our language. If you are working on stage the two sizes you really ought to have in your tool bag, or your handbag, are the 1/4" and the 8 mm which will fit the popular key clamp tube fittings for Size 6 and Size 8 scaffolding.

**ALLEN [HEXAGON] KEYS**



**Long Arm Hex Keys**

Precise fully-hardened chrome vanadium steel for driving socket screws. Why not buy a coloured canvas zipper bag to keep them handy [page 326]?

Hexagon Keys	code	price
1.5 mm	TOL23015	£0.54
2 mm	TOL2372	£0.54
2.5 mm	TOL23025	£0.58
3 mm	TOL2303	£0.71
4 mm	TOL2304	£1.02
5 mm [for Unitrack rope clamps]	TOL2305	£1.39
6 mm [for size 6 key clamps - sloppy fit]	TOL2309	£1.73
1/4" [for size 6 key clamps - good fit but short arm]	TOL2309B	£1.17
8 mm [for scaff size 8 key clamps]	TOL2310	£3.04
10 mm	TOL2311	£4.34
12 mm	TOL2312	£9.49



**Hex Key Sets** A set of 9 imperial keys from 5/64" up to 3/8" or 9 metric keys from sizes 1.5 mm up to 10 mm complete with plastic case.

Hex Key Sets	code	list	price
Imperial Set	TOL2301	£13.17	£11.88
Metric Set	TOL2300	£13.17	£11.88



**Fold-up Metric Hex Key Set** A tough fold-up metric hex key set with all the useful sizes including 2.5, 3, 4, 5, 6, 8 & 10 mm keys.

Fold-up Hex Key Set	code	price
	TOL2350	£5.96



**Teng Hex Allen Keys** These T-handled keys provide a really comfortable grip. The long end has a ball-point head for improved access in difficult spaces.

Teng Hex Allen Keys	code	price
4 mm	TEN510504	£7.10
5 mm [for Unitrack rope clamps]	TEN510505	£7.40
6 mm [for Size 6 key clamps - sloppy fit]	TEN510506	£7.90
8 mm [for scaff size key clamps]	TEN510508	£9.90

**For Ratchet Hex Keys see pages 323 - 324.**

# LEVERING



**Roller Crowbars** For serious shunting of heavy scenic units. Ideal for rescuing heavy trucks after a castor has collapsed or got jammed in a track. Essential equipment for fitting-up heavy steel scenery and trucks to align bolt holes or for general servicing of castors. We stock two types. Full details can be found on page 359.

Roller Crowbar	WLL	code	price
Roller Crowbar	1.5 t	CAS800	£163.90
Low Plate Roller Crowbar	5 t	CASV4402	£112.85

It's so beautiful!



**Hultafors Adjustable Wrecking Bar** This is quite simply the ultimate crow bar. It is so wonderful that I challenge anyone not to be impressed. Beautifully-made and superb design combine to make this award-winning tool. The re-positionable head ensures the best working position while the thin wide head reduces damage and improves access.

Adjustable Wrecking Bar	code	list	price
	TOLHUL209SB	£124.30	£88.25



**Wrecking Bars** Traditional steel bar for levering as well as pulling out long nails. Great fun.

Wrecking Bars	code	price
24"	TOL562	£14.61
30"	TOL563	£16.49



**Stanley Wonder Bar®** A lighter duty bar particularly favoured by the Germans.

Wonder Bar	code	list	price
12"	STA155515	£12.06	£10.25



**Stanley Pry Bars** Two very effective designs. The heads can be struck with a hammer to grip under embedded nails. They will pull out headless and rusted nails or screws. The wide end of the moulding pry bar allows the user to cleanly pry off delicate mouldings. Pry bar: 300 mm long. Moulding pry bar: 200 mm long.

Pry bars	code	price
Pry	STA055115	£14.46
Moulding	STA055116	£16.13



**Tacklifter** Hot forged bright nickel-plated lifter for removing small nails and tacks. Wooden handle.

Tacklifter	code	price
	TOLC386	£11.37

For Staple Removers see page 270.

# CLAMPING

## G-CLAMPS



### Faithfull G-Clamps

This clamp is made from high-grade iron casting making it suitable for a wide variety of metal working and woodworking applications.

The accurately machined screw provides a smooth operation and maximum clamping pressure. The frames have a powder-coated finish for increased resistance to corrosion.

Budget G-Clamps	throat	code	price
50 mm [2"]	28 mm [1 1/8"]	FAIGMD2	£6.48
75 mm [3"]	38 mm [1 1/2"]	FAIGMD3	£8.58
102 mm [4"]	54 mm [2 1/2"]	FAIGMD4	£11.88
152 mm [6"]	70 mm [2 3/4"]	FAIGMD6	£17.24
203 mm [8"]	75 mm [3"]	FAIGMD8	£22.60

## FINGER CLAMPS



### Bessey TG2K Screw Clamps

These finger clamps are noticeably better than other makes. The original design dates back to 1936 and Bessey have made improvements to bring you the most reliable clamp around. The integrated anti-slip system means that the sliding head locks into the serrations on the bar and will not budge until you release it. The new two-component handles provides a really comfortable grip delivering a powerful

clamping force of up to 6,000 N. Great for general stage use as well as in the workshop. ✓ The original Bessey Clamp!

Bessey TG2K Screw Clamps	code	list	price
jaw opening	throat depth		
200 mm	100 mm	BESTG202K	£38.85
300 mm	140 mm	BESTG302K	£58.20
400 mm	175 mm	BESTG402K	£70.48
			£26.22
			£42.79
			£48.06

## LEVER CLAMPS



### Bessey KlikKlamps

These lever clamps are very light in weight because the arms are made of stable magnesium and fibre glass-reinforced plastics. The lever mechanism is easy to operate with great control and is strong enough to deliver 1,200 N of clamping force with just two fingers. They are superb clamps for assembly work. The light weight of these clamps really provides an advantage especially when lots of clamps are needed.

✓ Super light weight ✓ Vibration resistant ✓ Fast and powerful

Bessey Klik Clamps	code	list	price
jaw opening	throat depth		
200 mm	80 mm	BESKL120	£33.88
300 mm	80 mm	BESKL130	£38.72
			£23.00
			£25.62

**SINGLE-HANDED CLAMPS**



**Solo Clamps** Our best-selling clamp. Very quick single-handed operation. These clamps are top quality British manufacture. Useful for quick fitting-up of exhibition scenery as well as workshop use especially for tasks such as steam bending and glueing when speed is essential. A favourite with boatbuilders. Excellent value as we buy in bulk. With nylon shoes for carpenters or metal shoes for welders. Our Solo Clamps are made for us and are black.

Black finish just for you

- ✓ Useful hook-shaped plunger
- ✓ Tough handles that will not distort under load

Solo Clamp	code	price	Tradeline 10+
150 mm Plastic shoes for carpentry	SPE150P	£9.53	£7.88
150 mm Metal shoes for welding	SPE150M	£10.53	£9.20



**Bessey EZS One-Handed Clamps** The extremely sophisticated technology makes it possible, with just one hand, to clamp or spread workpieces with up to 2,000 N of clamping force. Thanks to the clever release mechanism no tools are needed to convert between clamping and spreading. The soft pressure caps ensure material protection and secure clamping.

- ✓ 2,000 N of power
- ✓ Great value

Bessey EZS One-Handed Clamps		code	list	price
jaw opening	spreading	throat depth		
300 mm	510 mm	80 mm	BESZS308	£34.38 £27.05
450 mm	660 mm	80 mm	BESZS458	£36.80 £28.96
600 mm	810 mm	80 mm	BESZS608	£41.62 £32.53

**LONG CLAMPS**



**Bessey REVO KRE Body Clamps** These clamps have many advantages over the old styles of sash and T-Bar clamps. There's no fiddly pin and chain to insert into a hole – just slide the jaw against the workpiece and twist the handle to deliver up to 8,000 N of pressure. The very large face area protects the work but more importantly it remains at right angles ensuring perfect parallel clamping. The jaws are fitted with nylon face pads which further safeguard the work surface and also shed off any glue. Using these clamps will provide a far better glue joint due to the guaranteed parallel clamping force.

- ✓ Perfect right angle joints with no surface damage!
- ✓ This new type has added power and safety features!

Bessey KR Body Clamps		code	list	Tradeline
jaw opening	spreading	throat depth		
1,000 mm	1,130 mm	95 mm	BESKR1002KN	£100.70 £75.65
1,500 mm	1,610 mm	95 mm	BESKR1502KN	£122.54 £92.35
2,000 mm	2,080 mm	95 mm	BESKR2002KN	£171.20 £126.23

See page 305 for the Mobile Grip System.

**SPRING CLAMPS**



**Spring Clamps** These tough plastic clamps are available in three sizes and are great for quickly holding cloths in place or for stretching cycloramas. Use them at outdoor events for securing awnings and banners. Surprisingly strong grip. See also Holdons on page 138.

Spring Clamps	code	price	10+
OA ht.	jaw opening		
100 mm [4"]	50 mm	GENSC4 £1.19	£1.07
150 mm [6"]	75 mm	GENSC6 £2.25	£2.14
225 mm [9"]	105 mm	GENSC9 £2.52	£2.40



**Heat Resisting Steel Market Stall Clips** Ideal for holding gel frames to hot lanterns etc. Good strong grip for windy outdoor conditions.

Market clips	code	price	10+
OA ht	jaw opening		
100 mm [4"]	35 mm	GENCCS £1.13	£0.96
150 mm [6"]	60 mm	GENCCM £1.58	£1.32



**Vario Clippix XV** This very clever clamp is fitted with two adjustable clamping arms to provide a jaw width of up to 170 mm. Soft inserts on the handles and soft swivel pads result in all round effective but gentle one-handed clamping. One advantage of these clamps is that you can adjust the opening to allow a very gentle [or strong] clamping pressure. Great for use with delicate materials like balsa or polystyrene. Just 140 g. They're good!

Vario Clampix XV	wt	code	list	price
Jaw opening	throat depth			
170 mm	50 mm	140 g	BESXV5170	£13.33 £8.71

**BAND CLAMPS**



**Band Clamp** For clamping up to 7 m with an even tension on both sides.

- ✓ The band is drawn on both sides ensuring equal pressure on all corners without warpage
- ✓ Integrated coiling mechanism
- ✓ Supplied with Vario Corners for high pressure mitre joints
- ✓ Ideal for cladding circular columns

Band Clamp	code	list	price
7 m clamp with 4 Vario Corners	BESBAN700	£62.06	Tradeline £17.50
Set of 6 spare Vario Corners	BESVE	£18.78	

# GRIPS & SNIPS

## VIKING ARM - LIFT & CLAMP

NEW



**Viking Arm** This reversible squeeze trigger clamp can be used to pry things apart or forcibly bring them together. Used in the construction industry for the installation of windows and doors we think this ingenious tool is great for installing castors. Each arm has 150kg lifting capacity so if set on 4 corners its a powerful squeeze trigger jack. To reverse simply unscrew bolt at the top of the clamp and reverse the handle. There are also 2 options for release of the clamp, full release or a gradual allowing for fine adjustment both release buttons are located at the back of the handle.

Specification: Made from Stainless Steel/Hardened Carbon Steel/Aluminium. Lifts: from 7 to 215mm. Base Size: 105 x 87mm (6 mm thick plate).

Viking Arm	code	list	price
	TOLVM	£162.00	£149.00

## POCKET HOLE JIG



**Triton Mini Pocket Hole Jig** "Joinery made simple" is the tag line for this handy device. The perfect size for in situ repairs, this mini jig will help produce pocket holes in materials from 12 - 38 mm.

Supplied with all the necessary pieces (including some pine dowels) you're pretty much good to go. We especially like the end catch and magnetised base for speedy positioning from the edge of the wood for the desired drilling depth.  Supplied in a cardboard box with: 9.5 mm Ø step drill bit, stop collar and key, square drive bit for supplied screws, 10 x pine hole plugs, and instructions.

Triton Mini Jig	code	Tradeline
	TOL747767	£17.29

## LOC BLOCKS



**Trend Loc Blocks** Four interlocking gripping blocks that lock together to allow workpiece to be held in place when sanding, drilling and finishing. Size when four blocks interlocked 173 x 173 mm but, of course, they can be separated to

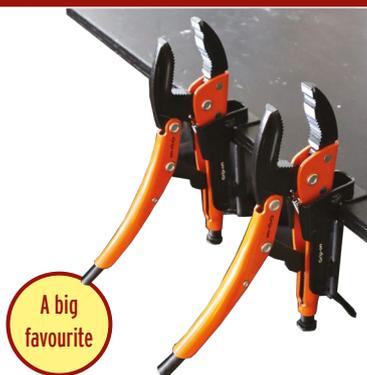


use in each corner of large boards.

- ✓ No need to use clamps. Set-up in seconds ✓
- ✓ Grips both workpiece and bench ✓
- ✓ Lifts workpiece from bench, to allow complete access to every edge and prevents saws and router bits from damaging the work bench ✓
- ✓ Can be used for routing when extra care should be taken to prevent material lift ✓
- ✓ Anti-vibration, non-slip, non-marring rubber pads on both the top and bottom of the blocks

Loc Blocks	code	price
Pack of four	TOLLOCBLK	£18.24

## VICE GRIP PLIERS



A big favourite

**Mobile Grip System** These tools caught our eye at a German trade fair. An incredibly versatile set of two vice grips easily capable of gripping scaffolding size tubes complete with clamps enabling a rock solid connection to a table or ply sheet. The grips can be removed from the

clamps for normal use too. Perfect for work onsite. They can also be used to attach boards to scaffold tubes. Endlessly useful. We love them!

Mobile Grip System	code	list	price
	TOL1242	£62.00	£57.15



## Vice Grip Locking Pliers

One of the most versatile, durable and popular tools. Fitted with curved jaws and wire cutter. These vice grips are the original Irwin Vice Grips lasting 2 times longer and are 25% stronger than many other makes.

Vice Grip Locking Pliers	jaw opening	code	list	Tradeline
100 mm	24 mm	ATC10EF	£16.61	£14.12
175 mm	41 mm	ATC07EF	£19.40	£16.98
250 mm	48 mm	ATC05EF	£22.31	£19.52



## Armor Auto-Adjust Pliers

How irritating is it when you're in the middle of a tricky project, and have to fiddle around with your pliers to get them to grip a different component, especially when it's hidden in a cavity - well

no more. These pliers feature an Auto-Adjust technology enabling the jaws to lock onto varying thicknesses without readjustment. Simply adjust the pressure screw and the force of the jaws are set to consistently grip whatever is placed between them. Magic.

Armor Auto-Adjust Pliers	code	price
size style max jaw opening		
6" Curved X mm	TOLA06100G	£22.00
7" Needle nosed X mm	TOLA09300G	£22.00
10" Curved X mm	TOLA10100G	£26.99

## RUBBER STRAP WRENCH



## Rubber Strap Wrench Set

Super simple, these rubber wrenches feature a handle and rubber tail that can be passed around an object, and re-inserted into the handle to improve grip.

Super handy for releasing seized fittings, or even screw-top paint lids! Watch out for the smell though - when first opened, they absolutely stink. Set contains: 2 x rubber strap wrenches [1 x 500 mm, 1 x 600 mm]

Rubber Strap Wrench Set	code	list	price
	TOL598531	£11.62	£6.95

## PLIERS AND CUTTERS



**Bahco Combination Pliers**  
These top quality pliers feature firm non-slip grips and a novel return spring which can be engaged or disengaged.

Bahco Combination Pliers	code	list	price
150 mm [7"] Cuts up to 2.5 mm piano wire	BAH2628G180	£39.08	£31.25



Secure grip

**Stanley FatMax™ Combination Pliers** Replaces the Dynagrip. Heat-treated chrome steel forging. Better ergonomics with comfy rubber-like textured handles.

Stanley Fatmax™ Combination Plier	code	list	Tradeline
200 mm	STA089868	£21.00	£19.76



**Klein Long Needlenose Pliers** For accurate assembly work in hard-to-reach areas. Affords maximum visibility. Knurled jaws. Recoil spring. Plastic dipped handles.

Klein Long Needlenose Pliers	code	Tradeline
137 mm	TOLD318	£32.75



**Bahco Side Cutters** Bahco quality with two-component thermoplastic grips and a novel return spring with on/off function.

Bahco 2101G Side Cutters	code	list	price
160 mm cuts 2 mm piano wire	BAH2101G160	£47.97	£35.78



**Faithfull Budget Side Cutters** A budget priced but very serviceable pair of diagonal cutters with induction hardened edges and non-slip soft feel handles. Cutting capacity: 1.6 mm

Faithfull Budget Side Cutters	code	list	price
160 mm	FAIPLDC6N	£10.23	£8.72



**Klein 8" End Cutting Pliers [Top Cutters]** For cutting wire or nails close to the work. With wide throat clearance, ample handle leverage, and jaws at just the right angle for easy cutting. Makes a clean even cut. Plastic dipped handles. 2000 Series – ultra durable.

Klein Top Cutters	code	Tradeline
216 mm	KLED2328	£36.75



**Irwin Aviation Snips** Powerful compound leverage for cutting straight and curves in mild steel, chicken wire, vinyl and lino etc.

Irwin Aviation Snips	code	list	price
250 mm	TOL10504311N	£22.81	£20.53

## WIRE STRIPPERS



**Stanley Dynagrip Wire Stripper** Heat-treated carbon steel forged pliers with bi-material handles and polished heads. Weight: 187 g. More strippers and electrician's hand tools can be found on page 349.

Wire Stripper	code	list	price
150 mm	STA075068	£18.78	£15.94

## BOLT CUTTERS



**Heavy-Duty Bolt Cutters for Severe Service Use** Designed for heavy-duty use. Heavy-duty side plates keep jaws aligned – no blade skew even under severe loads. 4,000 lb jaw pressure with 50 lbs hand pressure. Quick clean cuts through reinforcing rod, wire mesh, guy strand, studding, chain, bolts etc. SPECIFICATION: Handle length: 30". Max cut in mild steel: 13 mm. Max cut in high tensile steel: 10 mm [Rockwell C42].

Bolt Cutters	code	price
Cutters	TOLK63530	£161.85



**Economy Bolt Cutters** If you just occasionally need to do a break in then these should do. SPECIFICATION: Max cut in soft material: 10 mm. Max cut in medium material: 8 mm. Blade thickness: 9 mm. Blade hardness: 56 - 60 HRC. Handle length: 24".

Bolt Cutters	code	list	price
Economy Cutters	OLY39024	£37.58	£31.95

## SCISSORS



General Purpose

**Economy Scissors** Stamped out blades with plastic handles. The general purpose model has straight handles while the cutting out shears are offset for cutting along table tops. N.B. Handle colour may vary.



Cutting Out

Economy Scissors	code	price
150 mm General Purpose	TOL704	£4.15
213 mm Cutting Out	TOL707	£6.39



**Side Bent Shears** Nickel-plated blades and black bows. Good canvassing shears.

Side Bent Shears	code	price
8" Shears	TOL700	£22.85
10" Shears	TOL701	£47.80



**Fiskars 8 1/4" General Purpose Scissors** These ergonomic orange-handled scissors are made from steel hardened to Rockwell 57 for long-lasting sharpness. Dishwasher safe.

Fiskars Scissors	code	list	Tradeline
8 1/4" General Purpose	FSK859853	£22.13	£21.00



**Left Handed Scissors and Shears** We decided to stock these scissors after a customer pointed out 10% of you were being left out. Made in Finland these are the left handed versions of the popular Fiskars General Purpose Scissors.

Left Handed Scissors and Shears	code	list	Tradeline
8" Left Handed	FSK1000814	£23.23	£20.91



**Angled Combi Snips** Hard stainless steel blades for cutting thin metal sheets as well as paper, fabrics, card etc. The angled blades make is easier when cutting materials laid out on a bench.

Angled Combi Snips	blade	code	list	Tradeline
190 mm	38 mm	BESD48A2	£21.25	£19.98



**Multisnip Master** For long continuous straight and curved cuts. All metal parts are stainless steel and the fibreglass handles have a soft insert. The angled cutter head keeps the material at a distance and out of the danger zone. Cuts thin sheet metals as well as cardboard, paper, fabric etc. See also Aviation Snips on page 306.

Multisnip Master	blade	code	list	Tradeline
235 mm	50 mm	BESD51A	£24.05	£22.42

## LARGE DIAMETER CUTTERS



See our Fibre Ropes section

**Pipe and Large Rope Cutter** Cuts easily through neoprene hose, polythene pipe, fabric-reinforced solid rubber and, rather surprisingly, through large diameter ropes between 24 and 42 mm diameter. The jaw holds

the material securely while the ratchet mechanism maintains applied pressure so the handles only need to be opened and closed approximately three times to complete the cut. Cuts cleanly at right angles. For Large Ropes see page 198 and on.

Pipe and Large Rope Cutter	code	price
	TOLPPC42	£16.79

## ROPE CUTTER



**Stein Rope Cutter** This strange looking tool is a surprisingly effective hybrid between a knife

and a pair of scissors. Definitely works best with lower diameters of rope. We also love the convenience of just swapping out the blades for the standard heavy duty trimming blade every workshop has lying around. Much easier than getting cross with the workshop apprentice for blunting your best shears on some gummy rope. For best results tape the cutting point first.

Stein Rope Cutter	code	price
	TOLSRC	£26.60

## FOLDING CRAFT KNIVES



**Bessey Wooden-Handled Folding Knife** This is the folding knife for the perfectionist. The stainless steel handle has hardwood inserts. It has all the features of the Bessey Knives listed below but without the blade storage area and rubber press point. Such a lovely knife!

Bessey Wooden Handled Knife	code	list	price
	TOLDBKWHDU	£24.20	£19.10



**Bessey Folding Knife** This is a really well thought out knife beautifully made with stainless steel parts and an ergonomic handle. It incorporates a patented blade locking system. The handle has a spring opening compartment to hold five craft blades. There is a rubber press point for applying pressure when cutting tough materials such as lino. The rear of the knife has a belt clip. Highly recommended. Also available in a zip pouch with specialist blades ↓. Flints also stocks serrated blades for quickly cutting through ropes etc. plus shatterproof craft blades → which are safer for working overhead – why not try them?

Bessey Folding Knife	code	list	price
	TOLDBKPH	£21.15	£21.05



**Bessey Folding Knife Set** This handy set will keep everything you need organised and safe. A really good choice of present for anyone who works with their hands.

□ Supplied in a strong zip-up pouch with: the folding

knife plus a pack of standard blades, a pack of hooked blades, two large hooked lino blades and two scribing blades.

Bessey Folding Knife Set	code	list	price
Pack of 5 Lino Blades	TOLDBKPHSET	£36.81	£35.98
Pack of 5 Scoring Blades	TOLDBKPL		£10.53
	TOLDBKPHA		£8.50

## CRAFT KNIVES



Best-seller!



### Stanley Trimming Knife with Retracting Blade 99E

Ever popular keenly-priced knife.

Stanley Trimming Knife 99E	code	price	10+
	STA210099	£9.12	£8.21



### Stanley Trimming Knife 199E

The basic grey Stanley Knife with non-retracting blade. A classic period piece. The Morris Minor of craft knives.

Stanley Trimming Knife 199E	code	price
	STA210199	£6.24



### Stanley Titan Retractable Blade Knife

Super heavy-duty aluminium alloy body. No screwdriver is needed to change the blades. The blade is fully retractable.

Stanley Titan Retractable Blade Knife	code	price
Retractable Knife	STA210122	£20.56



### Stanley Instant Change Retractable Knife

Innovative front loading instant blade change plus string cutting slot. It can now store up to 8 normal duty blades. 3 blades supplied.

Stanley Instant Change Knife	code	price
	STA010788	£15.99



### Dolphin Knife

The professional coverer's choice of knife. Perfect balance with strength. Non-retracting but supplied with scabbard. Blades not included.

Dolphin Knife	code	price
	DOL202	£16.89

NEW



### Olfa Sk-16 Thick Material Concealed Blade Cutter

We were very excited by this safety knife and we're not being sarcastic. With normal box cutters it's so easy to accidentally slice the contents of the

box or even yourself. This knife eliminates that risk. Great for slicing open and breaking down boxes, cutting off plastic wrapping and straps. We've also found it to be sharp enough to cut sheet materials like carpet and heavyweight cardboard, using it like a hook knife cutting on a pull stroke. To avoid tape gunk gathering on the blade there's a tape splitter at the end of the handle along with a hole for lanyard. The tape splitter is blunt, but with enough force will split the tape. Made in Japan, Olfa products are built to last, the durable fibreglass handle comes with a lifetime guarantee. The blade itself can be easily replaced and just clicks into place. Supplied with 1 blade.

Olfa Thick Material Blade Cutter	code	list	price
Blade Cutter	TOLSK16		£12.95
10 Pack Replacement Blades	TOLSKB1610	£28.35	£24.00



NEW

**Olfa Retractable Saw Cutter** Handy retractable push AND pull saw with secure screw type fastening. 25 mm wide handle also takes 25 mm standard snap off blades making this a versatile tool. Made in Japan with a lifetime guarantee. Great for cutting: ✓ Plastic ✓ Pipes, ✓ Wood, ✓ Plastic, ✓ Foam, ✓ Rope, ✓ Leather, ✓ Carpet, ✓ Rubber

Olfa Retractable Saw Cutter	code	list	price
25 mm Saw Cutter	TOLHSW1		£18.05
25 mm Replacement Saw Blade	TOLHSWB11B		£12.95
25 mm Plain HD Blades [5 pack]	TOLHB5B	£7.10	£4.90



NEW

**Olfa Dual-Blade Multi-Trade Tool** Saw and Knife all in one. One side has a sharp pointed push and pull keyhole saw that's great for plasterboard and wood, securing into place with a screw type fastening, so no wobbling. The other side has a slim but durable 12.5 mm snap off blade that automatically locks into place.

Lanyard hole at rear of handle. Made in Japan with a lifetime guarantee.

Olfa Dual-Blade Multi-Trade Tool	code	list	price
Dual-Blade Multi-Trade Tool	TOLCS5		£19.25
12.5 mm Spare Snap off Blades	TOLMTB10B	£6.10	£4.80
Olfa Saw Blade For CS-5	TOLSWB51B		£11.05

## SNAP-OFF BLADE KNIVES

NEW



### Olfa L5-AL Auto Lock Snap Off Knife 18mm with Paint tin opener

Knife AND paint tin opener?! The popular classic Olfa knife uses a screw to secure the blade but this new updated version has an incredibly

strong automatic locking feature and a paint tin opener/tape splitter to boot. Ergonomic, durable fibreglass handle with elastomeric grip. Hole for lanyard. Made in Japan and comes with Lifetime Guarantee.

Olfa Lock Snap Off Knife	code	price
18 mm Snap Off Knife	TOLL5AL	£9.45

NEW



### Olfa X Design Metal Hyper Pro Auto-Lock Cutter 18mm

Solid Aluminium die cast body with rubberised handle for grip, this is a knife that will last you a lifetime but if it doesn't, it comes with a lifetime

guarantee, so you can get a replacement! Auto lock mechanism. Corrosion Resistant. Lightweight. Made in Japan.

Olfa Hyper Pro Auto-Lock Cutter	code	price
18 mm Auto-Lock Cutter	TOLMXP-AL	£21.65



### Stanley Snap-Off Knife

The 9 mm knife has 13 snap-off sections while the 18 mm has 8. Both have a safe storage for used blades.

Stanley Snap-Off Blade Knife	code	price
SM9 knife	STA010150	£2.36
SM18 knife	STA010151	£3.13



**Olfa Knife** Heavy-duty cutter with rubberised grip. Popular with prop makers. See page 124 for rotary trimmers. Comes with spare blades, and the back of the cutter has a tool for easy snap off.

Olfa Knife	code	price
Knife with three	TOLL2	£10.95

## BLADES



**Rapid Edge Serrated Utility Knife Blades** This multipurpose blade fits all standard utility knives and has been tested and proven to cut faster and provide longer blade life. Pack of ten.

- ✓ Cuts through rope like butter
- ✓ Once you try these you won't change back

Serrated Blades	code	price
10 pack	TOLRT404	£3.50



**Flints Heavy-Duty Blades** Top quality Sheffield-made blades at just a fraction of the usual cost. Box of 100.

Flints Heavy-Duty Blades	code	price
100 pack	TOL680	£9.15



**Irwin Shatterproof Heavy-Duty Blades** These bi-metal blades provide a safer option for extra heavy-duty tasks. They stay sharper for longer too! Pack of ten.

- ✓ Lasts three times longer
- ✓ Shatterproof for ultimate safety

Shatterproof Heavy Duty Blades	code	price
10 pack	TOL10504241	£5.88



**Stanley 1991 Normal Duty Trimming Blades** Comes in packs of five and 100.

Stanley 1991 Blades	code	price	code	price
5 pack	STA011911	£2.04	STA111911	£28.23



**Stanley 1992 Heavy-Duty Trimming Blades** Comes in packs of five and 100.

Stanley 1992 Blades	code	price	code	price
5 pack	STA011921	£2.36	STA111921	£34.51



**Stanley 1996 Sharpened Hook Blade** For cutting sheet materials such as floor covering and plastic sheeting. Comes in packs of five and 100.

Stanley 1996 Blades	code	price	code	price
5 pack	STA011983	£2.36	STA111983	£39.26



**Irwin Shatterproof Snap-Off Blades** These bi-metal "Blue" 18 mm blades have soft-snap technology for safer segment breakage. Can fit Olfa and Stanley knives ↓. Pack of 5.

Irwin Snap-Off Blades	code	price
18 mm	TOL10507102	£5.39



**9 mm Stanley Snap-Off Blades** 9 mm blades with 13 snap-off sections. Packs of 5 and 100.

Stanley Snap-Off Blades	code	price	code	price
SM9 5 pack	STA211300	£2.81	STA111300	£34.51



**18 mm Olfa Speed Snap Off Blade Pack of 5** These blades are very impressive, they are just as sharp as your standard snap off blades but these have a fluorine coating which reduces resistance on the material you are cutting so they glide right through.

Olfa Snap-Off Blades	code	list	price
18 mm 5 Pack	TOLLFB5B	£7.55	£4.70



**18 mm Olfa Wavy Blade Pack of 3** Wavy Serrated Blades from Olfa. These blades are designed to cut 'slippery materials'.....

we've found it works great on large diameter ropes where a serrated, sawing action is required. 18 mm blade fits in to most generic 18 mm snap off blade handles but for secure fit we recommend using with Olfa screw type or auto lock handles.

Olfa Wavy Blades	code	list	price
18 mm 3 Pack	TOLLWB3B	£7.55	£4.80



**Olfa Blade For Rotary Cutters 45mm** Spare 45mm Tungsten Carbide Blade for Rotary Cutter. Made in Japan. 1 Per Pack.

Olfa Rotary Blades	code	price
45mm each	TOLRB451	£6.75

## SCALPELS



**Swann Morton Scalpels** Surgical quality handles and carbon steel blades. A precision tool for accurate cutting of models, stencils and props [and other things too but let's not try that in the workshop]. The No.3 handle takes No.10a and No.11 blades and the No.4 handle takes the No.26 blade.

Scalpel	code	price
No.3 Stainless Steel handle	TOL685	£5.67
No.4 Stainless Steel handle	TOL0934	£5.67



**Swann Morton Disposable Scalpels** Plastic handle fitted with a stainless steel blade, complete with tubular plastic guard. Swann Morton quality. No longer supplied cellophane wrapped.

Disposable Scalpel	code	price
Disposable handle with No.10a blade	TOL6602	£0.65
Disposable handle with No.11 blade	TOL6603	£0.65



**Swann Morton Retractable Knife** Takes the No.10a and No.11 Swann Morton blades. Plastic handle features a stainless steel bayonet allowing the blades to safely retract. Not suitable for No.26 blades.

Retractable Knife	code	price
	TOL685RN	£6.71

## SCALPEL BLADES



**Scalpel Blades** Swann Morton blades are sold in boxes of 100 but are wrapped in packs of 5. Available in three popular styles. Choose the 10a as a general blade, the size 11 for precision cutting such as making stencils and size 26 for the most intricate work. Type 26 is not suitable for the Retractable Handle. Comes in boxes of 100. No longer supplied cellophane wrapped.

Scalpel Blades	fits handle	code	price	10+ boxes
No.10a Blades	No.3	TOL687	£14.48	£12.77
No.11 Blades	No.3	TOL687A	£14.48	£12.77
No.26 Blades	No.4	TOL688	£15.59	£11.82

## CRAFT KNIFE SET

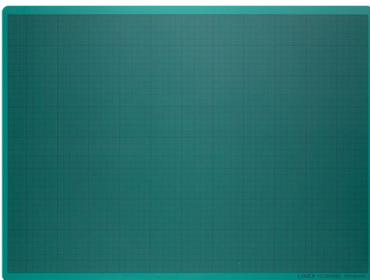


**Swann Morton ACM Box Set** is a comprehensive set of 13 precision-ground carbon steel blades, made by one of the world's leading surgical blade manufacturers to the same high surgical quality for which the company is renowned. With easy blade changing, the 10 blade shapes offer cutting edge versatility all from one set.  Supplied in plastic case with: 3 handles, two No.2, three No.11, one each of No's 7, 10, 16, 17, 18, 22, 24 & 28 blades.

Craft Knife Set	code	price
	TOL9101ACM	£33.28

## CUTTING MATS

NEW



**Olfa Self-Healing Cutting Mat** Ideal for cutting stencils and model making without wrecking your table! Dimensions: 450 x 600 mm [slightly larger than A2]

Olfa Self-Healing Mat	code	price
450 x 600 mm	TOLCMA2RC	£29.35

## PREPPING



Short handled wire brush

**Purdy Cushion Grip Wire Brush** This short handled brush has unique criss-cross bristles made from rustproof stainless steel. The handle is rubberised for comfort, has a pistol grip, and a hammerhead end. The brush head has side grips so you can really attack your rust. Super lightweight, we really like it. Sadly Purdy have discontinued their rather good block brush which could be added to an extension pole. Qué será, será!

Purdy Wire Brushes	length	weight	code	price
Short Handled Wire Brush	11"	200 g	PBR144910100	£6.85



**Economy Wire Brush** A really good value wire brush with a plastic handle.



**Faithfull Wire Brushes** Heavy-duty hardened and tempered 28 gauge steel with wooden handles.

Wire Brushes	code	price
Three Row	TOL731	£3.50
Four Row	TOL732	£4.05
Four Row with Scraper	TOL734	£5.64
Four Row with plastic handle	MET044241	£2.20



**Mini Wire Brush Set** Like oversized toothbrushes these are great for getting at difficult to access places to clean up and de-rust prior to painting. They have a comfortable soft grip handle. One of stainless steel, one of brass and one of nylon. Length: 175 mm. Bristles: 40 mm x 10 mm wide.

Mini Wire Brush Set	code	price
3 brush set	TOLROU52005	£7.30

# MULTI-TOOLS

## LEATHERMAN

### Leatherman

It used to be a simple choice between the Leatherman Supertool and the Gerber Bluntnose, then came the rest of them – Waves, Surges, Legends, Squirts, Kicks, Blasts and Crunches! We can't stock them all, so to save you time we have listed a selection of the best and most suitable tools starting with the original compact Leatherman Tools with a 25-year guarantee.

Top of the Leatherman range!



19 Tools

**Charge TTI+** The Charge TTI+ features a cutting hook, scissors, outside-accessible blades, bit drivers, crimpers and more. Fitted with comfort-sculpted titanium handles and S30V® stainless steel clip-point knife. Grab a hold of one today and you'll quickly see why the Charge models are the pinnacle of the Leatherman multi-tool collection. Length: 100 mm closed. Weight: 232 g.

The Charge TTI+ features: needle nose pliers, regular pliers, hard wire cutters, wire cutters, crimper, wire stripper, S30V clip-point knife, 420HC serrated knife, wood saw, scissors, cutting hook, ruler, can & bottle opener, wood/metal file, diamond-coated file, large bit driver, small bit driver, medium screwdriver, fixed and releasable lanyard attachment, removable pocket clip, 25-year warranty.

Charge TTI+	code	list	Tradeline
	LEALT980	£191.63	£153.25

Our biggest selling multi-tool!



19 Tools

**Wave+** Leatherman's most popular multi-tool ever. Unusually, four locking blades are accessible without opening the tool. Now with larger knives and stronger pliers. Length: 100 mm closed. Weight: 241 g.

The Wave+ features: Needle nose pliers, regular pliers, premium replaceable hard wire cutters, replaceable wire cutters, wire strippers, 420HC knife, 420HC serrated knife, wood saw, spring-action scissors, ruler, can & bottle opener, wood/metal file, diamond-coated file, large bit driver, small bit driver, medium screwdriver, lanyard attachment, 25-year warranty.

Wave +	code	list	Tradeline
Supplied in a box	LEALT655	£112.46	£82.50

My favourite multi-tool

Like to travel light? Just 142 g!



7 Tools

**Skeletool** This is my favourite multi-tool – and I've tried quite a few! The handy karabiner clip and its low weight are the real winning features for me. It is still a full-size Leatherman multi-tool featuring a stainless steel combo straight/serrated blade [ideal for cutting through rope], good pliers, a bit driver and the karabiner/bottle opener – and that's it. Only the most necessary multi-tool features, because sometimes that's all you need. The removable pocket clip means it easily clips onto a belt or pack – no sheath required. We really like it! Length: 100 mm closed.

The Skeletool features: needle nose pliers, regular pliers, hard-wire cutters, wire cutters, 420HC Combo knife, karabiner clip/bottle opener, large bit driver, replaceable pocket clip, stainless steel, one-hand operable features, locking blade. Handle bit storage with: Phillips PH1 and PH2, Screwdriver 3/16". 25-year warranty.

Skeletool	weight	code	list	Tradeline
	142 g	LEALT85CP	£74.66	£59.95



Heat treated 420HC for strength!

14 Tools

**Wingman** The spring-action jaws have been newly designed and are handy when doing delicate work. Excellent value. The Wingman features the popular outside-accessible one-hand opening blade. Made in Portland, Oregon from an improved high-carbon form of 420 stainless steel. The super sharp blade locks in place and then folds up easily. The Wingman can always be by your side with its handy pocket clip. It also comes with a nylon case. Length: 97 mm closed.

The Wingman features: Spring-action needle nose pliers, spring-action regular pliers, spring-action wire cutters, wire stripper, 420HC Combo knife, spring-action scissors, package opener, ruler, can & bottle opener, wood/metal file, Phillips screwdriver, medium screwdriver, small screwdriver. 25-year warranty.

Wingman	weight	code	list	Tradeline
with nylon case	198.4 g	LEALT110	£66.63	£53.18

8 Tools

19 Tools



**Style PS** A unique, travel-friendly, multi-tool. With pliers, a file, tweezers, scissors, bottle opener and mini-screwdriver, you'll never be without your most necessary tools even when you travel! [approved by most airports]. Fits in a pocket or clips on your pack or bag for easy portability. Length: 75 mm closed.

The Style PS features: Spring-action needle nose pliers, spring-action regular pliers, spring-action wire cutters, spring-action scissors, flat/Phillips screwdriver, tweezers, nail file, karabiner/bottle opener, key ring hole, outside-accessible features, travel-friendly, stainless steel, glass-filled nylon handle, 25-Year warranty.

Style PS	weight	code	list	Tradeline
	45 g	LEAPS	£33.29	£26.65



**17 Tools** **OHT [One Handed Tool] Black** We fell in love with this tool from Leatherman when we first came across it - a complete one-handed operable multi-tool with both one-handed opening pliers, and one-handed opening blades! Plus it comes in our beloved theatre Black. Once you have one you'll wonder how you ever lived without it!



- ✓ 100% Operable with One Hand
- ✓ Integrated Lanyard Attachments
- ✓ Stainless Steel Body
- ✓ 25 Year Warranty
- ✓ Black MOLLE Sheath

The OHT Black tools: spring action needle nose pliers, spring action regular pliers, spring action replaceable 154CM wire cutters, spring action replaceable 154CM hard wire cutters, 420HC knife, 420HC serrated knife, Phillips screwdriver, small screwdriver, medium screwdriver, large screwdriver, wood saw, strap cutter, Can & Bottle opener, Oxygen tank wrench, #8-32 cleaning rod /brush adapter, 25 year warranty.

OHT Black	code	list	Tradeline
Supplied with a black sheath	LEALT875BM	£104.13	£83.29

**10 Tools**



**Micra** The old favourite is still available for those who appreciate the best spring-action scissors around. Length: 65 mm closed.

The Micra features: 420HC knife, scissors, flat/Phillips screwdriver, ruler, nail file/cleaner, tweezers, bottle opener, medium and extra small screwdriver, clip point, lanyard attachment.

Micra	weight	code	list	Tradeline
	51 g	LEA005	£29.96	£23.95



**Nylon Pouch for Leatherman Multi-tools**

Some Leatherman tools are no longer supplied with a pouch as standard, or you may need a replacement! Fits:

- ✓ Wave +
- ✓ Charge TTI +
- ✓ Rebar
- ✓ Sidekick
- ✓ Skeetool CX
- ✓ Charge +
- ✓ Crunch
- ✓ Wingman
- ✓ Skeetool
- ✓ Skeetool RX

Nylon Pouch	code	price
	LEALP20M	£9.13

**LEATHERMAN FREE COLLECTION**

**Leatherman FREE™**

The new Leatherman FREE™ range is designed to be facilitate one-handed use, and FREE™ you of frustration! All of the tools are accessible on the outside to aid this, and feature the FREE™'s revolutionary magnetic locking system that allows smooth, quick access to tools. All of the tools lock into place [note some of the plier heads do not lock], allowing the user to apply pressure safely. .

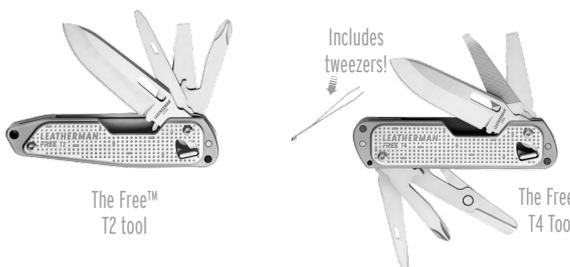


**19 Tools** **Free™ P2 Pliers** Maximum functionality with unmatched comfort, durability and ease-of-use. Length: 108 mm closed. Blade: 70 mm. Weight: 216 g. Material: Stainless Steel. The Free™ P2 features: Needle nose pliers, regular pliers, premium replaceable wire & hard wire cutters, electrical crimper, wire strippers, 420HC combo [half straight, half serrated] knife, spring-action scissors, package opener, awl, can & bottle opener, wood/metal file, Phillips screwdriver, medium screwdriver, small screwdriver, extra-small screwdriver, pry tool, Ruler [25 mm], removable pocket clip, 25-year warranty.

Free™ P2 Pliers	code	list	Tradeline
Supplied with a grey nylon sheath	LEAP2	£124.96	£112.47

**21 Tools** **Free™ P4 Pliers** A beefed up version of the P2 above, also includes a saw, and a serrated knife. Length: 108 mm closed. Blade: 70 mm. Weight: 245 g. Material: Stainless Steel. The Free™ P4 features: Needle nose pliers, regular pliers, premium replaceable wire & hard-wire cutters, electrical crimper, wire strippers, 420HC knife, 420HC serrated knife, spring-action scissors, saw, pry tool, package opener, awl, can & bottle opener, wood/metal file, Phillips screwdriver, medium screwdriver, small screwdriver, extra-small screwdriver, Ruler [25 mm], removable pocket clip, 25-year warranty.

Free™ P4 Pliers	code	list	Tradeline
Supplied with a grey nylon sheath	LEAP4	£149.96	£134.97



**8 Tools** **Free™ T2 Tool** Small but mighty, the T2 is the most compact multi-purpose tool in the FREE™ collection. Length: 93 mm closed. Blade: 56mm. Weight: 94 g. Material: Stainless Steel. The Free™ T2 features: 420HC knife, pry tool, awl, bottle opener, Phillips screwdriver, medium screwdriver, extra-small screwdriver, 25-year warranty.

Free™ T2 Tool	code	list	Tradeline
Supplied in a box	LEAT2	£49.96	£44.97

**12 Tools** **Free™ T4 Tool** Small but mighty, the T4 is the "big brother" to the T2 above, with added features , but remains a highly compact multi-purpose tool. Length: 93 mm closed. Blade: 56mm. Weight: 94 g. Material: Stainless Steel. The Free™ T4 features: Spring-action scissors, package opener, Wood/Metal file, tweezers, 420HC knife, pry tool, awl, bottle opener, Phillips screwdriver, medium screwdriver, extra-small screwdriver, inbuilt pocket clip, 25-year warranty.

Free™ T4 Tool	code	list	Tradeline
Supplied in a box	LEAT4	£66.63	£59.97

8 Tools



The Free™ K2 Grey



The Free™ K2X Silver

**Free™ K2 Knife** Less a multi-tool, than an action-packed pocket knife. Available in 2 finishes. Length: 115 mm closed. Blade: 84 mm. Weight: 139 g. The Free™ K2 features: 420HC Knife, pry tool, package opener, awl, bottle opener, Phillips screwdriver, medium and extra-small screwdrivers, removable pocket clip, 25 year warranty.

Free™ K2 Knife	code	list	Tradeline
K2 Grey	LEAK2G	£83.29	£74.97
K2X Silver	LEAK2S	£83.29	£74.97

9 Tools



The Free™ K4 Grey



The Free™ K4X Silver

**Free™ K4 Knife** Even more of a hybrid than the K2 knife above - this has the clever combo knife, and spring-action scissors. Available in 2 finishes. Length: 115 mm closed. Blade: 84 mm. Weight: 156 g. The Free™ K4 features: 420HC combo knife [half straight, half serrated], spring-action scissors, pry tool, package opener, awl, bottle opener, Phillips screwdriver, medium and extra-small screwdrivers, removable pocket clip, 25 year warranty.

Free™ K4 Knife	code	list	Tradeline
K4 Grey	LEAK4G	£99.96	£89.98
K4X Silver	LEAK4S	£99.96	£89.98

**GERBER**

**Gerber**

Founded in 1939 in the United States by Pete Gerber to supply kitchen knives to the catalogue retailer Abercrombie and Fitch. Gerber is no longer just a legendary knife company, it is now the second largest manufacturer of quality multi-tools in the USA.

12 Tools



The best value multi-tool around

**Gerber Suspension** The perfect blend of ergonomics, style and durability, the Gerber Butterfly-opening tools set the industry standard. Length: 89 mm closed.

The Suspension features: Saw, scissors, needle nose pliers, wire cutter, fine edge blade, serrated edge blade, Phillips screwdriver, small flat screwdriver, medium flat screwdriver, can & bottle opener, karabiner hole, open frame design, includes lifetime warranty.

- ✓ External one-handed access to blades
- ✓ Comfortable contoured grip area
- ✓ Lightweight design
- ✓ Amazing value

Gerber Suspension	weight	code	list	Tradeline
	255 g	GER1471	£52.00	£42.08

9 Tools



**Gerber Crucial** Although compact and lightweight, the Crucial is still packed with all the essential full-size features. Length: 91 mm closed.

The Crucial features: Liner lock [clicks to lock], needle nose pliers, Phillips screwdriver, bottle opener, karabiner clip, regular pliers, fine/serrated blade, large flat screwdriver, V-cut wire cutters, pocket clip, includes lifetime limited warranty.

- ✓ Lightweight and compact design
- ✓ Carries like a pocket knife

Gerber Crucial	weight	code	list	Tradeline
Grey	142 g	GER0014	£56.15	£35.75

10 Tools



**Gerber Dime Micro Multi-Tool** Gerber took the standard keychain multi-tool manufactured it from 3Cr13 type stainless steel and in addition to stainless steel pliers, wire cutters, a fine edge blade, spring-loaded scissors, flathead screwdriver, crosshead screwdriver, tweezers and file, included a unique blade designed to safely cut and score plastic packaging and a bottle opener that is exposed even when the tool is closed. Compact and lightweight. Length: 70 mm closed.

The Dime features: Pliers, wire cutter, fine edge knife, retail package opener, scissors, crosshead driver, medium flat screwdriver, bottle opener, tweezers, file, lanyard ring.

Gerber Dime	weight	code	list	Tradeline
Red	62 g	GER1132	£32.99	£23.45
Green	62 g	GER1040	£32.99	£23.45

14 Tools



**Gerber Pro Scout Needle Nose Multi-Plier** The most deluxe version of the 600 line. Fitted with needle nose pliers and strong Fiskars scissors. Many people like this style because the pliers can be flicked out for use single-handed. Length: 128 mm closed.

The 600 - Pro Scout features: Pliers, wire cutter, crimper, ruler, Phillips screwdriver, bottle & can opener, fine edge knife, serrated knife, scissors, RemGrit saw, file, small, medium & large flat drivers.

Gerber Pro Scout	weight	code	list	Tradeline
	218 g	GER7564	£88.40	£65.00

**VICTORINOX**

**Victorinox**

In 1884 Karl Elsener started his cutlery company in Switzerland. In 1897 he created a light and elegant "Officers Knife" that would later, in remembrance of his mother, Victoria, become known around the world as Victorinox® Original Swiss Army Knife. Today, this ingenious, award-winning knife remains an icon of precision, quality, functionality, versatility and outstanding value.

33 Tools



**Victorinox Swiss Champ** A wonderfully made and useful tool. The pliers are not quite up to the kind of tasks that a full-sized multi-tool will tackle but the multitude of functions make the Swiss Champ perfect for everyday use. Length: 91 mm.

The Swiss Champ features: Large & small blade, bottle & can opener, 1.5 mm, 2 mm, 3 mm & 5 mm screwdriver, wire stripper, bender & crimper, reamer, punch & sawing awl, corkscrew, scissors, pliers, fish scaler, hook disgorger, ruler [cm], ruler [inch], wood saw, nail file & cleaner, metal saw, metal file, magnifying glass, Phillips screwdriver, 4 mm chisel, multipurpose hook, toothpick, tweezers, ballpoint pen, pin, key ring.

Swiss Champ	weight	code	list	Tradeline
Black handle	185 g	TOL4009	£66.82	£59.98

## WHITBY

NEW

4

Tools



Black with Black Pakkawood



Black with Olive

**Whitby Kent+ EDC Multitool** This all new Whitby Kent Multitool is a classic simple pocket knife with added features! We liked it for it's clean lines and lovely feel in the hand. Makes a great gift. Two finishes available, Black with Black Pakkawood or Black with Olive. Beautiful. Length: 3.5" [89 mm] closed.

The Whitby Kent Multitool features: 2.25" [57 mm] Non-locking Plain Blade, Flat Head Screwdriver, Phillips Screwdriver, Pair of scissors

Whitby Kent+ EDC	code	Tradeline
Whitby Kent+ EDC Black/Pakkawood	MULPK72B	£24.95
Whitby Kent+ EDC Black/Olive	MULPK72W	£24.95

## FOLDING KNIVES



**Petzl Spatha Knife** A nice light knife with a good blade. The central wheel has two key features: it is designed to accept a karabiner [even a HMS page 186] or a Caritool [page 321]; it is also grooved to aid

pivoting of the blade to open and close. There is a back locking system. The handle is nylon and textured for grip. The blade is stainless steel, with a smooth tip and a serrated edge for cutting through slings and rope. Length: 120 mm closed.

Petzl Spatha Knife	weight	code	price
180 mm	43 g	PETS92AN	£24.92



Razor sharp!

**Gerber E-Z Out™ Rescue Knife** This knife features an easy and smooth opening surgical stainless steel blade in a virtually indestructible polycarbonate handle. The combination of

size, shape and open-handed operation makes this a very popular knife. Fitted with a stainless steel pocket clip. The blade is serrated the full length for cutting quickly through ropes. The rounded blunt end to the 89 mm long blade will help guard against accidents. Length: 114 mm closed.

The recommended knife for rescue work

E-Z Out Rescue Knife	weight	code	list	price
	93 g	GERO6971	£54.99	£40.47



**Wichard Luminous Knife** Slick design featuring a soft grip, a wrist loop and allows for single handed opening. The strong stainless

knife has a locking blade with a serrated section for cutting modern composite ropes plus a shackle key and spike. The handle is luminous so you can find it in the dark. Alasdair's personal choice of sailing knife. Length: 115 mm closed

The sailor's knife

Wichard Luminous Knife	weight	code	list	price
	85 g	TOL10122	£36.25	£34.30



**Klein Sportsman Knife** A classic traditional knife with a reputation for good reliable service. Ebony wood with a 86 mm blade and brass bolsters supplied in a leather snap case with belt loop. Length: 124 mm closed.

Klein Sportsman	weight	code	price
	152 g	TOL44037	£49.95

## FOLDING SAWS



**Felco Folding Saw** A while ago we were upset when Gerber stopped making their handy folding saw so we decided to stock this excellent quality Felco version. Then, Gerber decided to re-introduce their saw so now there's a choice. Fast cutting pull action with rust-resistant hard chrome blade. Ideal for emergency use. Will easily fit in a small tool bag [only 200 mm when closed] and at 135 g it won't weigh you down.

Felco Folding Saw	weight	code	price
	135 g	TOLF600	£31.48



**Gerber Gator Exchange-A-Blade Saw** The reason we like these so much is they are small enough to fit in a compact tool box and they are supplied with a strong cordura pouch. The coarse blade cuts rapidly through timber and the fine blade is designed to cut through bone which is obviously really handy on stage. They are such good value we think they've made a mistake. Weight: 307 g.  
 Supplied in a tough ballistic nylon pouch with: coarse and fine blade in stainless steel.

Gerber Gator Exchange-A-Blade Saw	code	list	Tradeline
Saw including coarse + fine blade + pouch	TOL2241457	£39.51	£19.98

### Purchase of Knives

The UK Law states that it is illegal to sell knives to persons under the age of 18. Our staff may ask for identification with proof of age when purchasing at our trade counter. Online purchases must be made with a UK issued credit card or using a trade account. Flints reserves the right to refuse the sale of these items should we suspect that they are being purchased by those under 18.

# PODGERS & SPANNERS

## A quote from Primo Levi's "The Wrench"

"We are agreed then on the good things we have in common. On the advantage of being able to test yourself, not depending on others in the test, reflecting yourself in your work. On the pleasure of seeing your creature grow, beam after beam, bolt after bolt, solid, necessary, symmetrical, suited to its purpose; and when it's finished you look at it and you think that perhaps it will live longer than you, and perhaps it will be of use to someone you don't know, who doesn't know you. Maybe, as an old man, you'll be able to come back and look at it, and it will seem beautiful, and it doesn't really matter so much that it will seem beautiful only to you, and you can say to yourself 'maybe another man wouldn't have brought it off'."

"The Wrench" is about a rigger called Faussone, a true hero who makes things with his hands.



## Slotted Ratchet Podgers

Coming all the way from Japan, these Podgers feature a unique slot which lets the lanyard slide up along the handle when it is in its holder. This prevents the lanyard from snagging on the holster when it is removed. The slotted shaft is extremely strong. These are genuine Supertool Podgers made in their Japanese factory. Flints also offers these podgers complete with a belt holster and lanyard at a very special price.

## PODGERS



Drilled hole.

Our Podger range is chosen to suit the theatre and entertainment industry where rapid assembly and striking of scenery requires fast efficient tools. We supply most of the theatres in Britain with specialist Japanese-made Ratchet Podgers and Quad Spanners.

**Standard Ratchet Podger** These top quality ratchet podgers are the most useful tool for erecting steel scenery. The pointed end will align the bolt holes while the other end with its reversible ratchet socket will tighten the nuts. These podgers fit two bolt sizes and as there is a clear hole right through the head, the spanner can be slid along studding or long bolts without the head grounding. We also have a range of ratchet podgers with a slot to attach the lanyard. The slot enables the lanyard to slide up the handle when the podger is placed in a belt holster. These tools are absolutely indispensable and very highly recommended.

Always secure your podger with a Lanyard [page 336]. NB: the 10 x 13 mm\* and the 13 x 17 mm\* standard podgers are not drilled for a lanyard attachment, so think about choosing a slotted podger.



Standard Ratchet Podgers		code	price	5+	10+
size	to fit				
* 10 x 13 mm	M6 and M8	POD1013	£22.00	£18.00	£17.00
* 13 x 17 mm	M8 and M10	POD1317	£23.00	£19.00	£18.00
17 x 19 mm	M10 and M12	POD1719	£25.00	£20.00	£19.00
17 x 21 mm	M10 and Scaff	POD1721	£26.00	£21.00	£20.00
19 x 21 mm	M12 and Scaff	POD1921	£27.00	£22.00	£21.00
19 x 22 mm	M12 and M14	POD1922	£28.00	£23.00	£22.00
22 x 24 mm	M14 and M16	POD2224	£32.00	£30.00	£29.00
19 x 24 mm	M12 and M16	POD1924	£29.00	£25.00	£23.00
24 x 30 mm	M16 and M20	POD2430	£35.00	£33.00	£32.00
46 x 50 mm	M30 and M33	POD4650	£79.80	£68.50	£65.00

Slotted Ratchet Podgers		code	price	5+	10+
size	to fit				price
10 x 13 mm	M6 and M8	POD1013R	£22.00	£18.00	£17.00
13 x 17 mm	M8 and M10	POD1317R	£23.00	£19.00	£18.00
17 x 19 mm	M10 and M12	POD1719R	£25.00	£20.00	£19.00
19 x 21 mm	M12 and scaff	POD1921R	£27.00	£22.00	£21.00

Why not have a little rest and visit [www.pylonofthemoth.org](http://www.pylonofthemoth.org) – a wonderful website...

...if you like pylons!



**Slotted Ratchet Podger Sets** The complete kit of a slotted podger, sprung small tool lanyard and podger holder all at great combined price. Hugely popular! For Holder only see page 327.

Podger+Holder	code	price if bought separately	Tradeline
10 x 13 mm	PODSET1013RK	£44.45	£33.00
13 x 17 mm	PODSET1317RK	£44.45	£33.00
17 x 19 mm	PODSET1719RK	£47.45	£34.00
19 x 21 mm	PODSET1921RK	£49.49	£37.00

Always secure your podger with a lanyard. For a wide selection of Small Tool Lanyards go to page 336.

## OH SO CLEVER PODGERS



**Four-Way Podger** Just one tool now fits FOUR bolt sizes! Inside each socket is another sprung socket which will either engage on the bolt or move inwards to reveal a smaller size. As with all our podgers it still has a clear hole right the way through so, unlike conventional sockets, it won't ground out on long studs.

- ✓ M10 [17 mm]
- ✓ M12 [19 mm]
- ✓ 7/16" Scaff fittings [21 mm]
- ✓ M16 [24 mm]



The four-way podger has a chromed finish and a slot for lanyard attachment plus, of course, a podger for alignment of bolt holes.

Four-Way Podger	code	price	Tradeline 5+
	PODSRF3	£26.00	£22.00

## TRICKY ACCESS PODGERS



For Unistrut Sockets go to page 323

**Long Reach Podgers** These podgers are designed for gaining access into recesses. The wall thickness of the socket is slim so they are particularly useful for working with difficult to access bolts such as bolts recessed into channels. The 17 mm long socket will just about get into a 41 mm slotted Unistrut to tighten M10 bolts but it is a very tight squeeze. The reach of the long sockets are as follows: 17L = 50 mm, 19L = 50 mm, 24L = 60 mm. Long reach podgers are green!

Long Reach Podgers	fits		code	price
13 x 17 mm	[17 mm long]	M8 and M10	POD1317L	£25.00
17 x 19 mm	[19 mm long]	M10 and M12	POD1719L	£26.00
19 x 24 mm	[24 mm long]	M12 and M16	POD1924L	£33.00

### Uncle Podger tries to hang up a picture

"We would find the hammer for him, and then he would have lost sight of the mark he had made on the wall, where the nail was to go in, and each of us had to get up on the chair, beside him, and see if we could find it; and we would each discover it in a different place, and he would call us all fools, one after another, and tell us to get down. And he would take the rule, and re-measure, and find that he wanted half thirty-one and three-eighths inches from the corner, and would try to do it in his head, and go mad. And we would all try to do it in our heads, and all arrive at different results, and sneer at one another. And in the general row, the original number would be forgotten, and Uncle Podger would have to measure it again". An extract from "Three Men in a Boat" by Jerome K Jerome.

## SPEEDY PODGERS



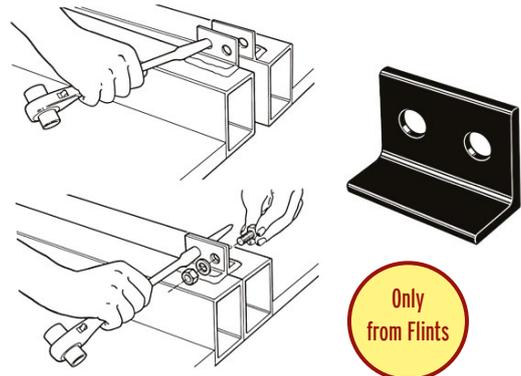
Super fast!

**Folding Podgers – the ultimate fit-up tool** Especially for overhead work, but it does take a bit of getting used to! Features include a superfast quick cranking action, ability to turn the nut continuously at speed in either direction and final tightening made by straightening the handle. The position of the lanyard attachment point prevents it from twisting. The folding feature is excellent

for working in confined spaces but it does prevent this style from being used as a hammer [and we all know that it is tempting to whack a bolt from time to time]. See the Koloss on page 321.

Folding Podgers		code	price	10+
17 x 19 mm	M10 and 12	POD1719F	£29.00	£25.00
17 x 21 mm	M10 and Scaff	POD1721F	£29.00	£25.00

## POD GALUGS®



Only from Flints



**Podgalug®** Designed and patented for use with the ratchet podger. Podgalugs® are drilled with two holes, one for the podger to align the lug and the other for the bolt. Using these twin hole lugs will not only dramatically speed up fit-up times but will free up your engineers from lug making when they could be more usefully deployed on other tasks. Supplied self-colour ready to weld. The holes are 12 mm diameter designed for use with 10 mm bolts. They are positioned 22 mm out from the inner flange to provide good clearance for ratchet podgers. They conform to the Royal Opera House Podger Clearance specifications [honest – they exist!]. 'Podgalug®' is a registered Trade Mark of Flints. Podgalugs® are fully covered by Patent No. GB2331343 and are only available from Flint Hire and Supply Ltd.

- ✓ Saves fit-up time
- ✓ Saves your engineers from laborious lug making
- ✓ Accurately punched holes
- ✓ Unique patented device

Podgalug		code	price	10+	100+	Tradeline 1,000+
length	made from	weight				
60 mm	40x40x5	153 g	FHS043	£0.95	£0.85	£0.80
60 mm	40x25x4	126 g	FHS044	£0.95	£0.85	£0.80

## CURVED PODGERS



**Curved Podgers** A slightly shorter podger with a curved end. Some people prefer the short length as it is less likely to snag when stored in a belt holster. Available in alloy and steel. Definitely consider these lightweight alloy podgers if you work frequently at height – they will save you carting 160 g up that ladder.

Curved Alloy Podgers	weight	code	price
17 x 19 mm M10 and M12	230 g	POD1719CA	£28.00
19 x 21 mm M12 and Scaff	230 g	POD1921CA	£28.00

Curved Steel Podgers	weight	code	price
17 x 19 mm M10 and M12	390 g	POD1719CS	£23.00
19 x 21 mm M12 and Scaff	390 g	POD1921CS	£23.00

## 1/2" DRIVE PODGERS



**1/2" Drive Ratchet Podger** Drop forged in select alloy steel with continuous taper handle for aligning bolt holes. Made by Klein Tools. Serious piece of kit. For Klein Bull Pins look at page 328.

1/2" Drive Ratchet Podger	code	price
380 mm long	TOL3238	£84.00

## ADJUSTABLE HEAD PODGERS



**Adjustable Head Podger** Versatile wrench fits all nuts and bolts to 38 mm. Eliminates the need for carrying several fixed-size spanners. Drop forged from select alloy steel with continuous taper handle. 380 mm long.

Adjustable Head Podger	code	price
380 mm long	TOL3239	£75.60

# SPANNERS

## SCAFFOLD SPANNERS



Supertool 21 mm

**Scaffold Spanners** Traditional scaffolding spanners in two sizes. 7/16" is the most common UK size for scaffolding fittings. And you won't find the 1/2" in many places. The chrome Supertool 21 mm has a textured grip and the rounded off socket edges prevent nipped fingers.

Scaffold Spanners	code	price
Whitworth 1/2" [RARE!]	TOL1530	£9.20
Whitworth 7/16" [thread size for 21 mm nut]	TOL1531	£9.20
Supertool 21 mm	TOLSOSW21	£15.00

## QUAD SPANNERS



Lanyard is not supplied. See page 336.

**Quad Spanner** Another of Flints best-sellers brought in from Japan. These are probably the most popular tool found backstage. This reversible ratchet spanner fits M8, M10, M12, and Scaff, covering all the sizes normally found on stage. The usual superb

Japanese tool quality ensures reliable long life. Stainless steel body. Two new sizes now available! The smallest one is perfect for a keychain.

- ✓ The most popular backstage spanner!
- ✓ Just one tool covers virtually every task
- ✓ Reliable quality for a lifetime of use
- ✓ Drilled for a lanyard
- ✓ Very easy to buy online with special cheap carriage rates
- ✓ Can be attached to a belt by means of the Caritool [page 321]
- ✓ New large size for M12, M14, M16 and scaffolding

Quad Spanner	code	Tradeline	
5.5, 7, 6 and 8 mm	PODQUAD1	£20.00	
8, 10, 12 and 13 mm	PODQUAD3	£22.00	
13, 17, 19 and 21 mm	PODQUAD	£24.50	
Large Quad Spanner	code	price	10+
19, 21, 22 and 24 mm	PODQUADL	£34.60	£29.95



**4-in-1 Ratchet Spanner** Made from Chrome Vanadium steel which is then chrome-plated for protection against corrosion. This well constructed spanner has a 10-year guarantee. The 10 x 13 x 17 x 19 sockets fit the most common bolts found on stage [M6, M8, M10 and M12]. Not drilled for a lanyard. Length: 229 mm. Weight: 282 g.

4 in 1 Spanner	code	price	10+
10, 13, 17 and 19 mm	POD4IN1	£19.00	£17.00

## COMBINATION SPANNERS



**Bahco Combination Spanners** Chrome plated high performance alloy steel combination spanners from Bahco. 12 Point drive on ring end aid longer service life of bolts. Why not treat your self to the whole range and a Klein Zipper Bag to put them in, just a thought. Conforms to: ISO 691, ISO 7738, ISO 3318, ISO 1711-1 and DIN 3113

Bahco Combination Spanners	code	list	price
size to fit			
10 mm M6	BAHCM10	£8.91	£7.57
13 mm M8	BAHCM13	£10.10	£8.59
17 mm M10	BAHCM17	£12.34	£10.49
19 mm M12	BAHCM19	£14.37	£12.21
21 mm Scaffolding	BAHCM21	£17.50	£14.88

Bahco Combination Spanner Kits	code	list	Tradeline
10, 13, 17 and 19 mm	BAHCOMB4K	£45.72	£36.58
10, 13, 17, 19 and 21 mm	BAHCOMB5K	£63.22	£50.58
Klein Bag to store your spanners	BBP5139		£14.30

**For a large range of Klein Tool Bags see pages 325 - 328.**

## ADJUSTABLE SPANNERS



**Bahco Adjustable Spanners** Invented by Bahco in 1891 these Swedish spanners exceed ISI specifications and will withstand high torque loads and continuous heavy work. We can actually order spare parts for these AJs but in the last 30 years no one has asked for any! The 8" Bahco is pretty much an essential tool backstage for both electricians and stage crew. Still the best.

Bahco Adjustable Spanners		code	list	price
size	capacity			
6"	20 mm	BAH8070	£35.31	£29.00
8"	27 mm	BAH8071	£38.45	£31.64
10"	30 mm	BAH8072	£49.82	£41.00
12"	34 mm	BAH8073	£72.55	£59.68



Our best-selling AJ

**Bahco Wide Opening AJ** This popular adjustable spanner has a very wide jaw capacity of 38 mm yet still has the 8" [200 mm] handle enabling wide nuts to be accessed in awkward positions. No wonder it is our best-selling adjustable spanner.

Wide Opening Spanners		code	list	price
size	capacity			
8"	38 mm	BAH9031	£47.34	£38.16



**Stanley MaxSteel Adjustable Spanners** These have a narrow head design for limited space applications and are laser-marked with a metric jaw scale for easy fastener sizing. The forged alloy-steel body increases strength, with the extra-wide jaw capacity opening wider than standard adjustable wrenches. They have a bi-material handle for a comfortable grip.

Stanley Adjustable Spanners			code	list	price
size	metric	capacity			
6"	150 mm	24 mm	STA090947	£11.75	£9.96
8"	200 mm	29 mm	STA090948	£14.71	£12.48
10"	250 mm	33 mm	STA090949	£17.61	£14.93
12"	300 mm	39 mm	STA090950	£22.02	£18.68

For Vice Grips see page 307.

**For the Caritool see page 321.**

## LIGHTING TECHNICIAN'S TOOLS



**Dirty Rigger Multi-Tool** 14 tools in one hand - so simple yet it's indispensable. Cut from 4 mm hardened steel it's one of the toughest multi-tools of its kind on the market. 14 separate tools remain instantly available, with every one designed around some of the most common needs in the professional rigging industry. Finished in a durable matt black powder coat and, of course, it has got a bottle opener too.

- ✓ 18 mm (M10), 20 mm (M12), 24 mm (M14) nut tools
- ✓ 3/8", 1/2", 3/4" nut tools ✓ 2 x Wire Strippers ✓ 7 mm (M6) square nut tool ✓ Wingnut tool ✓ 4 mm and 6 mm eyelets ✓ Barndoor tool
- ✓ Bottle opener

Dirty Rigger Multi-Tool	code	price
	TOLDRMT	£17.10



**StageJunk Ultimate Flat Tool** A simpler tool for Lighting Technicians but still packed with features. Made from 6 mm carbon steel. ✓ 3/4", 19 mm [M12] for C-clamps, couplers, star knobs on ETCs, Lekos etc. ✓ 17 mm [M10] ✓ 1/2" C-clamp ✓ 7/8" for scaffold clamps ✓ Lanyard hole ✓ 9/16" Yoke bolts ✓ Bottle opener! ✓ 3/8" Older swivel focus nut on C-clamp ✓ 5/16" Newer swivel focus on C-clamp ✓ Larger opening for larger shackles and fat wing nuts ✓ Long narrow slot for smaller shackles and regular wing nuts ✓ Super slim, just slips into your pocket

StageJunk Ultimate Flat Tool	code	price
Ultimate Flat Tool [Black]	TOLUFTB	£24.68



**StageJunk Mini Tool** ✓ 3/4" and 19 mm [M12] for C-clamps and star knobs on ETCs, Lekos etc. ✓ 3/8" ETC Source ✓ smaller yoke handle ✓ 3/8" Older swivel focus nut on C-clamp ✓ Bottle opener!

StageJunk Mini Flat Tool	code	price
Carbon Steel	TOLUFTBMINI	£10.95



**Wing Bolt Spanner** A popular laser cut piece of plated steel with holes profiled for large and small wing nuts plus 17 and 19 mm hex nuts. Go to page 349 for more Electrician's Tools.

Wing Bolt Spanners	code	Tradeline price
	TOLWBS	£17.95

## CARITOOOL



**Caritool** A home for your spanner [or Spatha Knife see page 316]. This well engineered belt clip will firmly secure to your belt. The wide profile ensures the clip remains at right angles and is always quickly accessible. Designed as an accessory karabiner to take tools up to 5 kg, or 15 kg for the large version. Not PPE.

- ✓ Fantastically useful ✓ Economical
- ✓ Lightweight, just 35 g [large 75 g]
- ✓ Neatly clips through the Quad Spanner
- ✓ Designed for one-handed use

Caritool	max load	wt	code	price
Standard Version	5 kg	35 g	PETP042S	£5.20
Heavy-duty Version	15 kg	75 g	PETP042L	£12.20

## RATCHET DRIVERS



**Stanley Ratchet Handle 72 Tooth 1/2" Drive 1/2"** Drive Ratchet handle from Stanley with a fully polished chrome head and rubberised handle for a comfortable grip. Quick release button on head enable quick socket changes and low profile lever switch prevents you accidentally switching from righty tighty to lefty loosey.



Stanley Ratchet Handle	code	list	Tradeline
1/2" Drive	STA082665	£25.56	£21.73

## ROTARY RATCHETS



Just rotate the handle when tight for space!

**Proxxon Rotary Ratchets** This ratchet works like any other ratchet but with a unique extra feature. You know the situation, you can get your socket on the nut but there's hardly any room to ratchet the handle. That's not a problem any more - just twist the handle to drive the socket until the nut is home then give it a little tweak to harden up. Magic! If there's no room even for the tweak then use the 1/4" drive socket on the end of the handle to apply torque via the twisting handle.

### Flints Special Offer

✓ A 3/8" driver with 6 sockets [9, 10, 13, 17, 19, and 21 mm] all in a Klein Canvas Zipper bag - a truly wonderful gift. Worth £81.99 list.

Proxxon Rotary Ratchets	code	list	price
3/8" Rotary Ratchet Drive	TOL701467	£39.53	£35.48
3/8" Drive plus sockets in zipper bag	TOL23038ZK	£81.99	£63.33

## RATCHET HANDLE



**Supertool TRH 3/8" Ratchet Handle** Weighs just 230 g! A useful light and compact reversible ratchet handle. Width: 120 mm. Height: 63.5 mm high.

Supertool TRH 3/8" Ratchet Handle	code	price
	TOLTRH3	£23.50

## SWIVEL HEAD RATCHET



Much quicker than a fixed ratchet

**Zyklop 3/8" Swivelling Head Ratchet** This new swivelling head ratchet has defined lock positions at 0°, 15°, 90° right and left. Push button release. Fine-pitched tooth design, with small return angle of 5° - 6°. Can be used as a conventional screwdriver at 0°.

- ✓ With the head locked straight ahead the nut can be rapidly spun down the thread, then just click to a comfortable ratchet position to finally tighten up
- ✓ A real time saver

Zyklop Swivelling Head Ratchet	code	list	price
	WER003550	£79.24	£56.45

## RATCHET HAMMER WITH PODGER PIN

Mega tough!



**Koloss Ratchet Hammer 1/2" Square Drive** No more damaged ratchet handles from being used as a hammer. The world's first hammer and ratchet in one. You won't bust this one! Immensely powerful allowing handle extension for a massive increase in leverage - up to 600 Nm! High quality drop forged hammer head houses the fine 6° ratchet for working in confined spaces.

- ✓ It's not cheap but this tool will last you a lifetime
- ✓ Three tools in one - ratchet, hammer and podger
- ✓ Delivers up to 600 Nm of torque!
- ✓ Thermoplastic attachments available for striking faces to protect materials

Koloss Ratchet Hammer	code	list	price
Ratchet plus holster and pads	WER073232	£111.92	£89.50
Extension handle	WER08780	£31.35	£25.08
Set of protective pads	WER03697	£8.64	£6.92
Centring Pin [podger]	WER03696	£26.55	£20.18
Complete Set	WER073232K	£156.04	£120.85

## RATCHET ALLEN KEY



**Ratchet Allen Key** To speed up key clamp constructions for the professional user, Flints has chosen this good quality 3/8" drive Teng ratchet handle which will take 1/4" and 5/16" hex sockets. Fits Size 6 and Size 8 key clamp fittings. We sell the handle well below the list price of £40.70.

Ratchet Allen Key	code	list	price
3/8" Ratchet Handle [fibre reinforced]	TEN3800FRP	£40.70	£31.78
Drive Peg 1/4" [Size 6] (fits 3/8" drive)	TOL2360B		£7.80
Drive Peg 5/16" [Size 8] (fits 3/8" drive)	TOL2361B		£7.90



**Wera 8001A Bit Ratchet** is an ideal choice when lack of space prevents the use of power tools or conventional tools. The ergonomic ratchet head/handle with Kraftform geometry has perfectly shaped contact zones for your fingers. The compact tool design with an integrated bit holder in the ratchet head allows for very low working heights. It is supplied with the Wera Adaptor 870/1 for use with 1/4" drive sockets. The fine-tooth ratchet mechanism with its small return angle of only 6° forward and its reverse switch allows for accurate work with the torque possible exceeding 65 Nm. It is incredibly robust with a drop forged all-steel design. Ideal for servicing and maintenance of small stage machinery.

Wera 8001A Bit Ratchet	code	list	price
	WERA8001A	£42.13	£30.05

## SOCKET SETS

Tradeline



### 1/4" Drive Socket Set – Teng Mecca Rosso

Popular and compact 23-piece set built in accordance to ISO 9000 and AS945. The drive has an 80 action. □ Supplied in a case with: Sockets: 4, 5, 5.5, 6, 7, 8, 10, 12, 13 mm. Bits: slotted 4, 5.5 mm; Phillips PH1, PH2; hex 5, 6 mm; Torx T15, T20.

Ratchet includes hanging ring, extension bar, universal joint and bit holder.

Teng Mecca Rosso	code	list	Tradeline
23-piece set	TENT1424	£54.80	£38.91



**Bahco S460 46 piece Metric 1/4" Drive Socket Set** This incredibly good value socket set features Dynamic Drive™ sockets to reduce damage and wear to the fastener. The Ratchet drive features a quick release socket button. All the sockets are made from higher performance alloy steel. Conformity: ISO1174, DIN3120.

□ Supplied in a strong high-density-polythene case with:  
 12 x 1/4" hex sockets: 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13 mm, 1 x 1/4" ratchet quick release, 60 teeth/ 6° action angle, 4 x 1/4" socket drivers: PH 1, 2, 3, 4, 3 x 1/4" socket drivers: slotted 4, 5.5, 7 mm, 6 x 1/4" socket drivers: Hex 3, 4, 5, 6, 8, 10 mm, 7 x 1/4" socket drivers: T 8, 10, 15, 20, 25, 27, 30, 3 x 1/4" TORX® Sockets: E 6, 7, 8, 1 x 1/4" spinner disc, 2 x 1/4" extension bars 2" & 4", 1 x 1/4" sliding T-bar, 1 x 1/4" universal joint, 1 x 1/4" spinner with two component handle, 1 x 1/4" flexible extension bar 6", 3 x L-Keys: Hex 1.5, 2, 2.5 mm, 3 x removable three section plastic box with lid.

46 Piece Bahco Socket Set	code	list	price
46-piece set	BAHS460	£203.26	£120.70



Just 100 x 80 mm!

### Bahco 26-piece 1/4" Bit Set

□ Supplied in a case just 100 x 80 mm: Bits: slotted 4, 5, 6 mm; Phillips PH1, PH2, PH3; Pozidriv PZ1, PZ2, PZ3; Torx T10, T15, T20, T25, T30; hex 3, 4, 5, 6. Sockets: 6, 7, 8, 10, 13 mm. 1/4" bit ratchet; 1/4" adaptor.

Bahco 1/4" Bit Set	code	list	Tradeline
26-piece set	BAH2058S26	£51.65	£39.95



### 34-Piece Bahco 1/4" and 3/8" Drive Socket Set

With dynamic drive profile. Matt chrome-plated chrome vanadium steel  
 □ Supplied in an oil and temperature resistant plastic case with: 3/8" 6-point dynamic drive sockets: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22 mm; 3/8" 3" and 6" extension bars; 3/8" universal joint; 3/8" x 1/4" bit holder; 3/8" 6-point 16 mm [5/8"] and 21 mm [13/16"] spark plug sockets; 1/4" spinner handle; 1/4" x 1/4" bit holder. Bits: 1/4" flat 4, 5.5, 7 mm; 1/4" Phillips PH1, PH2, PH3, PH4; 1/4" hex 3, 4, 5, 6, 7, 8 mm; 3/8" 54-teeth ratchet handle. Conformity: DIN 3120 ISO 1174.

Bahco 34 piece Socket Set	code	list	Tradeline
1/4" and 3/8" Socket Set	BAHS330	£142.26	£77.50

## WERA SOCKET SETS



**Wera Tool Check Plus** This very compact and portable hard-cased set features a huge selection of 25 mm bits, Zyklop sockets, adaptors, and handles in a minimum of space that are perfect for a whole host of screwdriving applications. As well as adding to the stylish look of this set, the colour coded sockets make it simple to quickly access the required tool. The Zyklop ratchet is great for confined working conditions as it's just 87 mm in length with a small return angle of 6°. Can be clipped on to your belt so you always have it to hand.

□ Supplied in a very compact case with: 8001 A Zyklop Mini 1 Bit Ratchet [87 mm], 813 Bitholding Screwdriver Handle. Sockets: 1/4" 8790 HMA Zyklop Sockets: 5.5, 6, 7, 8, 10, 12, 13mm. 25 mm Bits: TZ Phillips PH1 [x2], PH2 [x3], PH3; TZ Pozidriv PZ1, PZ2 [x3], PZ3; TZ Torx® TX10, TX15, TX20, TX25, TX30, TX40; Tamperproof Torx® TX10, TX15, TX20, TX25, TX30; Z Hex-Plus 3, 4, 5, 6, 8mm; TZ Slotted Bit 1.0 x 5.5 mm. Accessories: 1/4" 889/4/1 K Rapidaptor Universal Bit Holder; 1/4" 870/1 Adaptor [25 mm].

Tool Check Plus	code	list	Tradeline
39-piece set	WER056490	£105.92	£71.45

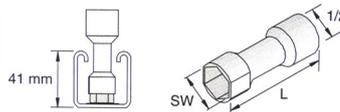


**Wera Zyklop Socket Set Belt** Another smart design from Wera. This robust textile belt with nine sockets takes up minimal space. A smooth 'twist to unlock' mechanism ensures a secure fit and simple removal of the sockets. The colour coded sockets enables the right tool to be selected easily and quickly. Includes a snap hook for secure fastening to a belt loop or pocket. Sockets with holding function for particularly convenient screwdriving with reduced risk of losing the screw when approaching the workpiece. Supplied with a non-woven reverse side and hook and loop strips for simple attachment to a wall, shelf or tool trolley.

CONTENTS: Belt A1: Belt 39 mm x 238 mm; Sockets [23 mm]: 14, 4.5, 5, 5.5, 6, 7, 8, 10, 13 mm. Belt B1: Belt 45 mm x 310 mm; Sockets [29 mm]: 8, 10, 12, 13, 15, 16, 17, 18, 19 mm.

Belt Socket Set	drive	code	list	price
Belt A1	1/4"	WER0500388	£61.68	£43.95
Belt B1	3/8"	WER0500397	£73.81	£52.59

## UNISTRUT SOCKETS



### Unistrut Sockets

They are a bit pricey but they could make your life a lot easier. Our Long Reach 13 x 17 podger [page 318] does get inside the channel but it scrapes on the side. These sockets have a reduced waist especially designed for an easy fit in 41 mm Unistrut Channel. M10 [17 mm] socket with 1/2" drive. For Unistrut see page 240. Maximum torque: 30 Nm. Weight: 130 g.

Unistrut Socket	code	price
M10 x 1/2" Drive	TOL17AF	£35.00

## SOCKET DRIVE ADAPTORS



### Socket Drive Adaptors

You would have thought that you could buy such handy devices anywhere, but we spent years tracking these down. The pack contains three adaptors allowing you to connect a 1/4" 3/8" or 1/2" socket to your cordless drill. We buy them in bulk and they are selling like hot cakes!

Socket Drive Adaptors	code	price
Set of 3	TOL1571	£4.50

## SOCKETS IMPERIAL



**Imperial Sockets** We stock these sockets primarily so that the Crosby Wire Rope Grips can be correctly tightened using the Torque Wrenches listed on page 174. Life can be oh so complicated!

Imperial Sockets fits drive	fits Crosby dog	code	price
3/8" 1/4"	3 - 4 mm	TENM140112	£4.20
7/16" 1/4"	5 mm	TENM140114	£4.20
9/16" 1/2"	6 - 7 mm	TENM120118	£6.10
11/16" 1/2"	8 mm	TENM120122	£7.40
3/4" 1/2"	10 mm	TENM120124	£7.40

## SOCKETS METRIC

1/2" are 12 point sockets.



3/8" drive are 6 point sockets.



### 1/2" and 3/8" Drive Metric Sockets

Produced in accordance with ISO 9000 and AS954 to increase torque and reduce the risk of rounding fasteners. Made from chrome vanadium steel with a satin finish.

If you are using a 1/4" drive use the 1/4" to 3/8" male convertor .

Metric Sockets	fits	code 1/2"	price	code 3/8"	price
9 mm	M5	to order		TENM380509	£4.70
10 mm	M6	TENM120510	£6.00	TENM380510	£4.90
13 mm	M8	TENM120513	£6.20	TENM380513	£4.90
17 mm	M10	TENM120517	£7.00	TENM380517	£5.50
17 mm Deep	M10	TENM120617	£12.90	TENM380617	£9.40
19 mm	M12	TENM120519	£7.00	TENM380519	£5.80
19 mm Deep	M12	TENM120619	£13.20	TENM380619	£10.20
21 mm	Scaff 7/16"	TENM120521	£7.80	TENM380521	£6.41
22 mm	M14	TENM120522	£8.10	to order	
24 mm	M16	TENM120524	£9.60	not available	
Convertor 1/4" female to 3/8" male				TENM140036	£4.20

## 1/2" DRIVE HEX BITS



**1/2" Drive Hex Bit Socket** Allows an 8 mm or 1/4" hex drive to be used with your 1/2" drive ratchet handle.

Hex Size	drive size	fits	code	price
8 mm	1/2"	Size 8 key clamp	TENM121508C	£8.50
1/4"	1/2"	Size 6 key clamp	STW54A14	£14.85

## IMPACT SOCKETS



**Hikoki 41-Piece Impact Socket and Bit Set** The ideal companion for the Makita Drill & Driver set [page 280].

□ Supplied in a tough case with: 10 x 1/2" drive impact sockets for use in impact drivers: 8, 10, 11, 12, 13, 14, 17, 19, 21, 22 mm. 28 x 25 mm Driver bits for use in impact drivers: Phillips PH1, PH2, PH3; Pozidriv PZ1, PZ2, PZ3; slotted 3, 4, 5, 6 mm; hex 3, 4, 5, 6 mm; Torx T10, T15, T20, T25, T27, T30, T40; Tamper Torx TH10, TH15, TH20, TH25, TH27, TH30, TH40. 1 x 1/2" square to 1/4" hex adapter [allows impact wrench to be used as a driver and vice versa]. 1 x 75 mm 1/2" hex socket adapter. 1 x 60 mm stainless 1/4" quick change bit holder.

NB: Please check capacity of machine before using some of the larger size sockets.

Hikoki Impact Socket & Bit Set	code	list	Tradeline
	POW752500	£48.75	£41.95



**Teng 1/2" Drive Deep Impact Sockets** To use with power tools and air tools. Manufactured from chrome molybdenum to a DIN standard. Length: 78 mm.

Teng 1/2" Drive Deep Impact Sockets	code	price
13 mm	TEN920613	£12.80
17 mm	TEN920617	£12.50
19 mm	TEN920619	£12.50
21 mm	TEN920621	£13.10

## TAPS & DIES



**CK Tap and Die Set [includes wrenches]** A good value 21-piece tap and die set covering sizes from M3 to M12. This set includes stocks and wrenches plus a screwdriver.

A handy set covering most sizes to get you out of trouble on tour.

Tap and Die Set	code	price
	TOLT4032	£62.78



**Die Stock** The 1" stock fits our 6 mm to 12 mm dies. See below for conduit stocks.

Die Stock	code	price
1"	TOL1211	£5.40



**Dies** All 1" diameter dies to fit our die stocks.

Thread size	code	price
M6 x 1"	TOL1223	£4.75
M8 x 1.25"	TOL1224	£4.75
M10 x 1.5"	TOL1225	£4.75
M12 x 1.75"	TOL1226	£4.75



**Tap Wrench** Fits 1 mm to 12 mm taps [3/16" to 1/2"]

Tap Wrench	code	price
	TOL1206	£5.25

**Taps** Sold as sets of three [one taper, one second and one bottoming].



Size	code	price
M5	TOL1222T	£8.56
M6	TOL1223T	£8.56
M8	TOL1224T	£11.25
M10	TOL1225T	£12.65
M12	TOL1226T	£14.89



**Two Arm Conduit Die Holder**

A simple set complete with a 20 mm and 25 mm die. This is a very economical solution where access is good.

20 mm and 25 mm conduit die set



**7-Piece Ratchet Set** Suitable for threading black-gas or galvanized iron pipes. The compact ratchet head is suitable for working close to walls etc. The cast iron die heads have alloy steel dies, four chasers per head for a clean accurate thread and four waste holes for quick dispersion of swarf.

□ Supplied in a blow mould carrying case with: 16, 20, 25 and 32 mm die heads, two-piece handle, compact ratchet head.

7-piece ratchet conduit die set

For Conduit and Threading Service see page 233.

Conduit Die Sets	code	list	Tradeline
7-piece ratchet conduit die set	TOL22496	£166.50	£120.72
20 mm and 25 mm conduit die set	SCFESCO		£29.95
Disposable de-burring tool	TOLMON3020		£7.02

# BOXES, BAGS, BELTS & POUCHES

## BOXES



**Zarges Boxes** Excellent as prop storage or for sending tools or sensitive equipment abroad. Use it for storing your spray guns or brushes. Whatever your use, the Zarges box will keep everything secure, clean and protected. The lid has a foam seal to protect from dust and water spray. Ideal for transporting goods on trailers, or roof racks. The flip catches are lockable. The aluminium construction keeps air freight costs down. Zarges built in quality to protect your valuable possessions.

Zarges Boxes	weight	code	Tradeline
int size LxDxH			
ext size LxDxH			
550 x 350 x 220 mm	4 kg	BBP40861	£211.52
550 x 350 x 310 mm	4.5 kg	BBP40877	£271.43
750 x 350 x 310 mm	6 kg	BBP40862	£354.24
850 x 450 x 350 mm	10 kg	BBP40863	£561.25
Divider to suit 40861		BBP40864	£32.21
Divider to suit 40862		BBP40865	£40.26
Divider to suit 40863		BBP40866	£48.31



**Stanley Babushka 20" Toolbox** This toolbox has robust metal latches for secure fastening. The soft-grip handle folds flat in to the lid, which also includes two organisers that are accessible without opening the toolbox. The toolbox can be locked and there is a removable tote tray inside too.

Stanley Babushka Toolbox	weight	code	price
508 x 239 x 254 mm [LxDxH]	1.7 kg	STA194858	£21.98

## TOOL BAGS



**Klein Tradesman Pro Organizer Backpack** Klein designed this rugged backpack to tall enough for longer screwdrivers. The main compartment holds tools comfortably and keeps them sorted. Outside, there is a large zipped pocket, and above that, a moulded hard pocket features a fleece-covered divider to protect your safety glasses from scratches. It keeps valuables dry and protected from impact and there is no chance of them falling out. The bag also features numerous pockets [Klein says there's 39 but we're damned if we can find them all], a durable moulded bottom, water-repellent 1680d ballistic nylon fabric, a curved zip for wide access, and orange interior for visibility. Check out our posh Lighting Tool Kit that includes this Backpack on page 330.

Klein Tradesman Backpack	weight	code	price
368 x 170 x 508 mm [WxDxH]	2.74 kg	BBP55421P14	£96.50



**Klein Canvas Tool Bag with Multiple Pockets** A rugged tool bag with harness leather handles, constructed from heavy white canvas with a strong leather base and six steel base studs. Steel rim around mouth. Fitted with shoulder strap rings and ten interior pockets in various sizes plus one external pocket. This bag should last a lifetime.

Klein Tool Bag	weight	code	Tradeline
457 x 152 x 356 mm [WxDxH]	1.4 kg	BBP500318	£99.95



**Highlander 24" Heavyweight Canvas Bag** A useful bag for tools but also useful for carrying brushes or up to 10 x 1 L pots of Rosco Supersat paint. Great value.

Heavyweight Canvas Bag	weight	code	price
600 x 70 x 70 mm [LxDxH]	520 g	BBPTB002	£15.00



**Ditty Bag** Made from heavy cotton canvas with a 12 mm rope handle spliced on by Arthur Beale. The soft bottom makes it easy to stow away, and large interior can take reels of whipping twine, sailmakers palms handy pulleys etc. Seven external pockets have a variety of widths for fids, shackle keys, notebooks etc.

Ditty Bag	code	price
170 x 200 mm [ØxH]	BBP012N	£22.85



**Klein Black Deluxe Tool Bag** New addition to our range of Klein tool bags, this beautiful looking black tool bag is great for backstage technicians and goths alike. Constructed with heavy duty No. 8 Black Canvas. 13 Interior pockets for tool organisation. Comes with detachable and adjustable shoulder strap. Moisture resistant vinyl bottom. Mouth of bag constructed with a hinged steel frame.

Klein Black Deluxe Tool Bag	weight	code	price
467 x 152 x 356 mm [LxDxH]	1.8 kg	BBP51021BK	£109.00



**Klein Canvas Tool Bag** This is one bag for life that will actually last you a lifetime. (and has a lifetime guarantee just in case it doesn't). Constructed with No. 6 Natural Canvas with stitched and riveted handles, this heavy duty bag will carry just about anything. Double layer canvas bottom to prevent wear.

Klein Canvas Tool Bag	weight	code	price
432 x 229 x 305 mm [LxDxH]	700 g	BBP5155	£69.00

**KLEIN ZIPPER BAGS**



**Klein Zipper Bag** A fantastically popular sturdy white No. 10 canvas bag with a strong zip. Convenient for storing small tools such as pliers, spanners, and electrical screwdrivers. Also handy for Allen keys, drill bits, router bits, digital cameras, calculators, splicing gear, sewing gear, artists brushes etc. A couple of these bags can sort your life out! If you have really precious goodies then treat yourself to the leather version below. See also our own version on page 383.

Zipper Bag	code	price
318 x 178 mm [WxH]	BBP5139	£14.30



**Klein Coloured Zipper Bags** The ever popular sturdy Klein No. 10 canvas bags with really strong zips are available IN COLOUR. One each of olive, orange, royal blue and yellow. So now

you know your Allen keys are in the yellow bag and your flat bits are in the blue bag! They make unusual and well received presents for almost anyone. Set of four.

Zipper Bag Set	WxH	code	price
Pack of all 4 colours	318 x 178 mm	BBP5140P	£41.69



**Klein Natural Consumables Bag** Constructed of No. 8 canvas with heavy-duty brass zipper and brass grommet. Convenient storage for nuts, bolts and other consumables. Now available in a larger size!

Natural Consumables Bag	code	price
254 x 89 x 203 mm [WxDxH]	BBP5539NAT	£15.40
457 x 203 x 89 mm [WxHxD]	BBP5539LNAT	£24.50



**Klein Coloured Consumables Bags** Constructed of No. 8 canvas with heavy-duty brass zipper and brass grommet. In red, blue and yellow. Convenient storage for nuts, bolts, shackles and other consumables. Now available in a larger size too!

Coloured Consumables Bag	WxDxH	code	price
Pack of all three colours	254 x 89 x 203 mm	BBP5539CPAK	£38.35
Pack of all three colours	457 x 203 x 89 mm	BBP5539LCPAK	£58.85



**Klein Leather Zipper Bags** These high quality soft, yet tough, leather bags have many uses. Use the small one to store precious pliers, cutters and crimpers or to keep your organiser, calculator, diary and receipts together. Neatly holds A4 sheets folded in half. Makes a great wash bag and camera bag! Choose the portfolio size for clip boards, important documents and small notebook computers. Both sizes have heavy duty brass zips. Can you get through life without one of these? Makes a lasting present.

Leather Zipper Bags	WxH	code	price
Standard	320 x 190 mm	BBP5139L	£41.00
Portfolio	432 x 305 mm	BBP5136	£74.75

**TRANSPORTATION BAGS**



**Ortlieb X-plorer Dry Bags**

An endlessly useful totally waterproof bag ideal for holding PPE gear such as ropes and harnesses. Unlike most dry sacks they have easily adjustable shoulder straps and a hand grip. They roll down into a compact backpack but expand to hold extra gear when you need it. The new comfortable and breathable padded mesh straps are adjustable and, if you are being really active,



there is a cross over strap to prevent the shoulder straps from slipping off. A good bag for cyclists as it is narrow enough not to obscure your view when glancing over your shoulder. Very strong and hard wearing. This new version has extra attachment points on the lower strap, D rings at the closure, and a carrying handle. Sadly now only available in Black. Anyone for a sack race?

Ortlieb X-plorer	size	vol	weight	code	price
Yellow/Black	270x 600 mm [ØxH]	35 L	640 g	BBPOR17204	£59.12
Yellow/Black	310 x 700 mm [ØxH]	59 L	790 g	BBPOR17205	£63.06



**Ortlieb Expedition Duffle** This waterproof travel bag protects equipment, stores, clothing etc. from water and dirt, and can quickly be converted into a

comfortable backpack. A long TIZIP zip allows quick access to your gear. Internal straps compress the volume. The tough PS620C base fabric makes it an extremely durable bag ideal for anyone needing to work outdoors on tough locations.

- ✓ 2 internal zippered pockets
- ✓ 1 outer zippered pocket [not waterproof!]
- ✓ Daisy chain for fixing and attaching further gear
- ✓ Easy to clean

Expedition Duffle	vol	weight	code	price
650 x 440 x 310 mm [LxDxH]	85 L	1.36 kg	BBPOK1403	£130.43

**BELTS**



Traditional quick release steel buckle



Nylon side-squeeze version.



**Webbing Belt with Loops** Our biggest selling belts. These tough wide webbing belts have five handy loops for screwdrivers, podgers etc. plus a leather fitting to hold a tape measure and a larger loop to take a hammer. In addition, there is still space to take a nail pouch [not included, see page 328] to hold loose nuts and bolts. Fitted with a quick release steel buckle. Good value and very popular. Nylon [side squeeze] buckle also available. Fits waist up to 1,067 mm.

Webbing Belts	width	code	price
Belt	50 mm	BBPCWB4E	£17.59
Belt [Nylon Buckle]	50 mm	BBPCWB5E	£19.35

## BELT ACCESSORIES



**Large Tape Holder** Made of the finest quality saddle leather. Steel rivets. A perfect fit for the Flints Budget 5 m Tape or the Stanley PowerLock 3 m or 5 m Tape [page 293]. Fits belts up to 60 mm wide. Weight: 130 g.

Large Tape Holder	code	list	price
	BBPCSBTA2	£19.76	£16.81



**Lanyard Belt Attachment** A strong leather belt attachment with a 37 mm Ø ring. Fits belts up to 50 mm wide.

Belt Attachment	code	price
	SAF5FCB	£10.20



**Podger Holster** Supertool discontinued their version, so we made our own! Complete with a small tool lanyard attachment ring. The holder is hinged to allow freedom of movement. For Small Tool Lanyards see page 337. Fits belts up to 60 mm wide.

Podger Holster	code	price
	FHSPH	£8.80



**Leather Podger Holder** A traditional holder. Tunnel belt connection. Fits belts up to 60 mm wide.

Podger Holder	code	list	price
	BBPCSBSC4	£15.04	£12.79



**Swinging Hammer Holder** Swinging holders prevent the hammer capsizing when working upside down. If you work upside down a lot you may want to consider our hammer with the head on the other end. Fits belts up to 60 mm wide.

Hammer Holder	code	list	price
	BBPCSB1135	£18.64	£17.11



**Scissors Holder** Heavy-duty leather riveted and stitched for extra durability. Capable of taking large scissors up to 300 mm long. Tunnel loop. Now made from stylish black leather. Fits belts up to 50 mm wide.

Scissors Holder	code	price
	BBP5100M	£14.35



**Bull Pin Holder** Leather construction designed for holding Klein Bull-Pins will take any standard bull pins. Slotted belt connection. Fits belts up to 89 mm wide. 83 x 311 mm [WxH]. Weight: 146 g.

Bull-Pin Holder	code	price
	BBP5417T	£21.67

## BELT POUCHES AND BAGS



No, you don't get the tools with it!

**Dirty Rigger Pro-Pocket XT** The first time we saw this tool pouch we fell in love! So neat and compact - holds exactly what you need without any unnecessary bulk. Perfect for running around on a set up without being weighed down.

Vertical storage, quick-access layout gives:

- ✓ 1 x internal smart phone compartment: 100 mm x 80 mm x 30 mm (fit sizes up to iPhone 6/7 Plus)
- ✓ 1 x internal tool compartment: 150 mm x 60 mm x 40 mm
- ✓ 2 x external, instant-access elasticated tool loops (20 mm unstretched diameter)
- ✓ 2 x external D-ring attachments
- ✓ 1 x detachable 270 mm accessory loop (shown above holding the PVC tape)
- ✓ 1 x top-mounted snap hook
- ✓ 2 x vertical tool slots mounted in each internal compartment (4 slots in total)
- ✓ Headphone cable pass-through from the phone compartment
- ✓ Constructed from durable 1200x1200 denier nylon polyester
- ✓ Belt clip & belt loop for preferred attachment

Pro-Pocket XT	weight	code	price
	170 g	BBPDRPPXT	£26.61



No, you don't get the tools with it!

**Technician's Tool Pouch 2.0** Boasting 10 pockets the tech pouch is capable of holding a huge variety of screwdrivers, spanners, hammers, tape measures etc. and the abrasion and puncture resistant rubber base prevents pointed tools from piercing the bottom of the bag. Main centre pocket

contains 5 inner pockets, all secured with a hook and loop closure flap over the top of the pouch. Four D-ring attachments for linking accessories.

Tool Pouch	weight	code	price
230 x 200 mm [WxH]	1 kg	BBPDRPT20	£29.03



**PowerLine™ 18 Pocket Electrician's Tool Pouch**

Constructed of double layered 1,000 denier Cordura nylon. Exceptional resistance to abrasion, punctures, and tearing. Double nylon stitched and rivet reinforced for extra durability. Oversized pockets and reinforced bottom for extra carrying capacity, as well as durability. Heavy-duty nylon webbing. No break-in period; fits comfortably round the body, making it easy to wear for everyday use. Lightweight, comfortable, soft, pliable and washable. 18 pockets to carry an assortment of tools and accessories. Chain tape thong. Fits belts up to 79 mm wide.

PowerLine Electrician's Pouch	weight	code	price
300 x 140 x 180 mm [int WxDxH]	450 g	BBP5719	£59.95



### Klein Bull Pin and Bolt Bag

Made from super strong No 4 canvas. Holds a large quantity of bolts. Two long loops will each hold a bull pin. See the leather Bull Pin Holder. For podgers visit Podgertropolis [from page 317]. Fits belts up to 76 mm wide.

Bolt Bag [excluding pins]	weight	code	price
229 x 127 x 254 mm [WxDxH]	300 g	BBP5416T	£22.35



**Bull Pins** Forged, heat-treated broad head bull pins, or "drifts".

Broad Head Bull Pins			code	Tradeline
length	top Ø tapers to tip Ø	weight		
349 mm	32 to 8 mm	2 kg	TOL3255	£31.80
254 mm	27 to 6 mm	2 kg	TOL3256	£30.50



**Bull Pins drilled with tether holes** Forged, heat-treated broad head bull pins, or "drifts" now available with tethering points!

Broad Head Bull Pins with tether holes			code	Tradeline
length	top Ø tapers to tip Ø	weight		
349 mm	32 to 8 mm	2 kg	TOL3255TT	£31.80
254 mm	27 to 6 mm	2 kg	TOL3256TT	£30.50



### Klein Bolt Bag for Working at Height

This bolt bag is specifically designed for working at height. The two D-rings on the front of the pouch and the four on the inside provide plenty of space to connect tethers for your tools or pins. There's also a buckle to keep the top closed and two long loops which each hold a bull pin. For tool tethers see page 336. Fits belts up to 76 mm wide.

Bolt Bag for Working at Height [excl. pins]	weight	code	price
229 x 127 x 229 mm [WxDxH]	300 g	BBP5416OCTO	£27.00



### Single Pocket Nail Pouch

This simple strong leather pouch can be used in conjunction with our belts to provide a place for bolts, nuts and loose fittings. Double stitched and rivet reinforced. 5-year guarantee. Fits belts up to 80 mm wide.

Single Pocket Nail Pouch	weight	code	price
235 x 180 mm [WxH]	280 g	FAINPI	£17.81



### Genius Simple Bag

A time saver. The rigid opening quickly snaps shut using the "clac clac" system holding all your contents safe inside while a magnetic plate allows for temporary storage outside the pocket. Attaches to your belt using the eyelet. See page 185 for Karabiners.

Genius Simple Bag	weight	code	price
230 x 300 mm [WxH]	180 g	BBPBSACG	£18.75



### Tool Bag with Zipper Base

This bag has a drawstring top. It can be attached to your belt and is the right size for small tools. With a zipped compartment in the base, belt loop and buckle. PVC-coated polyester.

Tool Bag with Zipper Base	vol	weight	code	price
55 x 270 mm [ØxH]	3 L	40 g	SAFLSB03ZB	£53.09

## OTHER BAGS



### Petzl Rope Bucket Bag

Simple and durable, the BUCKET bag allows the user to store a rope and any associated gear. It remains upright and keeps its shape, even when empty, for easy access to the contents of the bag. Bag remains upright and has an exterior folding lid system that allows easy access to the contents of the bag.

- ✓ Now stylish Black!
- ✓ External pocket for personal effects with zip
- ✓ Transparent external window for displaying an equipment identification card
- ✓ Two large, comfortable carrying handles
- ✓ Adjustable shoulder straps, so it can be carried on the back
- ✓ Interior loop can be used as attachment point for rope
- ✓ Coated fabric bottom for durability in difficult environments and for longevity of the bag
- ✓ Waterproof fabric
- ✓ Available in 30 L or 45 L capacity

Petzl Rope Bag Bucket	vol	weight	code	price
30 L	730 g		PETS001CA01	£65.00
45 L	890 g		PETS001CA02	£50.00

## CANVAS BUCKETS



### Klein Black Chain Bucket

A deep strong leather bottomed bucket with No.1 canvas walls widely used for chain falls. The leather extends 75 mm up the sides. Complete with polypropylene rope handle and swivel snap. Chain Capacity: 40 m. Snap Swivel Max Load: 68 kg. Weight: 2 kg.

Great for chain hoists

Black Chain Bucket	code	price
300 x 430 mm [ØxH]	BBP015	£83.50



### Klein Oval Bucket with 15 Interior Pockets

A better shaped bucket for hauling tools up towers and ladders.

- ✓ No. 6 canvas
- ✓ Tripod suspension for greater stability
- ✓ Fitted with swivel snap hook
- ✓ Strong black moulded polypropylene base
- ✓ Ideal for Telescopes

Oval Bucket	weight	code	price
356 x 177 x 254 mm [max WxDxH]	2 kg	BBP5144S	£73.45

# TOOL KITS



## The Stage Tool Cupboard

So much can be told about the way a stage is run simply by opening up the Stage Cupboard. Is it devoid of tools save for a jammed staple gun with the wrong size staples, or is it a treasure trove of useful gizmos to make the production run smoothly? A joy to behold! Everyone has their own idea of the perfect stage cupboard and the way it is organised reflects the colourful character of those who work on the stage.

### Flints Tool Kits

We have assembled a range of tool kits to suit backstage theatre practitioners including Stage Managers, Lighting Students, Scenic Artists and Stage and Workshop Carpenters. By choosing a tool kit Flints can offer you a substantial discount. If you have a specific tool kit for new students or staff we would be delighted to give you a tailored quotation.

### STAGE MANAGER KITS



### Stage Manager's Kit

These kits will suit both the student setting out on a new career as well as the full-time stage or production manager.

Stage Manager's Tool Kit	page	code	price
Silva Stopwatch Starter		GER46066	£12.95
Flints Budget Tape [10 m]	291	TOLM410025	£9.43
Irwin Speed-Line Chalk Reel [30 m]	292	TOL10507676	£12.95
Stanley Chalk Refill [white]	292	STA147405	£4.24

continued

Stage Manager's Tool Kit cont.	page	code	price
325 College Triangular Scale Rule	111	DRW325	£11.25
Fibreglass Claw Hammer [16 oz]	294	TOLHA10	£7.66
Gerber Suspension	315	GER1471	£42.08
RST Budget Long Tapes [20 m]	291	RSTRDM23	£10.04
Stanley FatMax Combination Pliers	306	STA089868	£19.76
Fiskars 8 1/4" General Purpose Scissors	307	FSK859853	£21.00
Stanley Trimming Knife [Retracting Blade 99E]	308	STA210099	£9.12
Stanley MaxSteel Adjustable Spanner [8"]	320	STA090948	£12.48
LED Lenser P5 Core Torch	357	LEDP5C	£35.48
Stanley Babushka 20" Toolbox	325	STA194858	£21.98
Stage Mark Kit	273	TAPSMMPN	£14.90
Total cost at manufacturer's list prices			£269.75
Total cost if bought separately		KITSM1	£208.52

### Posh Version In addition to the above, this version has:

Posh Stage Manager's Tool Kit	page	code	price
Rapid 23 Staple Gun	269	STP014	£37.55
Rapid Staples 13/6 mm [box 5,000]	270	STP101	£11.53
Stanley Wonder Bar [12"]	303	STA155515	£10.25
Long Arm Hex Key [8 mm]	302	TOL2310	£3.04
Petzl PIXA 1 [60 Lumens]	356	PETE78AHB2	£32.00
Quad Spanner [13, 17, 19, 21 mm]	319	PODQUAD	£24.50
Total cost at manufacturer's list prices			£379.66
Total cost if bought separately		KITSM2	£308.23

## CARPENTER KITS



**Stage Carpenter's Kits** The Stage Carpenter's Kit is designed for those fitting up scenery whereas the workshop kit is designed for those both building and fitting up scenery.



**Posh Version** In addition to the standard Lighting Tool Kit, this version has:

Stage Carpenter's Tool Kit	page	code	price
Hultafors Big T [8 m All Metric]	291	TOL356223	£23.65
Irwin Speed-Line Chalk Reel [30 m]	292	TOL10507676	£12.95
Stanley Chalk Refill [white]	292	STA147405	£4.24
325 College Triangular Scale Rule	111	DRW325	£11.25
Combination Square [12"]	293	TOL265203	£12.46
Estwing Claw Hammer [20 oz]	294	ESTE20C	£61.69
Stanley Wonder Bar [12"]	303	STA155515	£10.25
Fold-up Metric Hex Key Set	302	TOL2350	£5.96
Makita Quad-driver [no. 10]	288	POW025	£11.50
Irwin Jack 880 UN20 Handsaw [20"]	296	TOLJACK880	£10.98
Bahco 424P Chisel Set in Pouch	300	TOL424PS3EUR	£42.38
Wera Kraftform Kompakt 20	301	WERO51021	£42.95
Stanley FatMax Combination Pliers	306	STA089868	£19.76
Standard Ratchet Podger [17 x 19 mm]	317	POD1719	£25.00
Bahco Adjustable Spanner [8"]	320	BAH8071	£31.64
Webbing Belt with Loops [nylon buckle]	326	BBPCWB5E	£19.35
Highlander 24" Heavyweight Canvas Bag	325	BBPTB002	£15.00
<b>Total cost at manufacturer's list prices</b>			<b>£429.16</b>
<b>Total cost if bought separately</b>		<b>KITSC1</b>	<b>£306.85</b>

**Workshop Carpenter's Kits** In addition to the Stage Carpenter's Kit, this version also has:

Workshop Carpenter's Tool Kit	page	code	price
Roofing Square [610 x 400 mm]	293	STA145530	£31.45
Carpenter's Try Square [6"]	293	TOLC125	£16.29
Irwin Tenon Saw [12"]	297	TOL10503534	£11.62
Stanley 9 1/2 Block Plane	291	STA512020	£61.77
Record No 4 Smoothing Plane	299	REC04	£79.25
Carpenter's Mallet [114 mm]	295	TOLC106	£13.33
Rapid 23 Staple Gun	269	STP014	£37.55
Rapid Staples 13/6 mm [box 5,000]	270	STP101	£11.53
LED Lenser P5 Core Torch	357	LEDP5C	£35.48
<b>Total cost at manufacturer's list prices</b>			<b>£772.79</b>
<b>Total cost if bought separately</b>		<b>KITWC2</b>	<b>£559.05</b>

### Posh Workshop Carpenter's Kit

Upgrade the above kit by swapping the economy tool bag for a Klein Tool Bag [BBP500318] worth £99.95 [see page 313].

**Total cost at manufacturer's list prices** £869.21  
**Total cost if bought separately** £742.66

**Tradeline**  
**KITWC2UG** **£631.26**

### Lighting Kits

A useful set of small tools in a handy zipper bag.

Lighting Tool Kit	page	code	price
2 x Bahco Adjustable Spanners [8"]	320	BAH8071 x 2	£63.28
Quad Spanner [13, 17, 19, 21 mm]	319	PODQUAD	£24.50
King Dick 1-for-6 [Insulated VDE to 1,000 V]	349	TOLINS14610	£8.00
LED Lenser P5 Core Torch	357	LEDP5C	£27.39
Weller Gas Soldering Iron [LED, 240 V]	348	WELSP25NUK	£27.33
Wera Voltage Tester	347	WERO05655	£6.96
3 x Sharpie [fine point]	111	PATS81107B x 3	£3.90
Klein Long Needle Nose Pliers	306	TOLD318	£32.75
Klein Kurve [wire stripper, cutter]	349	TOL11055	£24.00
Webbing Belt with Loops [nylon buckle]	326	BBPCWB5E	£19.35
Clip Sprung Tool Lanyard	336	SAFAR430B	£13.65
Lanyard Belt Attachment	327	SAFSFCB	£10.20
Klein Zipper Bag [318 x 178 mm]	326	BBP5139	£14.30
<b>Total cost at manufacturer's list prices</b>			<b>£310.15</b>
<b>Total cost if bought separately</b>		<b>KITL1</b>	<b>£242.35</b>

Posh Lighting Tool Kit	page	code	price
Ratchet Crimper [red, blue and yellow]	349	TOL20835	£13.86
Charge TTI + [Leatherman]	313	LEALT980	£153.25
Petzl PIXA 1	356	PETE78AHB2	£32.00
Wing Bolt Spanner	320	TOLWBS	£17.95
Klein Tradesman Pro Organizer Backpack	325	BBP55421P14	£96.50
<b>Total cost at manufacturer's list prices</b>			<b>£664.33</b>
<b>Total cost if bought separately</b>		<b>KITL2</b>	<b>£508.28</b>

## DESIGNER KITS

**Designer's Kit** A handy set of tools for anyone involved in model making or designing for the theatre.

Designer's Tool Kit	page	code	price
Hultafors Big T [8 m All Metric]	291	TOL356223	£23.65
RST Budget Long Tapes [20 m]	291	RSTRDM23	£10.04
ACM Box Set	310	TOL9101ACM	£33.28
Derwent Graphic Pencils [4H to 6B]	111	PAT660	£16.45
Black Sketch Book [A4]	113	DRW701	£10.42
Lick 3 Piece Brush Set [25, 38, 50 mm]	73	PBR112001	£19.98
Dalon D77 Set [0, 3, 6, 8, 10]	76	PBRDALON5	£44.83
325 College Triangular Scale Rule	111	DRW325	£11.25
Adjustable Set Square [200 x 250 mm]	111	DRWA11208B	£18.65
Fisher Stainless Steel Rule [300 mm]	292	TOLF112ME	£3.41
Stanley Trimming Knife [Retracting Blade 99E]	308	STA210099	£9.12
Fiskars 8 1/4" General Purpose Scissors	307	FSK859853	£21.00
Rosco Starter Kit [32 x 28 g pots]	12	ROS6030	£83.25
Stanley Babushka 20" Toolbox	325	STA194858	£21.98
<b>Total cost at manufacturer's list prices</b>			<b>£332.62</b>
<b>Total cost if bought separately</b>		<b>KITD1</b>	<b>£278.22</b>

Safety Gear  
Kits can be found  
on page 347



### Scenic Artist's Kit

Includes all the items above marked with plus:

Scenic Artist's Tool Kit	page	code	price
Großmann Long Handle	79	PBR41000	£31.10
Großmann French Brush - Extra Long and Light	305	PBR30501	£44.36
Charcoal [scene painter's]	111	PAT650	£5.48
RST Metre Stick	292	RST670	£5.65
Giant Drawing Tools	112	DRWBBSN	£29.50
Rubber Comb [duplex]	78	PBR390	£4.85
Natural Sponge [medium]	78	PBRBW5W	£8.05
Wall Brush [4"]	74	PBR1128	£20.48
Complete Set of Flints Scenic Fitches	75	PBR030SETK	£63.25
Lily Varnish [40 mm]	73	PBR313	£6.46
Lily Varnish [80 mm]	73	PBR316	£13.85
<b>Total cost at manufacturer's list prices</b>			<b>£539.96</b>
<b>Total cost if bought separately</b>		<b>KITSA1</b>	<b>£439.26</b>

# WORKING AT HEIGHT & SAFETY

## Working at Height

Working at height is inherently dangerous. Around 40 people die and 6,000 - 7,000 people are injured each year from falls. Choosing the correct equipment will only make you safer, but not safe. The first thing to consider is whether it is necessary to work at height at all. If it is essential, then the next line of defence is to prevent the possibility of a fall by the use of handrails and work positioning harnesses and lanyards. Should a fall still be possible then fall arrest harnesses and lanyards should be worn. The overhead worker should be trained in the use of this equipment. IRATA is a highly respected training authority and they can provide training guidance. The Health and Safety Executive website [www.hse.gov.uk](http://www.hse.gov.uk) has up-to-date advice. They will email you with changes to regulations and recommendations as they occur [[www.hse.gov.uk/news/subscribe/index.htm](http://www.hse.gov.uk/news/subscribe/index.htm)]. Finally, but of vital importance, consideration must be given to the rapid rescue of personnel who have fallen.

### The Importance of Rapid Rescue – Suspension “Trauma” [Syncope]

Swift rescue of personnel who are suspended by a harness and lifeline is of vital importance. If the casualty is suspended, blood will pool in the legs. Leg veins are capable of expanding to take up to 60% of the total blood volume. The reduced venous return results in decreased cardiac output and the casualty will become sweaty, dizzy, nauseous and will faint. Depending on whether their lanyard is attached to the rear or front of the harness, the unconscious casualty's head will be canted backwards or forwards and their tongue will fall to block the airway. Even uninjured volunteers felt dizzy in as little as three minutes, typically 5 to 20 minutes. Loss of consciousness occurred in as little as five minutes, typically 5 to 30 minutes. Such rapid rescue times could not necessarily be achieved by the rescue services so it is crucial that a plan is carefully thought through on how to rescue suspended personnel using trained on-site staff. The Temporary Work at Height Directive states that workers must have on-site rescue equipment and training. See the Jag Rescue System on page 213.

### Notes on First Aid to a Suspension Casualty

Information on the correct procedure to adopt after recovering a suspension casualty is variable and somewhat confusing. David Halliwell, Head of Education of the South West Ambulance service says [2007] it is critical that the casualty is never laid flat, not even in the recovery position and that they should be kept sitting upright for 30 minutes. He says that if they are allowed to lay flat, the volume of blood that has pooled in their legs will return to the heart and could cause instant cardiac arrest. However, this opinion is disputed by Dr Anil Adishes whose research [2008] has been unable to find firm evidence concerning the problems associated with laying the casualty flat and his advice is to use the standard first aid recovery position. It is important that any person who becomes unconscious while suspended, whether appearing recovered or not, is given full medical supervision [Dial 999] as problems can also occur some days after the rescue due to renal failure.

### Reducing the Risks

It may be possible to reduce the chance of venous pooling in a conscious suspended casualty by encouraging them to wiggle their toes or raise their legs, this will help to pump blood out of the legs and to the heart. The information above has been taken from talks on the subject by David Halliwell, Head of Education of the South Western Ambulance Service and by Dr Anil Adishes [Health and Safety Laboratory]. Further information can be found in “Harness Suspension: Review and Evaluation of Existing Information” by Paul Seddon and obtainable as a free AMF download from the HSE website.

The person purchasing fall arrest equipment, which consists of a harness, lanyard and anchor, should be competent to do so.

## HARNESSES

### FALL ARREST

NEW TYPE

PPE



### Petzl Newton EASYFIT

[International Version] Rapid intervention fall arrest harness suitable for non-suspended use at height. Conformity: CE EN 361, EAC, ANSI Z359.11, CSA Z259.10, UKCA Weight: Size 0 - 1655g Size 1 - 1715 g, Size 2 - 1765 g.

- ✓ Shoulder straps equipped with self locking DoubleBack buckles
- ✓ Rapid donning thanks to EASYFIT vest.
- ✓ Sternal and Dorsal attachment points with fall arrest indicators.
- ✓ Quick-attach FAST automatic buckles [Sternal and leg loops] allow the harness to be put on easily with both feet on the ground
- ✓ Stowage system for MGO connectors

[page 180] on fall arrest lanyards, one each shoulder strap. In case of a fall the system releases the MGO connectors and allows the absorber to be deployed.

- ✓ Equipment loops and slots.
- ✓ Now fitted with 2 convenient zippered pockets!

Newton Easyfit		code	price			
size	thigh	waist	height	colour		
0	440 - 590 mm	650 - 800 mm	1.60 - 1.80 m	B/Y	PETC073FA00	£160.00
1	470 - 620 mm	700 - 930 mm	1.65 - 1.85 m	B/Y	PETC073FA01	£160.00
2	500 - 650 mm	830 - 1,200 mm	1.75 - 2.00 m	B/Y	PETC073FA02	£160.00

### ECONOMY FALL ARREST

£ ✓

PPE



### Multipurpose Harness HT22

Designed for applications which require a front anchorage point but they are also fitted with a rear anchorage. Leg and chest adjustment. Not suitable for suspended use. Conformity: CE EN 361. Fits up to 1,220 mm waist [48"].

Harness HT22	weight	code	price
	1,000 g	SAFHT22	£58.99

**WORK POSITIONING - CONVERTS TO FALL ARREST**

PPE



FAST buckle

**AVA0® SIT FAST Harness**

New version of this popular harness. Features a wide semi-rigid waistbelt, and leg loops which give excellent support. Lightweight breathable construction maximises air flow providing greater comfort. The FAST buckles allow the user to avoid re-adjustment each time they put on the harness. Self-locking DoubleBack buckles make for quick adjustments to the waist. Multiple tool loops around the waist and rear provide plenty of storage for working at height. CE EN358, EN 813, EAC



Gated ventral attachment

**ASTRO® SIT FAST Harness**

NEW to Flints this provides the ultimate comfort for rope-access. Featuring a gated ventral attachment point it allows excellent integration of rope clamps, lanyards, seats etc. Lightweight semi-rigid waist and leg loops are contoured and lined with breathable foam padding for ultimate comfort when working whilst suspended. This can be enhanced when combined with the podium. CE EN358, EN 813, EAC

Sit	model	size	weight	code	price
	AVA0@ Sit Fast	0	1,115 g	PETC079BA00	£173.00
	AVA0@ Sit Fast	1	1,130 g	PETC079BA01	£173.00
	AVA0@ Sit Fast	2	1,145 g	PETC079BA02	£173.00
	ASTRO@ Sit Fast	0	1,025 g	PETC085AA00	£187.00
	ASTRO@ Sit Fast	1	1,040 g	PETC085AA01	£187.00
	ASTRO@ Sit Fast	2	1,055 g	PETC085AA02	£187.00

Work positioning equipment has been designed to enable workers to position themselves for work at height. Harnesses must comply to EN 358 [or EN 813 Sit Harnesses]. Work positioning equipment is not intended to arrest a fall. Even a short fall onto a waistbelt can prove fatal due to the pressure on the internal organs. The SIT harnesses listed here can be used alone as work-positioning but can be converted to full fall arrest harnesses by adding the TOP chest harness .

**BOSUN'S CHAIR**



Shackles to attach directly to ASTRO Sit Harness

**Petzl Podium** A wide comfortable bosun's chair to improve comfort when suspended. Can be easily hooked on the back when not in use. The podium can attach directly to the gated ventral attachment point of the ASTRO® Harnesses using the shackles. Fitted with two equipment loops and adjustable straps.

Petzl Podium	weight	code	price
Podium seat	1,060 g	PETS071AA00	£136.00
Shackles for ASTRO®		PETC087AA00	£13.50

Size guide	Thigh	waist	height
Size 0	450 - 650 mm	600 - 900 mm	1.60 - 1.80 m
Size 1	450 - 650 mm	700 - 1100 mm	1.65 - 1.85 m
Size 2	600 - 750 mm	800 - 1300 mm	1.75 - 2 m
TOP [one size]	n/a	n/a	1.60 - 2 m

**CHEST HARNESES**

PPE



Easily stow MGOs at the shoulder

**TOP Chest Harness**

Allows the user to convert either the AVA0® or the ASTRO® sit harnesses from work positioning to fall arrest harnesses. It also allows a more comfortable experience by helping distribute the load to the shoulders. Widely spaced foam shoulder straps reduce neck chafing. Stowage connectors on the shoulders keep connectors like the MGO hooks close to hand, but out of the way. Certified to CE EN 361 (2) EAC

PPE



TOP CROLL S

**TOP CROLL Chest Harness**

Converts both the AVA0® and the ASTRO® SIT harnesses to allow rope-access. With the same excellent comfort of the standard TOP, this version integrates a CROLL rope clamp to the sternal attachment point. Available with either a small or a large CROLL. The small CROLL has a textile sternal attachment point allowing for optimal weight and bulk reduction. NB. Shoulder stowage connectors not included in this version. Small: CE EN 361 (2) EN12841 type B EAC Large: CE EN 361 (3) EN12841 type B EAC

Top	model	colour	weight	code	price
	Top Standard	Black/Yellow	660 g	PETC081AA00	£82.00
	Top Standard	All Black [not shown]	660 g	PETC081AA01	£86.00
	Top Croll Small		515 g	PETC081BA00	£119.50
	Top Croll Large		600 g	PETC081CA00	£119.50

**WORK POSITIONING & FALL ARREST**



- Widely spaced shoulder straps for reduced neck chafing..
- X-shaped dorsal construction wraps to reduce pressure points during prolonged suspension.
- Lots of equipment loops with protective sheaths
- Breathable perforated foam for maximum comfort when suspended.
- Stowage connectors to store MGO Hooks
- Sternal and dorsal attachment point for connecting a fall arrest system.
- FAST buckles on leg straps for easy "donning"

PPE

**AVA0® BOD FAST**

A top quality harness that will cover most basic requirements - fall arrest, work positioning and suspension. The AVA0® BOD is basically just an AVA0® SIT harness supplied with a TOP chest harness. This update to the old version, is that the back connecting strap is fully adjustable making it more comfortable for the user compared to the previous version.

- ✓ Great value
- ✓ Easy to adjust
- ✓ Good stowage of connectors and tools
- ✓ Fall Arrest
- ✓ Work Positioning
- ✓ Excellent Support
- ✓ Easy to "don"
- ✓ Height adjustable
- ✓ Suspension

X Doesn't have an integrated CROLL for Rope access, but this can easily be added by the user.

Certified to CE EN 361 EN 358 EN 813 EAC

Complete Harness kit	size	weight	code	price
AVA0@ BOD FAST	1	2,045 g	PETC071BA01	£262.00
AVA0@ BOD FAST	2	2,125 g	PETC071BA02	£262.00

## WORK POSITIONING & FALL ARREST - ROPE ACCESS



ASTRO BOD FAST  
ASTRO SIT FAST + TOP CROLL L

- PPE** **ASTRO® BOD FAST** NEW to Flints this year, this highly technical piece of equipment is best for those who are likely to need to use ropes to access their work point, and then work whilst suspended.
- ✓ Excellent Support
  - ✓ Gated ventral attachment point
  - ✓ Good stowage of connectors and tools
  - ✓ Fall Arrest
  - ✓ Integrated CROLL for Rope Access
  - ✓ More comfortable for working whilst suspended
  - ✓ Easy to adjust
  - ✓ Easy to "don"
  - ✓ Work Positioning
  - ✓ Suspension

Certified to CE EN 361 EN 358 EN 813 EN 12841 type B EAC

Complete Harness kit	size	weight	code	price
ASTRO® Bod Fast	1	1,900 g	PETC083AA01	£327.50
ASTRO® Bod Fast	2	1,980 g	PETC083AA02	£327.50

## WIRE ANCHOR STROPS



**Wire Anchor Strop** These 7 mm diameter galvanised steel wire strops are commonly used in the rope access industry to provide a moveable anchor point over RSJ's, truss, and roof beams etc. They have a ferrule-secured thimble eye each end and a protective plastic sleeve. EN 795:1997 has no requirement for Class B anchors to have a breaking load marked on them. Before use check for damaged wire, wire slipped in the ferrule, damaged or deformed ferrules, broken strands, damaged protective cover and deformed eyes. CE marked EN 795 Class B.

Wire Anchor Strop 7 mm	length	weight	code	price
	500 mm	260 g	SAFL705	£14.42
	1 m	434 g	SAFL710	£16.46
	2 m	802 g	SAFL720	£21.25

## LANYARDS

### Lanyards

A lanyard is a series of components designed to prevent a person or an object from falling. Typically it would consist of an anchor point, a karabiner, a length of webbing or rope, an absorber and another karabiner.

We have divided our section into three parts:  
Work Positioning • Fall Arrest • Small Tool Lanyards

At least two deaths have occurred over the past few years due to lanyard failure so careful choice and training are essential.

The person purchasing fall arrest equipment, which consists of a harness, lanyard and anchor, should be competent to do so.

### WORK POSITIONING LANYARDS



- NEW TYPE** **Rope Lanyard - Type Jane** Dynamic black kermantle rope lanyards with plain sewn ends and plastic sleeves. We offer a kit of a 1 m lanyard supplied with an MGO Open scaffold karabiner [see page 187 for details]. These lanyards can be converted to fall arrest lanyards with the addition of an Absorbica [page 335] secured to the lanyard with a Delta Maillon Rapide [type WIR252B listed on page 184].  
**PPE** Conformity: CE EN 354, EN 795 type B, UKCA, EAC, ANSI Z359.3; CSA Z259.11

Rope Lanyard Type Jane	length	terminations	weight	code	price
	0.6 m	plain sewn ends	100 g	PETL050BA00	£17.50
	1 m	plain sewn ends	120 g	PETL050BA01	£19.50
	1.5 m	plain sewn ends	145 g	PETL050BA02	£21.50
	1 m	sewn ends plus MGO Open	610 g	PETL050BA01K	£72.49



Rope lanyard with a M10T Karabiner and a scaffold hook.

- PPE** **Rope Lanyard** 12 mm diameter polyamide [nylon] rope lanyards, with a choice of connector. Conformity: EN 354.

Rope Lanyard	length	terminations	code	price
	1.5 m	plain loops each end	WIRLC15BB	£19.10
	2 m	2 x M10T Karabiners	WIRLC1221010	£36.57
	2 m	M10T Karabiner and one scaffold hook	WIRLCA251	£59.30



**PPE** **Petzl Adjustable Lanyard - Grillon**

An adjustable work positioning and restraint lanyard that allows the worker to easily adjust the length for comfort and safety. Not suitable for fall arrest although they will withstand a small 500 mm fall. The nylon semi-static rope helps absorb some of the forces. Available in 2 m or 3 m lengths [4 m or 5 m available to order]. The standard Grillon requires two connectors [pages 185 - 187] but choose types to EN 362. CE EN 358, CE EN 12841 type C, EAC.

- ✓ Can be used in two ways – double mode [user has weight on their feet] or single mode [user is suspended]
- ✓ Sliding protective sleeve helps prevent chafe
- ✓ Connects to the side or waist point of the harness
- ✓ Now also available with MGO hook

Grillon Adjustable Lanyard	weight	code	price
2 m Plain Ended	480 g	PETL052AA00	£119.50
2 m + MGO Open Connector	480 g + 490 g	PETL052MG00K	£147.00
3 m Plain Ended	560 g	PETL052AA01	£121.50

NB: Grillon Adjustable Lanyards can be used to create horizontal lifelines and are available in long lengths. Please phone our Rigging Manager for details.



**Cow's Tails** This dynamic rope is for creating anchor lanyards (Cow's Tails) for the attachment of the user's harness to an anchor point. Check with the harness manufacturer which harness points are suitable for cow's tails. This dynamic rope must not be used to make a fall arrest lanyard in conjunction with an energy absorber. The

knots used must have a minimum static strength of 15 kN. Tests have proved that a correctly tied figure-of-eight knot gives a minimum static strength in excess of 15 kN. Other knots may increase energy absorption but not meet the 15 kN strength. Only trained persons should tie knots to create Cow's Tails. CE EN 892. See also Fibre Rope [page 198].

Cow's Tails	Ø	length	colour	weight	code	price
	11 mm	4 m	can vary	330 g	ROPLICT4A	£24.26
	11 mm	5 m	can vary	410 g	ROPLICT5A	£27.84

**RETRACTABLE LANYARDS**

**A Note on Retractable Lanyards**

In many respects, these devices seem to solve some common problems. The length of the lanyard adjusts to allow the user freedom of movement. The inertia reel locks automatically in the event of a fall, keeping the fall distance to a minimum – typically around 400 mm. They should comply with EN 360.

However, the tests for these units to ensure compliance with EN 360 do not actually cover the retracting mechanism but only the locking mechanism. Should the retracting mechanism fail to rewind, and a loop of webbing is formed, then the user could be exposed to a F2 category fall or worse. Retractable lanyards should also be fixed to a rigid anchor point. If they are attached to a catenary wire there is a chance that the locking pawls will bounce out as the wire bounces creating a series of arrests. As there is no medical data concerning this, one can only suppose it to be very harmful.

Although the Blocfor™ will operate horizontally, careful consideration should be made before employing it in this manner. The worker must be prevented from reaching an edge where a fall could happen. This is because the attachment position of the lanyard to the worker's harness will allow a sudden drop of around 1.5 m onto the cable before the mechanism arrests the fall. The cable will be subjected to very high loads while in contact with a sharp edge. Catastrophic failure will occur.

The person purchasing fall arrest equipment, which consists of a harness, lanyard and anchor, should be competent to do so.



**Blocfor™ Automatic Fall Prevention Blocks** These self-reeling blocks give complete freedom of movement. Supplied with a M47 swivel connector. Available in three lengths. May be used horizontally without the addition of a webbing lanyard placed between the wire and the harness as they now come supplied with an absorber. [Please read our notes at the beginning of this section.] The absorber adds to protect against falls even when the wire is fully unwound, and also doubles a fall indicator. Top stuff. Conformity: EN 360.

Blocfor™	length	model	line	code	list	Tradeline
	10 m	70572	galvanised wire	SAF70572	£520.00	£442.00
	20 m	74512	galvanised wire	SAF74512	£691.00	£587.35
	30 m	74532	galvanised wire	SAF74532	£1,247.00	£1,059.95



**Blocfor™ 20R and 30 R with Securing System** Automatic fall protection device with integrated winch for ascent or decent during a possible rescue operation. Complete with M46 connector, and absorber that adds to protect against falls even when the wire is fully unwound. Available in cable lengths of 20 m or 30 m. Conformity: EN 360 and EN 1496 Class B.

Blocfor™	length	model	line	weight	code	list	Tradeline
	20 m	75492	galvanised	10.6 kg	SAF75492	£1,472.00	£1,251.20
	30 m	75502	galvanised	17.2 kg	SAF75502	£1,850.00	£1,572.50



### Blocfor™ Inertia Reel Lanyard

These Blocfor™ 2W 47-10 inertia reel lanyards allow freedom of movement but will lock automatically in the event of a fall. They are of particular use where a conventional lanyard could allow the user to come in contact with the ground or swing into supporting legs. 45 mm wide polyester webbing. Tractel code: 75389. Braking force: 5 kN. Conformity: EN 360.

#### Measurements

Eye-to-eye closed – 430 mm  
 Eye-to-eye fully extended opens to – 2,090 mm  
 [Travel distance – 1,660 mm]

Blocfor™ 2W 47-10	weight	code	price
length end connectors line 2 m M10T Karabiner & M47 hook webbing	990 g	SAF75389	£109.71



**Petzl Absorbica** An update of the updated L57, this compact energy absorber is an essential component in a fall arrest lanyard. Equipped with tear-webbing inside a zippered fabric pouch, the energy absorber is protected from abrasion while allowing for regular inspection. Only for users between 50 kg and 130 kg. SPECIFICATIONS: Max authorized length [with connectors] 2 m. Conformity: CE EN 355, EAC.

Absorbica	weight	code	price
	140 g	PETL010AA00	£37.50



**Delta Pattern** This black 8 mm Delta Maillon Rapide is the preferred connector to link the Petzl Absorbica to the Jane lanyard. Conformity: EN 12275:1998 and EN 362. For other Delta Quick Links see page 184.

Delta Pattern	bar Ø	gate opening	WLL	code	price
delta pattern [triangular shape for 3-way loading]					
PPEDZ08N	8 mm	10 mm	550 kg	WIR252B	£6.46

With or without  
MGO Open Connector



**Petzl Single Leg Absorbica I 80** Jane type lanyard [page 333] with absorber. 800 mm long – this gives optimal freedom of movement whilst still being able to reach the connector. Also available with an MGO Open scaffold karabiner [see page 187 for details] as part of a kit. Conformity: CE EN 355, CE EN 354, EAC.

Single Leg Absorbica I 80	weight	code	price
without connector	270 g	PETL011AA00	£41.00
with MGO Open Connector	760 g	PETL011AA00K	£88.50



With or without  
MGO Open Connectors



**Petzl Double Leg Absorbica Y 80** As the L64IA80 but with twin legs allowing the user to remain connected whilst passing to intermediate anchor points. Each leg is 800 mm.

Compliance: CE EN 355, CE EN 354, and EAC.



**Petzl Double Leg Absorbica Y with MGO Open Scaffold Karabiners** As above but supplied with two MGO open scaffold connectors [page 187]. These can be fitted via their opening gate to the lanyards for easy movement on metallic structures. The open feature enables the user to replace the lanyard if required. N.B. All pieces of equipment should be replaced if subjected to a fall arrest.

Double Leg Absorbicas Y 80	weight	code	price
without connectors	370 g	PETL012AA00	£58.50
with 2 MGO Open Connectors	1.35 kg	PETL012AA00K	£102.90

## FALL ARREST LANYARDS

### Fall Arrest Lanyards

The Working at Height Regulations came into effect on 6th April 2005. The information here is derived from technical symposiums with industry experts and Health and Safety Executive representatives.

- ✓ A fall arrest lanyard system has to be strong, 15 kN is the most popular minimum static strength although regulations permit anchor points of 12 kN.
- ✓ The lanyard must prevent high shock loads when deployed. Parachutists were found to be able to withstand up to 12 kN impact force but this needs to be halved to take into account less athletic personnel. Energy absorbers are designed to transfer a maximum shock load of 6 kN. This assumes an average body weight of around 80 kg. Very light people and children would be subjected to much higher shock loads if standard equipment were used. If your weight is considerably lighter [or heavier] than the adult norm then you should seek further advice from the equipment manufacturers.
- ✓ Lanyards are designed for a max weight of 100 kg. Greater weights can be acceptable if the lanyard is shortened. Petzl state 100 kg = Max Lanyard Length 2 m, 120 kg = MLL 1.67 m, 140 kg = MLL 1.43 m.
- ✓ You should remain clipped on at all times. If you are moving around a structure you will need two lanyards but please note that you must never use two absorbers. A twin-legged lanyard with one absorber is the correct equipment and the spare leg must never be clipped back to your harness or the absorber could be "shortcut" and high impact forces transmitted to your body.
- ✓ Always clip your lanyard onto a point above or level with you. A 1.5 m long lanyard clipped on level with the attachment to the harness will permit a 1.5 m fall. This is referred to as an "F1" fall. The same lanyard clipped on at foot level will allow a 3 m fall which is referred to as a "F2" fall. Users should try to ensure that their fall will not exceed an "F1" fall.
- ✓ The entire lanyard [including connectors and absorbers] must not exceed 2 m. Check ground clearance too as energy absorbers require stated minimum clearance distances.
- ✓ Always inspect your lanyards thoroughly before use for signs of wear, dirt and grit, UV degradation [fading], nicks and tears, and corrosion in the fittings. Failure can happen in a fraction of a second without any second chances. Clean your equipment after use and dry it before storing.
- ✓ IRATA is the highly regarded training body, and anyone working at height should be trained to do so.

## SMALL TOOL LANYARDS

### Small Tool Lanyards

Dropped tools are the second largest cause of fatalities in the UK workplace. The lanyards below are designed to secure small tools such as podgers or power tools whilst working overhead. Check the lanyard chosen is suitable for the tool weight. Beware of using lanyards that are too strong just in case the lanyard becomes entangled in machinery, it would be better for the lanyard to fail rather than have it drag the user into the sausage-making machine.



Quick clip direct to podger



### Clip Sprung Tool Lanyard

An expanding sprung lanyard with special quick tool attachment which allows tools to be easily changed without needing the usual wire loop. 470 mm long expanding to 1,700 mm.

3 mm Ø. Stainless steel wire core. Charcoal black. Highly recommended. Max load: 1 kg.

Clip S T Lanyard	weight	code	price	10+	50+
Charcoal black	65 g	SAFAR430B	£13.65	£9.98	£8.95



### Long Lightweight Sprung Tool Lanyard

A purple sprung lanyard which is very lightweight at just 45 g making it ideal for work at height – well, it all adds up! Expands from 490 to 1,820 mm. Supplied with wire loop for podger attachment and two snap shackles. 2.5 mm Ø. Kevlar core. Max load: 1 kg.

Kevlar core!

Lightweight S T Lanyard	weight	code	price	10+	50+
Purple	45 g	SAFARK10K	£13.65	£9.98	£8.95



3 kg version for most power tools

### Heavy-Duty Sprung Tool Lanyard

A substantial lanyard, 410 mm long expanding to 1,400 mm. 5 mm Ø. Supplied with two snap shackles but no wire loop. Stainless steel core. Max load: 3 kg.

Heavy-Duty S T Lanyard	weight	code	price	10+	50+
Black	80 g	SAFARS30B	£14.20	£10.40	

Tradeline

10+

£10.40



### Ergodyne Barrel Lock Lanyard

This lanyard expands from 890 mm to 1,100 mm. With a barrel lock to fit to small tools such as hammers and quad spanners. Max load: 2.26 kg.

Barrel Lock Lanyard	code	list	price
	ERGE3100STD	£11.35	£10.25



### Ergodyne Squids® Detachable Karabiner Tool Lanyard

Lightweight shock absorbing tool lanyard with karabiner with captive eye on one end and detachable loop on the other, reduces the dynamic force on the body or other anchor point. The durable polyester elastic extends from 960 mm to 1370 nm. Max load: 2.3 kg.

Detachable Karabiner Lanyard	code	list	price
	ERG19864	£12.05	£10.85



### Ergodyne Squids® Retractable Tool Lanyard

Retractable tool lanyard with a manual locking stainless steel karabiner attachment on both ends. Locks into place at desired length.

Includes female buckle attachment on the cord to easily switch tools with male buckle attachment. SPECIFICATIONS: Max length: 1.22 m, Max load: 0.45 kg.

Retractable Tool Lanyard	code	list	price
	ERG19300	£36.85	£33.17



### Ergodyne Squids® Tool Wrist Lanyard

Polyester webbing cuff secures to wrist while the barrel lock secures to the spanner or small tool. Max load: 0.9 kg.

Tool Wrist Lanyard	code	list	price
Small/med wrist	ERGE3115SM	£2.75	£2.48
Large/XL wrist	ERGE3115XL	£2.75	£2.48



### Ergodyne Squids® Pull-on Wrist Lanyard

The modular buckle connection makes it easy to switch between tools with buckle attachments. One size fits all. Max load: 1.4 kg

Tool Wrist Lanyard with Buckle	code	list	price
	ERG19057	£7.95	£7.16



### Ergodyne Squids® Dual Clip Grabber

Grabbers keep your gloves, keys and whatever else always seems to mysteriously disappear close at hand. This versatile dual clip version can be used as one unit or detached, clipped to D-rings and used as two separate pieces.

Dual Clip Grabber	code	list	price
	ERG19112	£3.05	£2.75

## SMALL TOOL ATTACHMENTS



### Ergodyne Squids® Elastic Tool Tails

As well as being used as an anchor point on a belt, harness or separate structure, these tool tails can provide retrofit O-Ring attachment points to tools and equipment up to 6.8 kg. They can be attached to tools with Tape Trap or Shrink Trap. Length: 280 mm [extended: 460 mm]

Tool Connector Elastic Tool Tail	code	list	price
pack of 3	ERG19767	£10.25	£9.23



**Ergodyne Squids® Tool Lanyard Karabiner Accessory Pack** Attach the male buckle end to a lanyard with a female buckle attachment and attach the stainless steel manual locking karabiner to a tool with an attachment. Max load: 0.46 kg.

Karabiner for Tool Lanyard	code	list	price
Pack of 3	ERG19325	£24.15	£21.74



**Ergodyne Squids® Tool Connectors Web Tool Tails** These ultrastrength nylon web tool tails can provide retrofit D-Ring attachment points to a variety of tools. They can be attached with the Tape Trap or Cold Shrink Trap. Max load: 0.9 kg.

Web Tool Tails	code	list	price
90 mm [6 pack]	ERG19703	£8.05	£7.25
140 mm [6 pack]	ERG19705	£8.05	£7.25
215 mm [6 pack]	ERG19708	£8.05	£6.55



**Ergodyne Squids® Tool Lanyard Detachable Loops** As an alternative to using both the Tool Tails and Karabiner Buckle attachment above, you can attach these to your tools with the Tape Trap or Cold Shrink Trap for easily changeable tools. Max load: 2.26 kg.

Detachable Loops for Tool Lanyard	code	list	price
	ERG19068	£6.45	£5.81



**Ergodyne Squids® Tool Connector Self-adhering Tape Trap** This fibreglass reinforced Self-Adhering Tape Trap secures attachments onto your tools and adds extra grip. Uses no adhesive so tools are left perfectly clean when removed. Length: 3.7 m [per roll], width: 25 mm wide. Max load: 4.5 kg.

Self-Adhering Tape trap	code	list	price
	ERG19755	£27.95	£25.16



**Ergodyne Squids® Cold Shrink Trap** A more permanent alternative to the Tape Trap. Simply place the tube over the handle of your tool with the connector in position. Pull the far end of the perforated tube through itself and gradually unwind. The EPDM rubber will slowly form to the handle trapping the connector point in place. No heat necessary. Max load: 2.26 kg.

Shrink Trap	length	fits tool Ø	code	list	price
S	76 mm	19 - 38 mm	ERG19723	£9.05	£8.15
M	101 mm	125 - 175 mm	ERG19724	£10.85	£9.77
L	152 mm	44 - 63 mm	ERG19726	£15.75	£14.18

### Squids® System



Finding a safety solution that will prevent falling tools can be complicated. The Ergodyne Squids® system is the easy way to tether your tools to yourself [or structure] in whatever way works best for you. Attach buckles to your tools with tape trap and then connect to your wrist, or Shrink Trap D-ring tails to create an easy attachment point. How you connect is up to you.

The Squids® logo is used on this page to indicate the component is part of this modular system.



## MOBILE FALL ARREST

### Mobile Fall Arrest

There are many simple lever rope grabs on the market which are designed to drag along a safety rope and lock in the case of a fall. The standard for these devices involves testing the product with a 100 kg weight being dropped via the lever and the braking distance must be within a certain distance. Usually they will pass this simple test. However, the reality is that if you were to fall off a ladder, the drop is often not a neat vertical descent but there is a tendency to fall outwards away from the safety line. In this case, the lever action will not be activated and the "safety" device will run down the safety line as the casualty falls to the ground. The casualty will be injured or worse but the device still meets the standard. The Petzl ASAP Lock overcomes this potential hazard by not using the simple lever cam employed in most devices but a system that will stop any descent which is too fast.



**Petzl ASAP Lock** The ASAP Lock is a reference product in fall protection for a single worker at height. In normal use, the device moves freely along the rope without any manual intervention and accompanies the user in all their movements. In case of shock or sudden acceleration, the ASAP Lock locks on the

rope and stops the user. The integrated locking function allows the user to immobilize the device in order to reduce the length of a fall. The ASAP Lock may also be combined with an energy absorbing lanyard to work at a distance from the rope. For use on safety lines of semi-static rope [EN 1891 type A] from 10 mm to 13 mm diameter [page 203].

- ✓ Stops a descent that is too fast or a slide on an inclined surface
- ✓ Works on vertical and inclined rope
- ✓ Locks onto the rope even if grabbed reflexively by the user
- ✓ Moves up and down the rope without manual intervention
- ✓ Easy to put on and remove at any point on the rope
- ✓ The device does not have to be removed from the connection to the harness in order to remove the fall arrest from the rope

Individually tested. Conformity: CE EN 353-2, CE EN 12841 type A, EAC.

ASAP Lock	weight	code	price
	425 g [+ karabiner 75 g]	PETB071BA00	£187.00



**Petzl ASAP'sorber & ASAP'sorber Axess** When using the ASAP Lock mobile fall arrester it is best to attach it directly to your harness. However, this may restrict the user's movement to carry out certain tasks. Using this energy absorber with the ASAP Lock enables the user to keep a distance from the safety rope whilst limiting the impact force. The ASAP'sorber Axess can be used in two-person rescue situations for a load of up to 250 kg. NB: Be aware that using an ASAP'sorber will increase the amount of clear free-fall space needed. Conformity: ASAP'sorber: CE EN 355 ANSI Z359.13 6 feet, EAC. ASAP'sorber Axess: CE EN 355, ANSI Z359.13 6 feet.

ASAP'sorber	code	price
Length 200 mm	PETL071AA00	£26.00
Length 400 mm	PETL071AA01	£30.50
ASAP'sorber Axess	code	price
Length 400 mm	PETL071CB00	£35.50

## CLIMB ASSIST PULLEY



Shown here with Large Prussik Pulley



**ALF – Auto Locking Fall Arrest Pulley** I saw a demonstration of this system and was impressed. The ALF is designed for climbing vertical structures. At low speeds the rope runs freely around the pulley, in the event of a fall the rope speed ensures an inertia brake will kick in. The fall distance is extremely short. In the unlikely event that a rescue is needed it can be carried out from ground level. By using a continuous rope loop, when one person reaches the top, the return line provides an attachment point for the next climber. Use low stretch 11 mm rope to EN 1891 [page 203]. The Large Prussik Pulley is the ideal return pulley.

ALF	WLL	MBS	weight	code	Tradeline
ALF device	140 kg	-	1.33 kg	SAFRP430	£277.36
Large Prussik Pulley	-	70 kN	463 g	SAFRP066	£42.96

## ASCENDERS & ROPE GRABS



**Petzl TIBLOC Compact Emergency Ascender** In a bind, this ultra-lightweight ascender can be used to build hauling systems or as a Prusik-replacement in self-rescue situations. Use with the ULTRALEGERE sheave [page 221] for an ideal lightweight, compact emergency hauling kit. Chrome-plated steel cam with angled teeth and self-cleaning slot securely grips the rope, even in muddy or icy conditions. Can be used as a progress capture device in a hauling system. A small hole at the top of the TIBLOC allows a keeper cord to be attached. This new version has plastic housing to aid the release of the rope in poor conditions Chrome-plated steel. For use on single 8 - 11 mm ropes with a locking karabiner having a 10 to 12 mm round or oval cross section. Conformity: CE EN 567, EAC.

- ✓ A work of sheer genius ✓ So simple and so light
- ✓ A personal favourite ✓ New version has plastic housing

Tibloc	weight	code	price
	39 g	PETB01BN	£29.00



**Petzl Ascension** A rope clamp/grab for ascending fixed ropes from 8 – 13 mm Ø.

Ergonomic grip and spring catch allows one-handed removal and installation on the rope. 2 upper holes allow a karabiner to be clipped around the rope and 2 lower holes for foot loop [see below] and lanyard. Individually tested. CE

EN 567, NFPA L. Weight: 195 g.

Ascension	Right hand	price	Left hand	price	
Yellow with black	PETB17ARA	£46.73	Black with yellow	PETB17ALA	£46.73
Black	PETB17ARN	£49.50	Black	PETB17ALN	£49.50



**Petzl Footape C47A** Adjustable webbing foot loop for rope ascents designed for use with handled rope grabs such as the Ascension listed above. Can be attached using a Maillon Rapide such as WIR250B listed on page 184.

Footape C47A	weight	code	price
	65 g	PETC47A	£15.63



## Petzl Basic Compact Versatile Rope Clamp

Use it to ascend a fixed rope, or as progress capture in a hauling system. Toothed cam with self-cleaning slot optimises performance under any conditions [mud, ice etc.]. The stainless steel cam resists corrosion. Wide lower hole allows lanyard and foot loop karabiners to be easily connected. Upper hole for clipping a karabiner around the rope. Conformity: CE EN 567, CE EN 12 841 type B. Rope Ø: 8 - 11 mm.

Petzl Basic	weight	code	price
	85 g	PETB18BAA	£42.83



## Petzl Pantin® Foot ascender

Designed to make rope ascents faster and less tiring. Used to complement the Croll, or Ascension rope clamps. A cam facilitates passage of the rope through the device, even on the first few metres. The mechanism is totally

integrated into the body of the rope clamp to help prevent snagging. Releases from the rope with a simple backwards movement of the foot. Lower strap is 100% Dyneema to resist abrasion. Easy adjustment with DoubleBack buckle. Warning: the Pantin is not PPE. Rope Ø: 8 - 13 mm. Weight: 85 g.

Pantin	colour	left foot code	price	colour	right foot code	price
	Black	PETB02CLA	£49.06	Yellow	PETB02CRA	£49.06



## Petzl Croll Chest-mounted rope grab for use with the Ascension when ascending ropes.

Ergonomic spring catch allows one-handed removal and installation on the rope. Angled attachment hole allows the Croll to lay

flat against the stomach. Rectangular upper hole takes Secure shoulder straps to position the Croll correctly. Slides up the rope easily as the user ascends. Conformity: CE EN 567 and CE EN 12841 Type B. Individually tested. Rope Ø: Croll 8 - 11 mm, Croll L: 8 - 13 mm.

Croll	weight	code	price
Croll	85 g	PETB16BAA	£42.83
Croll L	140 g	PETB016AA00	£42.83
Secure shoulder straps	135 g	PETC74A	£21.50



## Petzl Stop Self-braking descender for single 8.5 - 11 mm diameter rope.

Brakes when the handle is released. The rate of descent is controlled by varying the grip on the free end of the rope. Training is essential before using descenders.

Conformity: CE EN 341 class A.

Stop	weight	code	price
	350 g	PETD009AA00	£101.24



## Petzl Huit D02 Figure-of-eight descender for single or double rope.

Smaller hole may be used for smaller diameter rope for an additional braking option. Individually tested.

Huit D02	weight	code	price
	100 g	PETD02	£14.02

# HELMETS



## Petzl RIG

A compact self-braking descender for experienced rope access workers.

This has replaced the heavier and bulky I'D S. The ergonomic handle allows convenient and comfortable control of the descent. There are two possible descent modes: on the side plate or in the V-shaped friction channel. The new stainless steel wear plate improves durability by reinforcing the rope friction zone often worn down quickly by those who make many quick descents. The AUTO-LOCK system allows users

to easily position themselves at the work station without having to manipulate the handle or tie off the device. Once locked, the rope can be taken up without having to manipulate the handle allowing for easy short ascents, for example (by adding a FOOTAPE or FOOTCORD foot loop and an ASCENSION handled rope clamp). It is also easy to install a rope, thanks to the rope guide and markings. Safety gate on the moving side plate allows the rope to be installed while the device remains connected to the harness. Handle automatically switches to storage position when the rope is removed from the device. SPECIFICATION: Maximum working load: 200 kg. Conformity: CE EN 341 type 2 class A, CE EN 12841 type C, CE EN 15151-1, NFPA 1983 Technical Use.

RIG	rope Ø	colour	weight	code	price
	10 - 11.5 mm	Black	400 g	PETD021AA01	£136.00



## Petzl I'D L

Self-braking descender with anti-panic function

The I'D L is suitable for larger ropes [12.5 - 13 mm], loads up to 280 kg [150 kg for 1 person], and includes an anti-panic function. Further details of this product can be seen on our website.

I'D@	rope Ø	colour	weight	code	price
	12.5 - 13 mm	Red	600 g	PETD20R	£182.50

## RIGGING HUBS



Medium



Small

NEW TYPE

PPE

**Petzl Paws** For organising the work station and creating multi-anchor systems. Made of aluminium. 3-year guarantee.

Conformity: CE, NFPA 1983 General Use. Breaking Strength: 45 kN.

Petzl Paws	colour	weight	code	price
Small	Black	60 g	PETG063AA00	£23.00
Medium	Black	180 g	PETG063AABA	£42.00



## Specialist Rigging Hubs

These rigging hubs have a wide range of uses. When trying to rig an item in a particular position in a hall or arena from multiple anchor points it can end up being difficult to achieve a neat [and strong] point where all the lines meet up. Care needs to be

taken that clusters of karabiners position themselves correctly with no pressure on the gales etc. The rigging hub solves these issues by providing a single piece of CNC-machined aluminium which provides a WLL of at least 10 kN in all directions. The rounded slots and holes take karabiners, ropes or webbing. Conformity: EN 795[b]:2012.#

SPECIFICATION: Ø: 119 mm. Breaking strength: central eye/85 kN, outer kidney slots/45 kN.

Rigging Hub	weight	code	price
Medium	260 g	SAFARBHUB108	£96.25

## General Information about Helmets

"Unless there is no foreseeable risk of injury you must provide your employees with safety helmets and decide when, where, and how they should be worn. Safety helmets must be worn in designated 'hard hat' areas. Only turban-wearing Sikhs are exempt from these requirements. Wear the helmet so that the brim is level when the head is upright, i.e. don't wear it sloping up or down as this may significantly reduce the protection it can provide. Don't use your helmet as a handy basket – it is designed to fit on your head, not for mixing cement or carrying nails! Don't paint it or use solvents to stick labels to it, or scratch an identification mark onto it, the shell could weaken and rapidly deteriorate. The manufacturer can be asked to add a label. Don't store them in heat or direct sunlight, such as in the rear window of a car." An extract from the HSE information sheet.

All straightforward stuff but there is often some confusion regarding chin straps.

## Chin Straps

For work at ground level the helmet must come off easily if snagged – perhaps by a chain hoist hook or flying bar. The chin strap, if fitted, must release at 25 daN, around 25 kg. It must conform to EN 397. For work at height the helmet must remain on the head during impact and the chin strap must withstand more than 50 daN and conform to the mountaineering standard EN 12 492.

If using a Work at Height helmet at stage level the chin straps should not be employed if there is any risk of the helmet being snagged by hoists. The HSE information sheet simply says, "Chin straps should be provided and used if a job involves work in windy conditions, especially at height, or repeated bending or constantly looking upwards".

Helmets should be comfortable to wear, they should fit the head snugly and be positioned centrally. They should be able to be worn with other PPE items such as visors, head torches and ear defenders.



## Bump Cap with LED Lighting

Gives protection against bumps and bruises on the head with a state-of-the-art shell. The built-in LEDs illuminate projects without a flashlight or bulky headlamp. Conformity CE EN 812. Powered by four CR2032 lithium ion batteries (included), 48 lumens brim length: 50 mm, Size:

Ergodyne Bump Cap	colour	code	list	price
	black	ERG23370	£39.95	£35.96

## VAT on Helmets and Work Boots

**This is slightly complicated. They must be made to the appropriate European or British Standard, bear a mark indicating the standards, and be for industrial use. They must not be supplied to persons for use by their employees. As an individual purchasing the appropriate helmet or work boot for industrial use you may be entitled to zero-rating.**

**Visit [www.customs.hmrc.gov.uk](http://www.customs.hmrc.gov.uk) for full details. We will ask you to sign a form if you would like to claim zero-rating on these products. The form can be downloaded at [www.flints.co.uk/downloads](http://www.flints.co.uk/downloads).**

## WORK AT HEIGHT AND GROUND LEVEL

Petzl have updated their helmets, so they now all include an adjustable Dual chinstrap. What does this mean? It means you no longer need two helmets for working at height and at ground level, as you can adjust the strength of the strap to accommodate both!

PPE



**Petzl Vertex Vent** The Vertex Vent is ideal for working outside - the ventilation can be controlled by sliding shutters, perfect for blocking out rain and bad weather or keeping you cool in the sun! Also very useful for occasional work with electricity where there is a chance of sparks flying. Conformity: EN 12492, CE, EAC, ANSI Z89.1:2009 Type I Class C. Meets the requirements of the EN 397 and EN 12492 standards for protection against impact. Meets the optional requirements of the EN 397 standard for lateral deformation and use in low temperatures. May be eligible for zero rate VAT [page 339].

✓ Adjustable strength strap ✓ Comfortable ✓ Perfect for outdoor work ✓ Slots for mounting Pixa headlamps [page 356] ✓ Inserts for Vizir

Vertex Vent	head circumference	weight	code	price
Red	530 - 630 mm	490 g	PETA10CA2	£67.00
White	530 - 630 mm	490 g	PETA10CA0	£67.00
Black	530 - 630 mm	490 g	PETA10CA3	£67.00
Hi-Vis	530-630 mm	490g	PETA10EA0	£77.00

PPE



**Petzl Vertex** Replaces the Best and the ST A12. A traditional style industrial helmet with no ventilation holes for extra protection. Ideally suited to prolonged or regular work with electricity where the hard shell will safeguard against sparking. Conformity: CE, EN397, EN12492, EN50365, ANSI Z89.1 Type 1 Class E, EAC, AS/NZS1801: meets all requirements of EN 12492 standard, except the ventilation requirement. May be eligible for zero rate VAT [page 339].

✓ Adjustable strength strap ✓ Good all-rounder helmet ✓ Slots for mounting Pixa headlamps [page 356] ✓ Mountings for Peltor Ear Muffs [page 341] ✓ Inserts for Vizir.

Vertex	head circumference	weight	code	price
Yellow	530 - 630 mm	495 g	PETA10AA1	£67.00
White	530 - 630 mm	495 g	PETA10AA00	£67.00
Black	530- 630 mm	495 g	PETA10AA3	£67.00
H-Vis	530 - 630 mm	495 g	PETA10DA00	£77.00

PPE



**Petzl Strato Vent** Lightweight and comfortable the Strato Vent is the perfect choice for all day wear. Large ventilation on the sides of the helmet give a cool airflow to the head, whilst the foam interior gives an impressive strength to weight ratio. Conformity: EN 12492, ANSI Z89.1 Type I Class C. May be eligible for zero rate VAT [page 339].

✓ Adjustable strength strap ✓ Lightweight and really comfortable ✓ Slots for mounting Pixa headlamps [page 356] ✓ Inserts for Vizir

Strato Vent	head circumference	weight	code	price
Yellow	530 - 630 mm	425 g	PETA20BA1	£77.00
Hi-Vis	530 - 630 mm	425 g	PETA20DA0	£87.00

## HEAD PROTECTION AT GROUND LEVEL



PPE



Supplied white

Zero rated for VAT, see page 339

**Standard Industrial Helmet** Made from high density polyethylene with top vents, a rain gutter and a foam sweatband. Pin lock harness adjusts from 530 mm to 630 mm. Conformity: EN 397:1995 +A1:2000.

Standard Industrial Helmet	weight	code	price	10+
	340 g	SAF010	£7.89	£6.85



PPE



Supplied yellow

Zero rated for VAT, see page 339

**Deluxe Safety Helmet** A tough and functional high density polyethylene helmet with top vents, a rain gutter and a foam sweatband. Six-point terylene harness with a ratchet knob for a quick fit. Conformity: EN 397:1995 + A1:2000.

✓ Ratchet knob quickly adjusts fit from 530 mm to 630 mm

Deluxe Safety Helmet	weight	code	price	10+
	380 g	SAF014	£10.29	£9.22

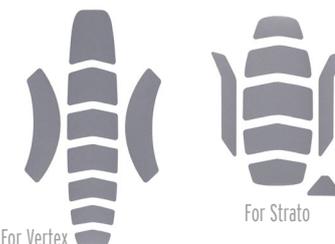
## ACCESSORIES FOR PETZL HELMETS

PPE



**VIZIR** Protective eye shield for VERTEX and STRATO Helmets. Mounting inserts for easy installation. Pivots quickly from "work" position to "storage" position on top of the helmet. Scratch and fog resistant. Conformity: CE EN 166, 1BT, ANSI Z87.1, EAC.

VIZIR	weight	code	price
	65 g	PETA015AA00	£42.00



For Vertex

For Strato

**Reflective and Transparent Stickers** Personalise your helmet with these stickers. Using paint or marker pens directly on our helmets can damage them. These stickers from the manufacturers are suitable for the Petzl Helmets

The transparent stickers can be marked with permanent marker or laser printer.

Personalisation Stickers	code	price
Page of 36 transparent stickers	PETA10100	£5.00
Four precut reflective stickers for Vertex	PETA10MA00	£8.00
Four precut reflective stickers for Strato	PETA020FA00	£8.00



Headband

Crown replacement foams

**Foams for Petzl Helmets** We stock replacement foams and machine washable comfort

foams to suit the Vertex and Strato helmets. There are replacement pieces for the headband, as well as the crown - both are available as absorbant washable pieces, or standard wipe-down pieces. NB. the non-absorbant crown replacement foams do not come with the additional comfort pads.

Helmet Foams	weight	code	price
Non-absorbant Headband	15 g	PETA010KA00	£5.00
Washable Absorbant Headband	15 g	PETA010LA00	£5.00
Non-absorbant Crown foam	10 g	PETA042MA01	£6.65
Washable Absorbant Crown foam	10 g	PETA042MA00	£6.65

## EYE PROTECTION



### Safety/Sport Spectacles

Face-fitting curve gives maximum protection, comfort and user acceptance.

Soft flexible curved temples. Comes supplied with two sets of arms with curved or straight earpieces. Lenses are 4A-coated polycarbonate which is anti-mist, anti-scratch, anti-UV, and anti-static. Conformity: EN 166 1.F [CE Marked] CSA Z94.3 and ANSI Z87.1.

#### Technical Performance

- ✓ Impact resistance = 6 mm steel ball at 45 m/sec
- ✓ Visible light transmission = 92% minimum
- ✓ UV absorption = 99% up to 365 Nm
- ✓ Heat resistance = up to 80°C
- ✓ Abrasion resistance = EN 166

Safety Spectacles	code	price	10+
Clear	SAFT565BC	£12.38	£11.15
Smoked (sunglass)	SAFT565BS	£12.38	£11.15



### Scan Direct Vent Clear Goggle

Polycarbonate lens withstands medium energy impacts of up to 120 m/s [270 mph]. CE approved to EN 166 1.

Scan Direct Vent	code	price
	SCAPPEGDV	£6.00



### Pulsafe Vistamax VNC 21 Dual Lens Clear Goggle

Polycarbonate inner lens, chemical resistant acetate outer lens. Fitted with anti-mist condensers for clear viewing. CE approved to EN 166 1 B 345 [Chemical splash, dust and gas].

Pulsafe Vistamax	code	price
	SAF031	£8.09



### Pulsafe Armamax Overspecs

Clear polycarbonate with an abrasion resistant coating. Can be worn over prescription spectacles. CE marked to CE EN 166:2001.

Pulsafe Armamax	code	price
	SAF030	£7.95



### Varionet Safety Glasses

Reading Glasses and Protective glasses in one. Great for detailed working on fiddly jobs. Side protection with anti fog ventilation. Adjustable arms. Available in: +1.50, +2.00, +3.00, +3.50 lenses.

Specification: Material: Polycarbonate and Nylon. Certification: EN166 FT & ANSI Z87+.

**Varionet Hardcase with hook** Simple case with hook for easy storage.

**Varionet Clip On Light** Compatible with any glasses, a handy clip on light with simple on/off button. Great in crawl spaces.

Varionet Safety 150	code	price
+1.50	SAFVH10150	£22.00
+2.00	SAFVH10200	£22.00
+2.50	SAFVH10250	£22.00
+3.00	SAFVH10300	£22.00
+3.50	SAFVH10350	£22.00
Hard Shell Glasses Case With Hook	SAFCASE01	£4.50
Varionet Light	SAFLED01	£4.75

See previous page for Helmet Visors and page 289 for Welding Helmets.

## EAR PROTECTION



### Scan Ear Defenders

A lightweight general purpose ear muff. Simplified noise reduction rating of 25 dB. Suitable for use in most industries. Easily adjusted. Retains chosen position with a 'twist and lock' mechanism. Manufactured to CE EN 351-1: 2002

Scan Ear Defenders	code	price
	SAF004	£9.85



### Peltor Helmet Ear Muff

Developed for noise-hazard environments and muffles even extremely low frequencies. Noise reduction rating of [SNR] 30 dB. The sealing rings are filled with a unique combination of liquid and foam giving

an optimum seal with low contact pressure providing snug comfort even during long-time use. Only for use with the Petzl Vertex Helmets.

- ✓ Slot attachment with quick mounting without tools
- ✓ Working, airing or park positions
- ✓ Attachment for visor and rain

Note: They clip very easily into place but are a bit of a struggle to get off.

Peltor Helmet Ear Muffs	code	price
	SAF254350	£24.45



### Bilsom 303 Series Ear Plugs

Shaped disposable polyurethane-moulded plugs. Gives better protection for longer periods because of higher level of comfort.

Noise reduction rating of 29 dB when properly fitted. Always pull the ear up and back when inserting them. Improper fitting will reduce the effectiveness. Conformity: CE EN 352-2.

Bilsom 303 Series Ear Plugs	quantity	code	price
One size only	200 pairs	SAF005LD	£29.68



### 3M EAR Classic Foam Ear Plugs

The soft energy absorbing polymer foam provides excellent hearing protection and all-day comfort. Noise reduction rating of 28 dB. Improper fitting will reduce the effectiveness.

Conveniently packed in pairs. Conformity: CE EN 352-2:1993.

3M EAR Classic Foam Ear Plugs	code	price	10+
One size only	SAF254248	£0.42	£0.35

### Noise Protection

Subjecting your ears to loud noise will eventually effect your hearing.

A very loud noise could have an immediate effect but even general noise over a period will be detrimental. In the entertainments' industry staff in a rock concert could be subjected 100 dB, even Wagner's Ring Cycle will achieve over 90 dB. In these environments proper advice should be sought to effectively manage the issue by reducing the exposure.

If the daily or weekly exposure reaches 80 dB the employer must give information on the risks and protection measures to their staff and they must provide ear protectors in good order. If the weekly or daily level reaches 85 dB not only must ear protection be provided but it must be worn.

General purpose ear muffs generally claim to reduce the noise by 20 - 30 dB. However, tests have shown that poor fitting, wearing glasses etc. will probably reduce the manufacturer's claim by about 4 dB.

# RESPIRATORS

## Nuisance Masks

The Health and Safety Executive warns people not to use "nuisance" dust masks if they are working with harmful dusts. They perform poorly and do not meet basic health and safety requirements. In line with the recommendation of the HSE, Flints does not have these masks listed here as part of the HSE campaign to reduce occupational asthma which affects between 1,500 and 3,000 people every year. However we do have some alternative masks listed online as part of our Covid-19 offering, including disposable 3-ply masks.

### Choosing the Correct Respirator

Our respirators are divided into three categories identified by the colour of the strap or the printing on the valve / respirator:

**FFP1** Identification colour

Low level fine dust/oil- or water-based mists [hand sanding, drilling and cutting]. Should reduce exposure by a factor of 4.

**FFP2** Identification colour

Moderate level fine dust/oil- or water-based mists [plastering, cement, sanding and certain wood dust] Should reduce exposure by a factor of 10.

**FFP3** Identification colour

Higher level fine dust/oil- or water-based mists [certain pharmaceutical powders, biological agents and fibres]. Should reduce exposure by a factor of 20.

**Speciality Respirators** Identification colour or or

Fine dust/oil or water mists. Options for metal fume, ozone and nuisance levels of certain gases and vapours depending on the model. Protection factor is generally identified by the strap colour. **D** when quoted indicated the mask has passed the Dolomite Test, and **A** indicates protection against Organic gases and vapours with boiling point >65°C

## FFP1 RESPIRATORS



### 3M 9310+ Foldable Dust Respirator

Useful for a wide variety of applications, this single use mask is for low level fine respirable dust. Three panel design and soft cover web for greater comfort and fit. CE EN 149:2001 + A1:2009 FFP1  
Assigned protection factor = 4

3M 9310+	code	list	price	20+
	SAF079N	£1.49	£1.29	£1.15



### 3M 8812 Valved Dust Respirator

Mask for fine dust featuring the unique 3M™ Cool Flow™ valve to improve comfort. Excellent in hot and humid conditions. Sold in a box of 10. CE EN 149:2001 + A1:2009 FFP1  
Assigned protection factor = 4

3M 8812	code	price
Box of 10	SAF100	£17.43

## FFP2 RESPIRATORS



### 3M 8822 Valved Dust/Mist Respirator

The 3M 8822 respirator is for use in hot and humid environments and where FFP2 level protection is required. Featuring the new 3M™ Cool Flow™ easy-breathing exhalation valve, collapse resistance and stapled straps. Comfortable with its cooler-breathing design. Provides protection against moderate level fine dust, oil- or water-based mists. Sold in a box of 10.

CE EN 149:2001 + A1:2009 FFP2  
Assigned protection factor = 10

3M 8822	code	price
Box of 10	SAF099	£26.90



### 3M 8810 Dust/Mist Respirator

Protection against moderate level fine dust, fibres, oil- or water-based mists. Sold in a box of 20.

EN 149:2001 FFP2

Assigned protection factor = 10

3M 8810	code	price
Box of 20	SAF093	£39.00

## FFP3 RESPIRATORS



### 3M 8835+ Valved Dust/Mist Respirator

The 3M 8835+ respirator provides FFP3 protection - the highest for a disposable respirator. It can be used in most industrial applications where high level protection against fine dust, oil- and water-based mists is required. It has adjustable straps with a 3M Cool Flow™ valve, thermoplastic elastomer face seal and low breathing resistance. Sold in a box of 5. CE EN 149:2001 + A1:2009 FFP3.

Assigned protection factor = 20

3M 8835+	code	price
Box of 5	SAF101N	£36.30

## SPECIALITY RESPIRATORS



### 3M 8825+ Dust, Mist, Metal Fume Respirator

A 3M™ Cool Flow™ valved respirator which is very comfortable to use and suited to many heavy industrial situations such as certain metal fumes, oil- or water-based mists and fine dust.

Fitted with a soft face seal and adjustable straps. Alasdair's personal choice for sanding. CE EN 149:2001+A1:2009 FFP2D (D for Dolomite Clogging)

Assigned protection factor = 10

3M 8825+	code	price
Box of 5	SAF095N	£29.25

Really comfy soft seal

## RE-USABLE RESPIRATORS



### 3M 7502 Reusable Soft Silicone Mask + 2138 Filters - for welding

This reusable half mask can be fitted with a range of filters via the bayonet connection to adapt the type of protection for the job. We've opted to stock the 2138 filters which combined with the half-face mask filters gives CE EN143 P3R + Nuisance level organic vapour protection. This provides protection against fine dusts, oil or water based mists, as well as nuisance levels of organic vapours and acid gases associated with high energy welding such as MIG and TIG.

Welding mask	code	price
7502 Mask + full box of 2138 filters	SAFI02K	£45.68
2138 Filters	SAFI03	£11.50



### 3M 4251+ Organic Vapour/Particulate Respirator

These maintenance-free particulate, gas and vapour half mask respirators provide comfortable protection well appreciated by the user. If you are still working with organic vapours this is a good choice of respirator. CE EN 405:2001 + A1:2009 Type FFA1P2RD Provides protection against organic vapours (good warning properties and b.pt.> 65°C), up to 10x Workplace Exposure Limit (WEL) or 1000 ppm, whichever is lower, and 10 x WEL for particulates.

3M 4251+	code	price
	SAF090N	£21.30

# HAND PROTECTION

## RIGGER'S GLOVES

Full finger



Three-quarter finger



**Harken Black Magic Rigger's Gloves** The reputation of these gloves is Olympic level. With modern rope technology making lines ever thinner, you need a helping hand. The double thick palm material sticks to lines with 50% more holding power. No more blisters. Full or three-quarter finger. Fits like a... glove.



Harken Black Magic Gloves		code	price	code	price
quantity		three-quarter finger		full finger	
Small	pair	SAF2563S	£33.33	SAF2564S	£36.45
Medium	pair	SAF2563M	£33.33	SAF2564M	£36.45
Large	pair	SAF2563L	£33.33	SAF2564L	£36.45
X-Large	pair	SAF2563XL	£33.33	SAF2564XL	£36.45



**GS002 Disposable Powdered Latex Gloves** Natural latex gloves lightly powdered with corn starch with an ambidextrous fit. When using solvents such as Acetone, vinyl gloves can degrade whereas latex is unaffected.

Specification: Box size: 100 Gloves (50 Pairs).

Disposable Powdered Latex Gloves		code	price
quantity			
Small	box of 100	SAFGS0022	£7.50
Medium	box of 100	SAFGS0023	£7.50
Large	box of 100	SAFGS0024	£7.50
Extra Large	box of 100	SAFGS0025	£7.50



**Canadian Power Rigger's Gloves** Grey chrome leather palm glove, very supple. Rubberised cuff with vein protection patch. Elasticated back. Palm lined. CE EN 388 intermediate design.

Power Rigger's Gloves		quantity	code	price	12+
	pair	SAF151	£3.40	£3.08	



**SUP 65 Rigger's Gloves** Good quality pigskin glove, very supple. The 2 1/2" rubberised cuff has an integral vein patch. Chemical resistant. Size 10. BS EN 388:1994.

SUP 65 Rigger's Gloves		quantity	code	price	12+
	pair	SAF150	£10.25	£7.70	

## WELDER'S GAUNTLETS



**Welder's Gauntlets [T10]** Multipurpose heavy-duty gloves suitable for welding [MMA, MIG, Plasma].

Welder's Gauntlets		quantity	code	price
	pair		MET045101	£9.30

## WORK GLOVES



### Black Puggy 2000 PU-Coated Safety Gloves



I hate wearing gloves but was introduced to these Puggys in Oban whilst sticking plasters on my fingers after the sandpaper had worn the skin off them. The Puggys fitted perfectly and really improved my grip with hardly any loss of feel, you can even type in them! They can be used for a whole range of tasks but I particularly like to use these for hand sanding. Great Value!

Conformity: EN 388 4131 [The last 4 digits are scores for mechanical hazard tests [EN388]. Performance level is on a scale of 1 – 4, the higher the number the better. (A) Abrasion Resistance = 4, (b) Blade Cut Resistance = 1, (c) Tear Resistance = 3, (d) Puncture Resistance = 1.

- ✓ Nylon glove
- ✓ Machine knitted
- ✓ Polyurethane palm coating
- ✓ Integral elasticated wrist

Puggy PU-Coated Gloves		size	quantity	code	price
Medium	8	pair	SAFPUGMB	£1.30	
Large	9	pair	SAFPUGLB	£1.30	
X-Large	10	pair	SAFPUGXLB	£1.30	



**Hi-Grip Gloves** PVC criss-cross coating on a knitted base. Elasticated wrist. As its name implies, gives good grip assistance. EN 388 Cat 2.

Hi-Grip Gloves		quantity	code	price
	pair		SAF160	£1.61



**Cotton Drill Gloves** White cotton drill with knitted wrist and brushed lining. Essential kit for crew handling white scenery. For Podgers see pages 317 – 319.

Cotton Drill Gloves		quantity	code	price	12+
	pair		SAF192	£1.51	£1.36



**Rubber Gloves** Strong, sensitive, cotton flock-lined natural rubber gloves. Excellent wet handling. Conforms to USDA standards and is 21 CFR 177-2600 compliant for food handling.

Rubber Gloves		quantity	code	price	12+
Small	pair		SAF177	£2.47	£2.10
Medium	pair		SAF178	£2.47	£2.10
Large	pair		SAF179	£2.47	£2.10



**Disposable Vinyl Gloves** Clear, economical, thin vinyl gloves without seams. Fits either hand. Comes powdered. You've just got to remember to put them on before you get yourself covered in oil. Wear them under a pair of Puggys to extend their life. Sold in boxes of 100 [50 pairs].

Disposable Vinyl Gloves		size	quantity	code	price
Small	6 1/2	box of 100	SAF658025S	£10.50	
Medium	7 1/2	box of 100	SAF658025M	£10.50	
Large	8 1/2	box of 100	SAF658025L	£10.50	
X-Large	9 1/2	box of 100	SAF658025XL	£10.50	

For Barrier Cream see page 364.

## DIRTY RIGGER GLOVES

### About Dirty Rigger

We love this range of gloves from Dirty Rigger so much, we put our name on them!

Dirty Rigger gloves combine durability and comfort with style to produce quality products. They use the best possible materials to create gloves that provide unbeatable protection whilst remaining light and flexible for maximum dexterity. All gloves come with writeable ID tags and an eyelet on the cuff.



### SlimFit Framer Glove

A perfect fit for smaller hands without compromising on function. In a framer style for better access for intricate tasks and touchscreens, the SlimFit is breathable and light for all day comfort and uses 4-way stretch materials to move with your hands as you work.

- ✓ Designed for smaller hands
- ✓ Framer finger design for accessibility
- ✓ Light and flexible for all day comfort
- ✓ Snug fit to minimise snagging
- ✓ Easy-on pull tab

SlimFit Framer Glove	size	code	price
	XX small	FHSDRFRSXXS	£17.59
	X small	FHSDRFRSXS	£17.59
	small	FHSDRFRSS	£17.59



### Rope Ops Rope Glove

Especially designed for handling rope, these gloves provide abrasion resistance and fly control through an articulated rope channel. The gloves palm is supported by goat skin leather, adding extra resistance

to abrasion caused from dealing with rope, and a breathable back provides ventilation and added comfort.

- ✓ Articulated Armortex rope channel
- ✓ Double stitched seams
- ✓ 3D high-ventilation glove back
- ✓ Abrasion resistant goat skin leather palm



Rope Ops Rope Glove	size	code	price
	small	FHSDRRROS	£32.71
	medium	FHSDRRROM	£32.71
	large	FHSDRRROL	£32.71
	X large	FHSDRRROXL	£32.71
	XX large	FHSDRRROXXL	£32.71

## HAND SANITISER

### Sanique Hand Sanitiser

Not a product we would have predicted becoming a staple in our everyday lives, but there we are! 2 sizes available - the 100 ml pots come with a flip top [ideal for personnel working Front of House to carry on them], and the 5 litre jerry cans come with a pump top [great for backstage, at points of entry, and in the workshop alike]. 75% alcohol, kills 99.9% of germs.



Not to scale!

Conforms to standards: GB/T16483-2008 & GB/T17519-2013.

Sanique Hand Sanitiser	size	code	price	10+
	100 ml	SAFSHS0100	£1.50	£1.35
	5 L	SAFSHS5000	£25.00	-



### Comfort Fit Rigger Glove

A light and flexible glove that will protect hands from moderate manual work. Designed with comfort in mind, breathable materials and a snug fit move with your hands as you work and minimise snagging. A

double layer of synthetic leather on the palm and other key areas of wear combine with double stitching to make this an incredibly durable glove.

- ✓ Full finger style for extra protection
- ✓ Lightweight and flexible for all-day comfort
- ✓ Snug Fit to minimise snagging
- ✓ Double-layered synthetic leather on palm
- ✓ High-density foam padding in key areas
- ✓ Double stitched seams



Comfort Fit Rigger Glove	size	code	price
	small	FHSDRFFS	£19.35
	medium	FHSDRFFM	£19.35
	large	FHSDRFFL	£19.35
	X large	FHSDRFFXL	£19.35
	XX large	FHSDRFFXXL	£19.35



### Comfort Fit Framer Rigger Glove

Like the Comfort Fit Rigger Glove but with a framer finger design, allowing easy access for intricate tasks and touchscreens by exposing the tips of your thumb, middle and index finger.

- ✓ Framer finger design for accessibility
- ✓ Lightweight & Flexible for all-day comfort
- ✓ Snug Fit to minimise snagging
- ✓ Double-layered synthetic leather on palm
- ✓ High-density foam padding in key areas
- ✓ Double stitched seams

Comfort Fit Framer Rigger Glove	size	code	price
	small	FHSDRFRS	£19.35
	medium	FHSDRFRM	£19.35
	large	FHSDRFRL	£19.35
	X large	FHSDRFRXL	£19.35
	XX large	FHSDRFRXXL	£19.35

# PROTECTIVE CLOTHING



**Disposable White Overalls** Tyvek Protech. Made from a non-woven spun bonded polyolefin which forms a dense shield that holds out liquid and particles. Even when wet, the surface of Tyvek is resistant to tears, punctures and abrasions. EN14126:2003 Type 5B & 6B.

Disposable White Overalls	code	price	10+
Small	SAF120	£6.50	£6.16
Medium	SAF121	£6.50	£6.16
Large	SAF122	£6.50	£6.16
X-Large	SAF123	£6.50	£6.16



## Flame Retardant Navy Boiler Suit

- ✓ 300 g 100% cotton drill fabric with flame retardant treatment
- ✓ Concealed stud front to neck
- ✓ One left breast pocket with flap
- ✓ Two front hip pockets
- ✓ Plain back and hips
- ✓ Embroidered 'FR' logo on upper left sleeve

FR Navy Boiler Suit	chest size	code	price	10+
Small	40"	SAFCFRBSN40	£39.98	£36.50
Medium	44"	SAFCFRBSN44	£39.98	£36.50
Large	46"	SAFCFRBSN46	£39.98	£36.50



## White Boiler Suit

- ✓ Pre-shrunk 100% cotton [250 gsm]
- ✓ Concealed stud front
- ✓ 1 breast pocket with stud flap
- ✓ Reinforced elasticated waist
- ✓ 2 swing hip pockets with side access
- ✓ 1 rear pocket
- ✓ 1 rule pocket

White Boiler Suit	chest size	code	price	10+
Small	40"	SAFCDBSW40	£19.98	£17.70
Medium	44"	SAFCDBSW44	£19.98	£17.70



## White Painter's Bib and Brace

- ✓ Pre-shrunk cotton drill
- ✓ Concealed button fly
- ✓ Bib pocket and pouch pocket
- ✓ 2 swing hip pockets with side access
- ✓ 1 rear pocket
- ✓ 1 rule pocket
- ✓ Braces with clips

Painter's Bib and Brace	chest size	code	price	10+
Small	40"	SAFCDBBW40	£18.55	£16.70
Medium	44"	SAFCDBBW44	£18.55	£16.70

## HI-VIS WORKWEAR



**Hi-Vis Waistcoat** Made from 100% polyester, this high visibility yellow sleeveless waistcoat features velcro fastenings and reflective tape panels. Ideal for outdoor events, helps distinguish staff from public. Great for cyclists too. Conformity: EN 471 Class 2.

Hi-Vis Waistcoat	chest size	code	price
Medium	40"	SCAWWHVWM	£4.83
Large	42"	SCAWWHVWL	£4.83



**Hi-Vis Motorway Jacket** High visibility yellow foul weather jacket made from 100% polyester with a PVC waterproof coating and a quilted nylon lining. They feature heavy zip fastenings, stud fastened storm flaps, concealed hood with drawstring and reflective tape. Conformity: EN 471 Class 3, EN343 Class 3. [Trousers: EN471 Class 1].

Hi-Vis Motorway Jacket	size	code	list	price
Jacket	Medium	SCAWWHVMJM	£43.32	£33.85
Jacket	Large	SCAWWHVMJL	£43.32	£33.85
Jacket	X-Large	SCAWWHVMJXL	£43.32	£33.85
Trousers	34-36" waist	SCAWWHVMTM		£18.34
Trousers	38-40" waist	SCAWWHVMTL		£18.34

## APRONS



**Carpenter's Apron** A traditional bib-style carpenter's apron manufactured from quality linen. Twin front pockets with tie straps. Machine washable. One size fits all.

Carpenter's Apron	code	price
	FAICA	£8.75



**Professional Welding Apron** A tough leather apron with pouches which will withstand sparks and touching against hot metal. For Welder's Gauntlets and other Welding Equipment see page 289.

Welding Apron	code	price
	MET045217	£35.90

## KNEE PADS



**Irwin Gel Knee Pads** Non-marring professional quality. These IRWIN knee pads are designed to put maximum protection where it is needed most. The built-in flexibility of IRWIN knee pads provides long-lasting comfort, so nothing gets in the way of getting the job done. Embedded I-Gel insert provides maximum impact resistance. The non-marring cap will not damage surfaces.

Irwin Gel Knee Pads	quantity	code	list	Tradeline
Heavy-duty	pair	SAFIRW10503830	£38.86	£34.00



**Ergodyne Wide Soft Knee Pads** Economical light duty knee protection for a range of applications. Made from 12 mm of NBR foam padding with a durable polyester fabric cover.

Wide Soft Knee Pads	quantity	code	list	price
Light-duty	pair	ERG18231	£18.55	£16.70

## SITE KITS



**Site Safety Kit** A selection of site essentials economically priced. Consisting of a Deluxe Safety Helmet, Scan Direct Vent Goggles, 10 pairs of 3M Foam ear plugs, a pair of Canadian Power Rigger's Gloves, 2 pairs of black Puggy Gloves, Scan Chukka work boots and a Hi-Vis waistcoat all in a canvas tool bag.

Boots available in sizes 6 - 12 [no half sizes]. When ordering please substitute the **XX** with your boot size [use 08, 09, etc].

Site Safety Kit	code	list	price	Tradeline
Medium waistcoat and boots	SAFSSKMXX	£51.51	£43.79	£39.98
Large waistcoat and boots	SAFSSKLXX	£51.51	£43.79	£39.98
Medium waistcoat excluding boots	SAFSSKEB	£29.97	£25.48	£22.78
Large waistcoat excluding boots	SAFSSKEBL	£29.97	£25.48	£22.78

## SAFETY FOOTWEAR



### Dual Density Chukka Boots

A multipurpose boot that is popular with users in the construction and engineering industries.

Conformity: EN 345-S1P.

Zero rated for VAT see

- ✓ Grained leather uppers with resistance to abrasion
- ✓ Polyurethane soles for strength and durability
- ✓ Padded ankle collars for extra comfort
- ✓ Steel toe caps with 200 joule rating
- ✓ Steel mid sole
- ✓ Lace fastening with the 8 D-ring system
- ✓ Great value

Available in sizes 6 - 12 [no half sizes]. When ordering please substitute the **XX** with your boot size [use 8, 9, 10, etc].

Chukka Boots	code	price
	SAFSCAFWCHUKXX	£27.19

Zero rated for VAT see



### Apprentice Boots

The Dewalt Apprentice Boot has premium quality wheat-coloured nubuck and full grain leather uppers and is lightweight and hardwearing. The insoles are anti-

bacterial with a shock absorbing dual density seat region. They are manufactured to CE EN ISO 20345 with the safety rating SB.

- ✓ 200 Joule steel toe cap
- ✓ EVA rubber sole heat resistant to 300° C
- ✓ Chemical resistant sole
- ✓ Oil resistant sole, slip rating: SRA

Available in sizes 3 - 12 [no half sizes]. When ordering please substitute the **XX** with your boot size [use 8, 9, 10, etc].

Apprentice Boots	code	Tradeline
	SAFDEWAPPRENTXX	£78.93

## VAT on Helmets and Work Boots

They must be made to the appropriate European or British Standard, bear a mark indicating the standards, and be for industrial use. They must not be supplied to persons for use by their employees. As an individual purchasing the appropriate helmet or work boot for industrial use you may be entitled to zero-rating. Visit [www.customs.hmrc.gov.uk](http://www.customs.hmrc.gov.uk) for full details. We will ask you to sign a form if you would like to claim zero-rating on these products. The form can be downloaded at [www.flints.co.uk/downloads](http://www.flints.co.uk/downloads).

## FIRST AID

### First Aid Kits

The contents of the following First Aid Kits meet the requirements as specified in the HSE Approved Code of Practice. The practice states "An employer should make an assessment of the first aid needs appropriate to the circumstances of each workplace". To assist in selecting the appropriate kit we recommend the following employee ratios as guidance provided by the British Healthcare Trade Association.

### Statutory First Aid Kits

For low risk workplaces.



Number of persons	code	price
1 - 10 persons	SAFK10T	£17.50
11 - 20 persons	SAFK20T	£22.71
21 - 50 persons	SAFK50T	£31.36

### Travel First Aid Kits



The 1997 Approved code of practice states that "Employers are responsible for meeting the first aid needs of their employees working away from the main site". The following kits contain the recommended minimum contents for travelling workers.

Travel First Aid Kits	code	price
Travel first aid kit [one person]	SAFK307T	£3.89
Vehicle first aid kit [plastic case]	SAFK365T	£11.29

### Emergency Eyewash Station



The 1997 Approved code states that "Where tap water is not readily available for eye irrigation, at least a litre of sterile water or sterile normal saline 0.9% in sealed disposable containers should be provided".

Eyewash station contains 2 x 500 ml saline, mirror and instructions.

Emergency Eyewash Station	code	price
Eyewash Station	SAFE481	£30.11
Eyewash refill [500 ml saline water]	SAFE404T	£2.59

### Assorted Sterile Plaster Packs



100 assorted plasters per pack.

Plaster Packs	code	price
Washproof Plasters	SAFD9010	£4.68
Fabric Plasters	SAFD8010	£5.32

**Accident Book** Provides a quick and easy system for recording accidents in the workplace.



Accident Book	code	price
	SAFQ3200	£5.34

# ELECTRICAL

## BATTERIES



### Procell Alkaline & Lithium Batteries

The professional's choice for hand torches and radio microphones. Great value, why not stock up now?

Duracell Industrial Batteries	code	price	Tradeline 10+
AAA [1.5 V]	DURAAAN	£0.39	£0.34
AA [1.5 V]	DURAAAN	£0.39	£0.34
C	DURCN	£0.98	£0.85
D	DURDN	£1.49	£1.27
9 V	DUR9VN	£1.49	£1.27
CR123 Lithium	DURCR123N	£0.95	£0.76



**Coin Cell Batteries** Choose the Duracell Alkaline LR44 type to power the Faithfull Digital Calipers [page 293]. Both types sold in packs of two.

Coin Cell Batteries	qty	code	price
CR2032 [3 V Lithium]	pack of 2	DURCR2032	£1.95
LR44 [1.5 V Alkaline]	pack of 2	DURLR44	£1.50

## CABLE



**Black Rubber Cable** This tough, black rubber-sheathed [TRS] 1.5 mm<sup>2</sup> cable is ideal for making up your own extension leads. Three core. Conformity: BS 6500 and BS 7919. Minimum bending radius: 6 x diameter.

Black Rubber Cable	code	per m	code	100 m drum
	TOL3040	£1.24	TOL3040D	£142.35



**Bell Wire** We stock this cable mainly for use with the pyrotechnic detonators. It is a twin core 0.5 mm Ø flexible copper wire with a 3.2 mm Ø thick PVC sheath. Supplied on a 100 m drum.

Bell Wire	code	100 m drum
	TOL218X	£11.25

## TESTERS



**DT-830C Manual Ranging Digital Multimeter** Compact, pocket-size digital multimeter. Positive click action rotary selection switch for ease of use. Multifunction measurement capability and overload protection.

- ✓ 22 mm LCD display with large digits and function indicator
- ✓ Auto Polarity indication
- ✓ Supplied with 2 test leads, thermocouple wire probe and battery

Multimeter	code	price
	TOLDT830C	£29.95



### Wera Voltage Tester

A tough insulated screwdriver/mains circuit tester with many other uses such as tracking cables. Voltage tested from 150 - 250 V.

Voltage Tester	blade length	tip width	code	price
	70 mm	3.5 mm	WER005655	£6.96

## CABLE TIES



**Cable Ties** Self-extinguishing nylon 6.6. Working temperature from -40° to +85°. Available in black and natural. Remarkable value.

Cable Ties	code	price	code	price	10+
	black	pack of 100	natural	pack of 100	
100 x 2.5 mm	GEN233	£0.64	GEN233N	£0.64	£0.45
200 x 4.8 mm	GEN232	£1.95	GEN232N	£1.95	£1.55
300 x 4.8 mm	GEN231	£3.80	GEN231N	£3.80	£2.85
370 x 7.6 mm	GEN234	£8.76	GEN234N	£8.76	£6.30
780 x 9 mm	GEN235	£19.60	GEN235N	£19.60	£17.85



**Releasable Cable Ties** Finger latch to release for re-use. Each pack contains 100 cable ties. Black.

Releasable Cable Ties	code	price	10+
200 x 4.8 mm	GEN232R	£3.85	£3.50
370 x 7.6 mm	GEN234R	£8.35	£7.45

## WRAP BACK TIES



**Wrap Back Ties** Fed up with nylon cable ties blocking stage tracks? Fed up with cutting your hands on the sharp edges left from nylon ties or with peeling sticky tape from your shoes? Why not try our wrap back ties. They have a hook-and-loop fastener which is repositionable, reusable, and more environmentally sound. They are kinder on the cables [especially data and fibre optic cables] and hands. Also useful for tidying air hoses, extension leads and hemp lines. Flints has these made in two useful sizes: Small – ideal for fixing cables to flying bars. Large – Ideal for tidying hoses etc. Black.

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Wrap Back Ties	code	price
Small size [300 mm long x 25 mm wide]	GEN241	£3.95
Large size [400 mm long x 25 mm wide]	GEN242	£3.95

## ONE WRAP



**One Wrap** This is one of the most useful products in the catalogue. It is a hook-and-loop fastener that is double sided so it will stick to itself. Cut it to any length to make reusable cable ties. Use it around folded cloths, sorting extension leads etc. Available on rolls or by the metre. Amazingly useful. Black.

One Wrap	code	per m	reel code	per 25 m
16 mm wide	GEN244	£1.65	GEN244D	£33.04
20 mm wide	GEN245	£1.90	GEN245D	£38.91
25 mm wide	GEN246	£2.11	GEN246D	£46.74
50 mm wide	GEN248	£3.52	GEN248D	£85.65

## MULTIHOOK



**MultiHook** Back by popular demand, only this time, it's orange! The tough scaffold-sized locking hook secures the attachment and swivels on the end of an adjustable and re-usable heavy duty cable tie. The end of the tie releases at the neck so it can be passed through items. With a thousand uses MultiHooks hook up cables, ropes and hoses and also provide hanging hooks from bars and pipes. Made from UV resistant Nylon 66.

MultiHook	code	list	price
400 mm	ERG33403	£4.85	£4.37

## EXTENSION LEADS



### Brobusta Cable Reel

The reel body is made of break resistant Breflex plastic. Fitted with a triple socket outlet with self-closing covers and a duo safety system against overheating and accidental restart. The frame is exceptionally stable and is both galvanised and powder coated. Locking brake and cable clip.

Power capacity: 3,120 W, 13 A.

Brobusta Cable Reel	length	weight	code	price
	50 m	10 kg	ELEHIG50M	£65.00



**Vario Line** Heavy-duty reels are unsuitable for use up ladders and ladders so we have selected this triple-socketed 15 m lightweight unit to take power up in the air. It is fitted with a hanging hook to clip onto the ladder rung.

Power capacity: 3,120 W, 13 A.

Vario Line	length	weight	code	price
	15 m	5 kg	ELECLXL	£31.45



**4-Way Surge Protected Lead** 13 A. 2 m long. BS EN 60950 and 1362/A.

4-Way Extension Lead	length	code	Tradeline	price
	2 m	MSTSRG42		£11.38



**Black 13 A Permaplug** The perfect tough plug for making up extension leads.

Black 13 A Duraplug	code	price
	ELEHDPT13B	£1.98



**Black 15 A Permaplug** Round Pin with no fuse for theatre lighting circuits.

Black 15 A Duraplug	code	price
	ELEHDPT15B	£1.82



### Black Permaplug Trailing Sockets

The perfect selection of tough sockets for making up extension leads. See page 347 for tough rubber sheathed cable.

Duraplug Trailing Socket	code	price
Single	ELES130B	£2.39
Double	ELES132B	£4.08
4-way	ELES134B	£7.19
Single 15 A [round pin]	ELES150B	£1.94

## Fuses

Fuses	code	price
5 A Fuse	TOL3036	£0.43
13 A Fuse	TOL3037	£0.44
Polycutter Fuse	TOLPOLYFUSE	£1.00

## SOLDERING



### Weller Soldering Gun

Tackles soldering, cutting, and sealing on a variety of materials. Use for stained glass work, mending and sealing plastics, cutting polystyrene, and jewellery work. Ready to use in six seconds. Three interchangeable tips. Trigger control. Built-in spotlight. 100 W, 240 V.

Supplied in a sturdy case with: a coil of solder; cutting tip; smoothing tip; soldering tip; soldering aid tool; and 24-page booklet.



### Weller Soldering Iron

Choose the 25 W version for all general electrical repairs. Now with LED light.



### Weller Gas Soldering Iron

For when mains power is not available. The tool can be used for soldering, as a hot air nozzle, and with an open flame. Operating time of 30 minutes. Features Piezo automatic ignition and gas capacity display. Gas not supplied.

**SPECIFICATION:** Max Temperature: soldering tip/up to 450° C; hot air nozzle/up to 450° C; open flame/up to 1,300° C.

Supplied in a sturdy storage box with: solder [lead-free, 1.0 mm Ø, 15 g]; cleaning sponge; 3 soldering tips: conical 1 mm, UND 2.4 mm, chisel-shaped 2.4 mm; plus a "Hot Knife" heat shrinking tip.

Soldering Gear	code	list	price
Weller Soldering Gun Kit 8100UDK, 240 V	WEL8100UDK	£66.11	£59.47
Weller 25 W Soldering Iron with LED, 240 V	WELSP25NUK	£30.36	£27.33
Gas Soldering Iron [gas not supplied]	WELWP3EU	£64.99	£56.87
Gas for above	WELPGR1		£6.75
Weller Bench Holder and Sponge	WELKH6	£42.80	£38.50
Self-fluxing Multicore Solder [0.7 mm]	MULM7		£9.56

# ELECTRICIAN'S HAND TOOLS

## CABLE CUTTERS



### Bessey Cable Cutter D49

Although these handy snips are designed for electricians we have found them brilliant for cutting small cords, ropes and bungee up to about 8 mm diameter.

- ✓ Cuts multi-core cables up to 10 mm diameter
- ✓ Stainless steel blades stay sharp
- ✓ Lightweight for less hand fatigue
- ✓ Rounded blade for safety
- ✓ Ergonomic handles with soft cushion inserts for comfort and grip

- ✓ One-handed thumb locking latch
- ✓ Recoil spring returns cutter to open
- ✗ Not insulated

Bessey Cable Cutter D49	weight	code	list	price
	120 g	TOLBE301031	£21.25	£21.10

## WIRE STRIPPERS



**Klein Katapult®** Cuts and strips from No.8 - 22 AWG solid and No.10 - 22 AWG stranded wire.

- ✓ Removes up to 1" [25 mm] in length of the insulation layer in a single step
- ✓ Tension loaded wire grip gently holds wire while retaining the wire geometry
- ✓ Precision machined stripping holes
- ✓ Wire is automatically gripped and stripped with the same motion
- ✓ Two activations are needed for clear nylon jacket conductors

- ✓ Supplied with adjustable wire stop as standard feature, to assure uniform, precise strip length
- ✓ Cast alloy chassis with heavy-duty Ecoat finish for corrosion resistance and durability
- ✗ Not insulated

Klein Katapult® Wire Stripper/Cutter	weight	code	price
	400 g	KLE11063W	£32.95



**Klein-Kurve®** Strips No 10 - 18 AWG solid and No 12 - 20 AWG stranded copper wire.

- ✓ Easy-to-read markings on both sides
- ✓ Curved handles help in confined areas
- ✓ Wire looping and bending holes
- ✓ Coil spring for fast self-opening action
- ✓ Precision ground stripping holes
- ✓ Double-dipped comfort grips
- ✓ Screw shearing holes
- ✓ Gripping serrated nose for bending, shaping, and pulling of wire

- ✓ Handy closure lock for convenient storage
- ✓ Precision shear type cutting blades for easier cutting
- ✗ Not suitable for cutting steel wire
- ✗ Not insulated

Klein-Kurve® Wire Stripper/Cutter	weight	code	price
	154 g	TOL11055	£24.00



### Klein Adjustable Wire Stripper

Strips No. 12 - 24 AWG solid and stranded wire. Simply set wire gauge dial with desired wire size for fast, easy stripping.

- ✓ Adjustable tool makes short work of cutting and stripping operations
- ✓ Finely honed nose cutter easily gets into tight spaces
- ✗ Not insulated

Klein Adjustable Wire Stripper	weight	code	price
	68 g	KLE74007	£11.39

For Tool Pouches see pages 327-328.

## WIRE CRIMPERS



**Knipex Electrical Crimping Pliers** For crimping insulated cable terminals and plug connectors. Also use for cutting cables, stripping wire and crimping No.18 - 10 AWG wire. With threaded holes for cutting brass and copper threaded screws 2.6, 3, 3.5, 4 and 5 mm. Length: 215 mm. Insulated capacity: 0.75 - 6 mm<sup>2</sup>.

Knipex Electrical Crimping Pliers	weight	code	price
	25 g	KPX9721215	£35.12



**Ratchet Crimper** Powerful ratchet for consistent crimping of red [No. 22 - 16 AWG], blue [No. 16 - 14 AWG] and yellow [No. 12 - 10 AWG] insulated terminals.

Ratchet Crimper	code	list	price
	TOL20835	£16.10	£13.86

## SCREWDRIVERS



One screwdriver fits 6 screwheads!



Standard heavy-duty

Insulated VDE

### King Dick 1-for-6

A revolutionary breakthrough in screwdriver technology. This screwdriver features a patented tip design that allows precise and powerful contact with ALL SIX screwhead sizes! Available in standard heavy-duty and insulated VDE tested to 1,000 V. The blade is made from high grade hardened steel with a 6 mm hex shaft and a 10 mm hex bolster for application of extra torque. The soft feel handle gives a powerful and comfortable grip.

I've been told a Fender Stratocaster can be entirely dismantled with just one of these screwdrivers! 100 mm shaft.

King Dick 1-for-6	screw sizes	code	price
Standard heavy-duty	PZ 1, 2, 3 and PH 1, 2, 3	TOL14610	£7.79
Insulated VDE to 1,000 V	PZ 1, 2, 3 and PH 1, 2, 3	TOLINS14610	£8.00

# LIGHTING

Flints do not supply theatre lanterns which we prefer to leave to the various excellent specialist companies. The items listed here are those accessory items often used by props and stage as well as lighting departments. Visit [flints.co.uk](http://flints.co.uk) to see the colours.

## LIGHTING GELS

### About Gels

Filters were originally made from gelatin [hence "gels"] but by the 1950s Strand had developed acetate filters. Nowadays, there are two raw materials used in making colour filters, polycarbonate and polyester. Polycarbonate is the material able to endure the highest heat and is liable to give the longest possible life.

There are two fundamental ways of manufacturing filters. The cheapest way is for the manufacturer to buy clear polyester film and to dye it on one or both surfaces. You can tell a film that is made this way because the colour can be removed by wiping the surface with a solvent or by scratching it. In most cases, it will be a perfectly serviceable filter but a problem will arise if you use it in colour scrollers. This is because during the manufacturing process the film is extruded thick and then stretched and rolled to produce the final thickness. This process puts a linear orientation into the film that causes it to shrink in width when heated. It will be prone to failure in colour scrollers.

The best filters are produced from pellets of the raw material that are deep dyed then extruded to the correct thickness and finally coated with a clear film on each side. Supergel is the only filter made this way.

Lee Filters reference numbers were developed by Fred Bentham of Strand. The numbering system was widely adopted in Europe. Rosco E-Colours were developed using surface-coated polyester to match these European numbers.



**Supergel** Rosco Supergel is uniquely made from deep dyed pellets of polycarbonate extruded to the exact thickness and coated on either side with a microscopic clear film. It will not distort under heat and is ideal for colour Scrollers. Polycarbonate filter will last longer than polyester [Lee and E-Colour] and has better fire resistance. It will comply with virtually all fire regulations [DIN4102, B1, M1 etc.]. There are over 130 colours and 30 diffusion materials. Sadly Rosco no longer provide swatchbooks Free of Charge. When ordering use the codes below replacing the **XXX** with the gel number.

Supergel	code	price
Roll [7.62 m x 610 mm]	ROS103RXXX	£111.90
Sheet [500 mm x 610 mm]	ROS103SXXX	£8.20
Swatch book	ROSBB07	£9.95



**E-colour+** A surface-coated polyester film. The colours match the original Strand numbers with the addition of around 30 extra shades. 40 of the E-colours are coated on both sides due to the dye type but otherwise they are coated on one side. Sadly Rosco no longer provide swatchbooks Free of Charge. When ordering use the codes below replacing the **XXX** with the gel number from the swatch book.

E-Colour Correction Filter	code	price
Roll [7.62 m x 1.22 m]	ROS062RXXX	from £65.00
Full sheet [530 mm x 1.22 m]	ROS062FSXXX	from £4.65
Half sheet [530 x 610 mm]	ROS062HSXXX	from £2.45
Swatch book	ROSBB05	£9.95

Flints can also supply Cinegel colour correction filter and CalColor.

## FOLLOW SPOT SIGHTS



As used on Mamma Mia!



choose a red or green dot

### Spot Dot 3.0

The "Both Eyes Open" follow spot sight! An electronic dot follow spot sight - this upgrade now gives the user a choice between a red or green dot. The aiming dot is created by a mini-LED located at the rear of the sight and reflected to your eye. The 30 mm viewing lens makes finding the spot simple. Mount the Spot Dot on your follow spot [with the magnets provided], turn it on with your choice of colour and brightness [11 settings] and you will be able to view the stage and the dot with BOTH EYES OPEN. The Spot Dot does not require a specific distance between your eye and the sight. Choose the distance that's most comfortable for you. Uses a CR2032 battery to give 40 + hours continuous use - included.

Spot Dot 3.0	code	price
	SPOT20003	£199.00
Spare Coin Cell battery CR2032	DURCR2032	£1.95

## LIGHTBULB PAINT - HATOLITE

# Hatolite

**Lightbulb Paint - Hatolite** Suitable for tinting bulbs up to 60 W. For details of Lightbulb Paint and FEV see pages 30-31.



Unfortunately **The Strobist Collection** is now a dead duck.

## LANTERN MASKING



**Matt Black Cinefoil** A specially coated matt black foil that soaks up light and is perfect for masking light leaks and eliminating reflections.

Matt Black Cinefoil	code	price
304 mm x 15.5 m	ROS360113	£49.50
610 mm x 7.62 m	ROS360112	£49.50
1.22 m x 7.62 m	ROS360114	£93.50



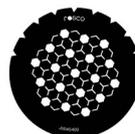
**Black Foil Tapes** Blacktak is a heat resisting matt black foil tape which can be used to mask off lamps and light leaks without leaving residue. Do not confuse with "Black Tack" the gungy, blobby tape [page 277]. We also stock unbranded matt black aluminium foil tape. For plain aluminium tape see page 276.

Black Foil Tapes	code	price
50 mm x 25 m Blacktak	TAP071	£21.84
50 mm x 25 m Matt Foil Tape	TAP071MF	£19.95

## GOBOS



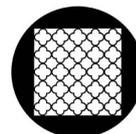
**Gobos** Flints can supply all Rosco and DHA Gobos. Please ask for a FREE gobo catalogue.



74007



74058



78210



78237

## WORK LIGHTS



**Griplight** Heavy-duty inspection lamp with spring loaded plastic grip handle and hanging hook. Glass bulb protector and wire basket. 60 W. 5 m length cable.

Griplight	code	price
	ELE1176113	£13.98



### Rechargeable Inspection Light

Handy and robust 6+1 rechargeable LED light. Six super-bright 300 lm LED's in the front and one 100 lm LED on top. Up to three hours duration when fully charged. Rubberised grip surface with 200° rotation with magnets and rotatable hooks on the back for flexible use. USB cable for charging included. Ideal for any inspection work.

LED Inspection Lamp	code	price
	ELE1175670	£25.26

## ULTRAVIOLET WORK LIGHTS



**LED Ultraviolet Lights** These units use LEDs to create a black light effect in any venue. Available in 1 m and 500 mm lengths. They are high power, burn cool, are less fragile than conventional tubes and have a long lifetime. This LED UV Light does not produce accurate results with the Invisible UV Paints [page 27] but works well with Flints Fluorescent Powders [page 27]. 2-year guarantee.

**1 m Version:** Light source: 18 x 3 W UV LEDs. Driver current: 680 mA. Power consumption: 60 W max. Input voltage: 100 - 240 VAC 47/63 Hz. Dims: 1,000 x 60 x 115 mm. Weight: 2.3 kg.

**500 mm Version:** Light source: 9 x 3 W UV LEDs. Driver current: 680 mA. Power consumption: 30 W max. Input voltage: 100 - 240 VAC 47/63 Hz. Dims: 500 x 60 x 115 mm. Weight: 1.34 kg.

LED UV Worklight	code	list	price
1 m	ELE80328	£202.94	£172.85
500 mm	ELE80327		£99.35



### Non-LED Ultraviolet Floodlight

Stocked mainly to assist scenic artists while they paint, this new UV Floodlight is compatible with the Invisible UV Paints [page 27] and Flints

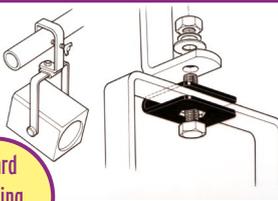
Fluorescent Powders [page 27] producing a good effect with accurate colours. 2-year guarantee.

SPECIFICATION: 240 V/ 400 W. Dimensions: 490 x 270 x 150 mm. Weight: 8.58 kg.

Non-LED UV Floodlight	code	list	Tradeline
Floodlight 400 c/w Bulb	ELE80319K	£209.58	£178.45
Spare E40 Bulb	ELE82485		£42.09

## HOOK CLAMPS

### HEADLOCKS



Award winning design!

**Headlocks** A winner of the ABTT Product of the Year Award. A simple easy-to-fit device which locks the head of the pan locking bolt so that luminaires can be tightened with just one spanner leaving your other

hand free. Headlocks are available in four sizes to fit most trunion arms. The advantages of fitting Headlocks are clear:

- ✓ Easier focusing
- ✓ Quicker focusing - 30 seconds per lantern
- ✓ Safer focusing with fewer tools being handled at height

#### What size Headlock?

Choose the 30 mm size for:

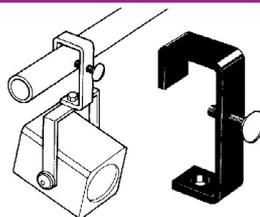
ETC Source 4, Strand SL, Thomas Par 64, Selecon Pacific

Choose the 40 mm size for:

ETC Source 4 PAR, CCT Silhouette. Strand Cantata and Harmony

Headlocks	size	code	price	Tradeline 50+
	M10 x 30	HLM1030	£3.10	£2.55
	M12 x 30	HLM1230	£3.10	£2.55
	M10 x 40	HLM1040	£3.10	£2.55
	M12 x 40	HLM1240	£3.10	£2.55

### STANDARD HOOK CLAMPS



#### Standard Hook Clamps

Our standard satin black hook clamp is great value! For Wing Bolt Spanners see page 320. For the award-winning Headlocks see above. Also check out the Doughty Space Saver on page 353.

Hook Clamps	type	finish	for tube	SWL	code	price
	Standard	Satin Black	50 mm	40 kg	FHS040HC	£8.47
	Standard	BZP	50 mm	40 kg	DOU20100	£6.88
	Medium	BZP	50 mm	100 kg	DOU20102	£6.99
	Heavy-Duty	BZP	50 mm	150 kg	DOU20400	£13.87
	Heavy-Duty	Satin Black	50 mm	150 kg	DOU20401	£13.34
	Standard	BZP	30 mm	15 kg	DOU20200	£6.58
	Standard	BZP	20 mm	15 kg	DOU20301	£8.35



**Truss Hook Clamp** A capture clamp plate prevents damage to thin wall aluminium truss. Fits 50 mm tube.

Truss Hook Clamp	SWL	code	price
BZP	40 kg	DOU21800	£10.67
Black	40 kg	DOU21801	£13.20



**Universal Hook Clamp** Fits tubes from 20 - 0 mm diameter.

Universal Hook Clamp	SWL	code	price
Black	40 kg	DOU21101	£9.99

**Tanks Traps** are really useful for making temporary structures to hold up masking, lighting booms and bauproben, see page 232.



## PREMIUM HOOK CLAMPS



**Twenty Clamp** The Twenty Clamp is an aluminium pressure die cast clamp designed to suspend luminaires up to 20 kg. This clamp can be secured to tubes with a diameter of 48 - 51 mm with just two turns of the Doughty Knob. Luminaires are secured via a captive M10 or M12 Bolt [M10 supplied]. Damage to tubes and trussing is eliminated by using an extruded trigger. This product is fully TUV Approved. Design Registered.

SPECIFICATION: Tube diameter: 48 - 51 mm. Width: 28 mm. Overall height: 100 mm. Weight: 280 g.

Doughty Twenty Hook Clamp	SWL	code	price
Black	20 kg	DOU58400	£15.91



**"Hook" Clamp** Very popular high tensile aluminium clamps widely used for attaching scenery as well as lanterns to bars and trussing. Suited to large and heavy luminaires. Width: 50 mm. Weight: 710 g.

Hook Clamp	SWL	code	price
Fitted with M12 x 50 mm bolt	750 kg	DOU57200	£33.82
Black version	750 kg	DOU57201	£39.26
Fitted with M12 x 50 mm bolt	500 kg	DOU58105	£28.68
Black version	500 kg	DOU58106	£33.15



**Triple E Hook Clamp** Designed primarily for the rapid attaching of Triple E tab tracks to truss or flying bars from 38 - 52 mm but equally suitable for attaching lanterns. Width: 30 mm. Weight: 578 g

Triple E Hook Clamp	SWL	code	price
Fitted with M12 x 50 mm bolt	100 kg	EEETRA14	£33.90

## TRIGGER CLAMPS



**Quick Trigger Clamp** This clamp is the basis of all the Quick Trigger Clamps. A large Easygrip handle is fitted for ease of use. An extremely useful clamp for hanging valuable luminaires safely and easily.

SPECIFICATION: Tube  $\varnothing$ : 38 - 51 mm. Width: 50 mm. Fixings: M12 Hole. Weight: 760 g.



**Slimline Quick Trigger Clamp** This clamp is the basis of all the Slimline Quick Trigger Clamps. A large Easygrip handle is fitted for ease of use. An extremely useful clamp for hanging valuable luminaires safely and easily.

SPECIFICATION: Tube  $\varnothing$ : 38 - 51 mm. Width: 30 mm. Fixings: M12 Hole. Weight: 490 g.

Trigger Clamps	SWL	code	price
Quick Trigger [Black]	250 kg	DOUT58201	£38.80
Slimline Quick Trigger [Black]	100 kg	DOUT58301	£36.20

## DOUBLE ENDED HOOK CLAMPS



**Double Ended Hook Clamp Parallel** Under-hangs a bar directly under the primary bar. BZP finish.

Double Ended Parallel	SWL	code	price
150 mm centre	40 kg	DOU20500	£12.96
300 mm centre	40 kg	DOU20700	£13.72
600 mm centre	40 kg	DOU20710	£15.43



**Double Ended Hook Clamp 90° Twist** Hangs a bar at right angles to the primary bar.

Double Ended Twist	SWL	code	price
300 mm centre	40 kg	DOU21700	£15.08



Please ask for a full Doughty catalogue for more hook clamps!

## BOOM ARMS

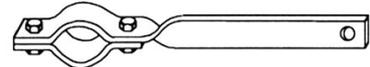


**Boom Arm 48 mm  $\varnothing$  Tube** A length of 48 mm  $\varnothing$  alloy tube welded to an aluminium coupler.

Boom Arm	max load	length	finish	code	price
	100 kg	250 mm	Self-colour	DOU57310	£58.71
	100 kg	250 mm	Satin Black	DOU57311	£62.50
	75 kg	500 mm	Self-colour	DOU57315	£65.51
	75 kg	500 mm	Satin Black	DOU57316	£70.47
	25 kg	1 m	Self-colour	DOU57320	£70.64
	25 kg	1 m	Satin Black	DOU57321	£75.50

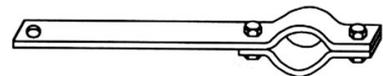
## SAFETY

Note: Max load is when used on a vertical bar.  
On a horizontal bar the arms will rotate at around 8 kg.



**Standard Boom Arm 90° Twist** Designed to hold a light to a vertical rigging pipe. Features a 90° twist.

Standard Boom Arm with 90° Twist	code	price
Standard Boom Arm	DOU30500	£13.83



**Straight Boom Arm** Designed to hold a light to a horizontal rigging pipe.

Straight Boom Arm	code	price
Straight Boom Arm	DOU30600	£13.83
Straight Boom Arm [black]	DOU30601	£18.81

For Manfrotto Super Clamps see next page.

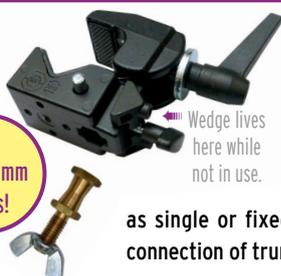
## POLY BOARD HOLDER



**Poly Board Holder** The best-looking Poly Board Holder in smart black powder coat. Floor standing. Takes a 50 mm sheet but extend their usefulness by having one side a sheet of our 25 mm white FR polystyrene and the other side a sheet of our 25 mm black FR polystyrene [find the range on page 101] – white for a soft light, black to create harsh shadows for sculpting. With four non-marking plastic stand off feet. Steel. Dims L x W x H: 457 mm x 216 mm x 267 mm.

Poly Board Holder	weight	code	price
50 mm	1.75 kg	DOUG1147	£51.43

## MANFROTTO CLAMPS



### Manfrotto Super Clamps

Very versatile and clever clamps that will grip from 55 mm Ø right down to 13 mm Ø! Supplied with a wedge to square off the jaws for fastening to flat surfaces. Available as single or fixed double. The stud will allow rapid connection of trunion arms etc.

Fits  
13 - 55 mm  
tubes!

Wedge lives here while not in use.

Manfrotto Super Clamps	WLL	weight	code	Tradeline
Single	15 kg	410 g	MAN035	£33.85
Fixed double	15 kg	830 g	MAN038	£66.38
Hex 16 mm lighting stud [M10]	15 kg		MAN174	£16.01

## DOUGHTY SPACE SAVER



'upright' position

'folded' position

### Doughty Space Saver

Both Barry and Ben were extremely impressed with this little gadget. The Space Saver allows a permanent connection of a clamp or spigot to the lamp or projector, without compromising on storage capability, as it allows the fixing to fold away. Really neat. top section has a channel to hold captive an M10 Hex nut or bolt. Bottom is machined to accept an M10 socket cap bolt and allows free orientation.

without compromising on storage capability, as it allows the fixing to fold away. Really neat. top section has a channel to hold captive an M10 Hex nut or bolt. Bottom is machined to accept an M10 socket cap bolt and allows free orientation.

Doughty Space Saver	WLL	weight	code	price
High tensile Aluminium	100 kg	100 g	DOUT85850	£35.67

## TRUSS SPIGOTS & CLIPS



**Truss Spigot Pins & R Clips** To the untrained eye these simply look like closed retaining pins, however they are the specified standard clips for the most popular Truss spigot pins. Used to secure the spigot pin into position which is in turn used to secure the coupler and truss together.

Truss R Clips & Spigots	code	price
R Clip for 67 mm Spigot pin	TSCCS6605	£0.88
R Clip for 92 mm Spigot pin	TSCCS7705	£4.21
67 mm Spigot pin	TSCCS6603	£2.61
92 mm Spigot pin	TSCCS7703	£9.08
67 mm Spigot pin with R Clip	TSCCS66K	£0.85
92 mm Spigot pin with R Clip	TSCCS77K	£3.52

## SPIGOTS

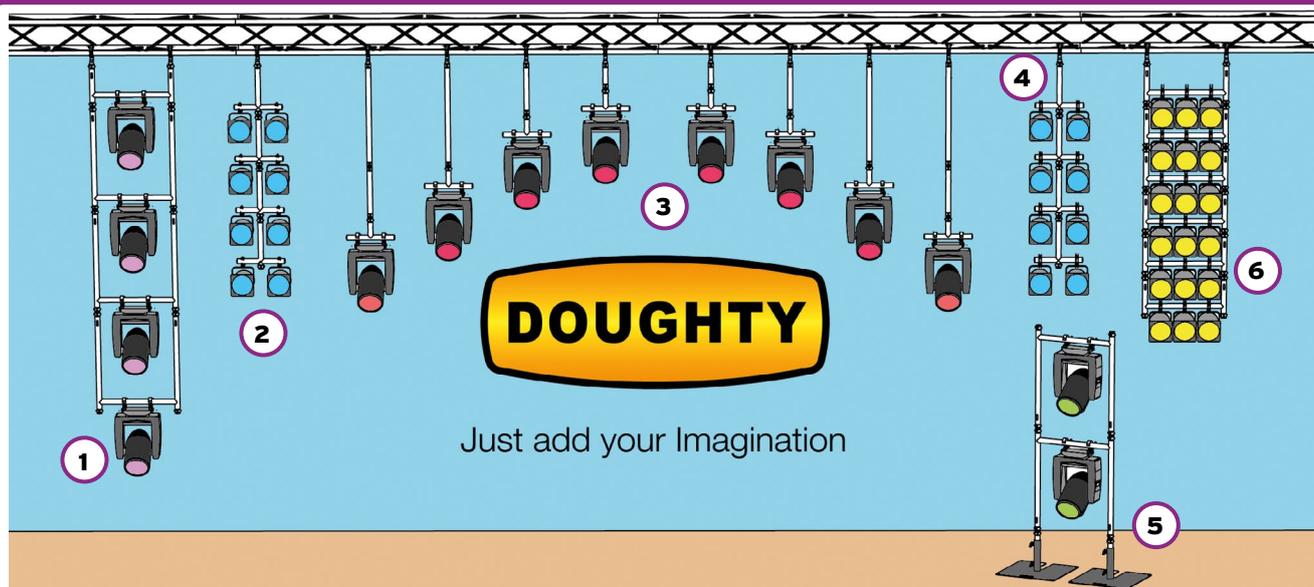


**Spigots** We have a huge array of spigot options- many of which are listed here, but for images and technical details you'll need to visit our website: [www.flints.co.uk](http://www.flints.co.uk).

Spigots	weight	code	price
M10 TV Spigot [Steel] [Euro Spec]	0.76 kg	DOUT73000	£26.74
M12 TV Spigot [Steel] [Euro Spec]	0.78 kg	DOUT73100	£26.74
M10 Female 16 mm Spigot [Aluminium]	0.04 kg	DOUT73350	£8.45
M12 Female 16 mm Spigot [Aluminium]	0.04 kg	DOUT73360	£8.45
M6 Female 16 mm Beamer Spigot [Aluminium]	0.03 kg	DOUT73391	£4.71
M10 Female 16 mm Beamer Spigot [Aluminium]	0.03 kg	DOUT73390	£4.71
M12 Female 16 mm Beamer Spigot [Aluminium]	0.03 kg	DOUT73392	£4.71
Reducer Spigot 29 - 16 mm	0.6 kg	DOUT73800	£23.49
16 mm Mini Spigot	0.11 kg	DOUT73900	£5.65
TV-Standard Adaptor 29 - 19mm	0.07 kg	DOUT74000	£5.85
TV-Mini Adaptor 29 - 16mm	0.09 kg	DOUT74100	£5.85
Roller Race TV Spigot [Euro Spec]	2.49 kg	DOUT74200	£98.80
M10 Female TV Spigot [Steel] [Euro Spec]	0.49 kg	DOUT74300	£21.88
M12 Female TV Spigot [Steel] [Euro Spec]	0.5 kg	DOUT74301	£21.88
M6 Female TV Spigot [Aluminium] [Euro Spec]	0.15 kg	DOUT74305	£21.88
M10 Female TV Spigot [Aluminium] [Euro Spec]	0.16 kg	DOUT74302	£21.88
M12 Female TV Spigot [Aluminium] [Euro Spec]	0.15 kg	DOUT74303	£21.88
M10 Steel Reducer Spigot 28 x 16 mm	0.59 kg	DOUT74307	£21.88
M12 Steel Reducer Spigot 28 x 16 mm	0.59 kg	DOUT74308	£21.88
35 mm Speaker Spigot	0.76 kg	DOUT74400	£28.67
35 mm Speaker Spigot Mount M12	0.76 kg	DOUT74402	£13.87
M12 Female TV Spigot [Aluminium] [Long Shank Euro]	0.25 kg	DOUT74500	£21.88
M10 Female TV Spigot [Steel] [Long Shank Euro]	0.6 kg	DOUT74700	£21.88
M10 Female TV Spigot [Aluminium] [Long Shank Euro]	0.23 kg	DOUT74705	£21.88
M12 Female TV Spigot [Steel] [Long Shank Euro]	0.58 kg	DOUT74710	£21.88
TV Quick Receiver	0.5 kg	DOUT74800	£54.93
TV Quick Receiver [Black]	0.5 kg	DOUT74801	£54.93
Socket Adaptor 16 x 16 mm	0.35 kg	DOUG1003	£43.91
Socket Adaptor 29 x 16 mm	0.42 kg	DOUG1002	£46.79
Spigot 29 x 16 mm Lighting [Steel]	0.56 kg	DOUG1190	£24.42
Spigot 29 x 16 mm Lighting [Aluminium]	0.19 kg	DOUG1191	£23.12

See the images and details of all the spigots available at [flints.co.uk](http://flints.co.uk)

# DOUGHTY MODULAR RIGGING



## Doughty Modular Rigging

This simple and clever modular rigging system from Doughty uses 48 mm Ø aluminium barrel in conjunction with a truss style conical coupling. The system is designed as two parts - Modular Drop Arms [referred to a 'Tee' frames] which are single arms designed to be suspended with a coupler and 'H' Frames, which can be suspended or floor-standing with tank traps.

Shown above are some examples. From left to right are:

1. Three large 'H' frames topped with a pair of trigger clamps and a small 'H' frame suspending four moving lights.
2. Four 'Tee' frames with through connectors in a ladder configuration, shown with par cans or similar.
3. An arc of Modular 'Tee' frames with various extensions to create this shape. These can be made more rigid for larger luminaires by using an inverted 'Tee' frame at the top and connecting to the truss with two parallel couplers.
4. Four 'Tee' frames with through connectors in a ladder configuration, shown with par cans or similar.
5. A Pair of large 'H' frames connected to two tank traps via adapters creating a floor standing assembly.
6. A large bank of par cans or similar suspended on two clamps/couplers with six small 'H' frames connected.

See our website for full details, images, and specifications



**Modular 'Tee' Frames** Available as a short version [220 - 250 mm], and a tall version [470 - 500 mm] which also has the option of a through connector style to allow the connection of another module below. All 450 mm wide and provided with tapered pins at connection points.

Modular 'Tee' frame	weight	silver	black	price
Short	1.30 kg	DOUT45760	DOUT45761	£92.60
Tall	1.92 kg	DOUT45765	DOUT45766	£97.24
Tall with through Connector	2.11 kg	DOUT45767	DOUT45768	£149.70



**Modular 'H' Frames** Available as a shorter version [220 - 250 mm] or a taller version [470 - 500 mm]. Both 450 mm wide and provided with tapered pins at connection points.

'H' Frame	weight	silver	black	price
Short	3.33 kg	DOUT45900	DOUT45901	£231.50
Tall	6.00 kg	DOUT45910	DOUT45911	£262.34

Rigging Extensions	weight	silver	black	price
250 mm	0.66 kg	DOUT45775	DOUT45776	£111.35
500 mm	1.11 kg	DOUT45780	DOUT45781	£118.85
1000 mm	1.99 kg	DOUT45785	DOUT45786	£129.72
2000 mm	3.50 kg	DOUT45790	DOUT45791	£146.62

Adjustable Extension	weight	silver	black	price
1.0 - 1.7 m	2.80 kg	DOUT45795	DOUT45796	£249.08
2.0 - 3.7 m	2.80 kg	DOUT45797	DOUT45798	£344.95



**Drop Arm with Stirrups** Designed to connect to the bottom of extension arms to create a hanging point for larger luminaires

Drop Arm with stirrups	weight	silver	black	price
	1.36 kg	DOUT45770	DOUT45771	£91.35



**Connector** Required to link each of the modular components. Tapered pins are supplied with each module, but spares also available. The half connector has an M12 internal thread for attachment via a bolt to a clamp or eye of your choice. We can supply a wide range of these connectors, see our website for further details. The Doughty Clamp version listed here has a SWL of 100 kg and weighs just 780 g.

Connector	colour	code	price
Connector	silver	DOUT45755	£15.75
Spare pin	silver	DOUT45756	£6.97
Half connector M12 thread		DOUT45750	£27.75
Doughty Clamp	Black	DOUT45801	£54.02

Tank Trap Adapter	weight	silver	black	price
	0.84 kg	DOUT45757	DOUT45758	£69.45

Safety Bond	weight	silver	black	price
with moving light hook	0.14 kg	DOUT45855	DOUT45856	£22.45

# PROJECTION

## PROJECTION SCREENS

We stock a comprehensive range of projection screen materials, each with their own properties and suited to different applications. Screens are generally matt at the front to minimise the unwanted effects of ambient light. Available by the metre, or as made up screens.

**Front White** A highly opaque, reflective material for front projection. Best used where a bright image and wide viewing cone are required. Tough all-round screen, suitable for both full screen and full-frame soft-edge projections. Popular for cinemas.

SPECIFICATION: Thickness: 0.3 mm, Gain [front]: 0.98, Seaming possible: YES, Material: PVC, Flame Retardancy: EN 13501-1 B-s3, d0, BS 5867, NFPA 701, Weight: 400 g/m<sup>2</sup>, Screen type: D.

**Twin Creamy White** Designed for front or rear projection, whilst maintaining excellent brightness [though slightly reduced from the rear]. Wide viewing angles make this the most popular of screen materials. Particularly useful for projecting backdrops.

SPECIFICATION: Thickness: 0.3 mm, Gain [front]: 0.77, Gain [rear]: 0.32, Seaming possible: YES, Material: PVC, Flame Retardancy: EN 13501-1 B-s3, d0, NFPA 701, Weight: 400 g/m<sup>2</sup>, Screen type: D / R.

**Twin Black** Used in situations with high quantities of ambient light, has fine detail resolution when back lit with a strong image. Ideal for use when the screen needs to be inconspicuous until needed for projection, although it has a narrow field of view.

SPECIFICATION: Thickness: 0.3 mm, Gain [front]: 0.14, Gain [rear]: 1.25, Seaming possible: YES, Material: PVC, Flame Retardancy: EN 13501-1 B-s3, d0, NFPA 701, Weight: 400 g/m<sup>2</sup>, Screen type: D / R.

**Twin Grey** Highly resistant to scattered and ambient light whilst maintaining good light distribution, the high diffusion makes it ideal for blended projections. The image contrast may be lower than with other screens.

SPECIFICATION: Thickness: 0.3 mm, Gain [front]: 0.31, Gain [rear]: 0.24, Seaming possible: YES, Material: PVC, Flame Retardancy: EN 13501-1 B-s3, d0, NFPA 701, Weight: 400 g/m<sup>2</sup>, Screen type: D / R.

Full rolls can be supplied with a self adhesive backing to special order.

Projection Screen Material	width	code	price
			per linear metre
Front White	2 m	PRSC01	£51.00
Twin Creamy White	2 m	PRSC02	£51.00
Twin Black	2 m	PRSC03	£51.00
Twin Grey	2 m	PRSC04	£51.00

**Made Up Projection Screens** Screen material can be welded to create larger sizes or made up into screens with eyelets or pockets. Please email a sketch of your screen for a quotation. Our sales staff will require written confirmation of the sizes before processing the order, and there is a 10-14 day lead time. For Spanfixes see page 205. For Holdons see page 138.

### For budget projects... or those in a hurry

We'd recommend checking out the Holdons [see page 138] to add a connection point to stretch the screen, or eyelet kits [see page 137]. Combining either of these with Spanfixes or bungee cord loops [see page 205] and a scaffolding frame [see page 232] and you've got a first class projection screen! If you're really on a budget you can probably get away with a piece of canvas [see page 134], but you'll get a much better effect with a proper screen, and a decent projector.

## PROJECTION PAINT

Over the years we have come across many different projection screen paints. None of them have come close to impressing us as much as HatoScreen [below], and this is now the only projection paint we stock. However, do be aware, that with paint, preparation is key! The surface must be super smooth.



Photo courtesy of Studio Hamburg – the back image is projected onto Black HATOScreen.



### HATO@Screen **Black** or **White** Projection Paint

We were very impressed when we saw painted surfaces burst into life with colour-faithful projections. Sounds extravagant but this HATO@Screen Projection Paint turns wood, concrete and, as it's flexible, even textiles into a surface that will reproduce a very good image with uniform brightness.

Excellent luminance – sends more light back than you throw into it – and image reproduction when seen from almost any angle. Preparation is everything: if brushed on it will show the grain so for best results spray first with a primer then apply by spraying. People were so impressed when we demonstrated this at the ABTT in 2016 - they quite often thought our screen was an LCD display!

\*NB: The paint's metallic sheen makes it appear more dark anthracite rather than pitch black when put next to black surfaces.

Black\*  
projection  
paint!

Water-based. For large areas we can also supply 12 L sizes, call us to discuss your project. Covers 6-8 m<sup>2</sup> per litre.

HATO@Screen	size	code	price
Black [appears dark grey]	1 L	PAT24002	£72.78
Black [appears dark grey]	5 L	PAT24003	£289.00
White	1 L	PAT24001	£69.98
White	5 L	PAT24004	£289.00

# HEAD TORCHES

## HEADLAMP TORCHES

### Headlamp Torches

Essential kit for working backstage especially during lighting rehearsals. Frees up both hands allowing you to concentrate on the job and hang on to the ladder. The light source is close to your eyes ensuring the beam is thrown just where it is needed. Also handy for cycling home and outdoor pursuits. All our head torches are individually tested and have a three-year guarantee.

Twice as bright, longer burn time



**Petzl PIXA® Range** Designed specifically for professionals who regularly work in the dark. One of their main benefits is their durability: if it gets thrown into your kit bag or dropped from a lighting truss [2 m] there is a very good chance they will not break. Reliable and easy to use providing lighting whilst keeping hands free for efficient, comfortable work. 2 x AA batteries [included]. Three-year guarantee.

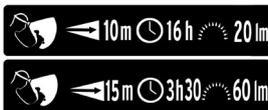


Each of the Pixa® Range listed has these outstanding features:

- ✓ Waterproof up to a depth of 1 m for 30 minutes. IP67
- ✓ Constant Lighting technology with no fading light – when the batteries are near depletion, indicated by a blinking light, these headlamps switch to reserve lighting of 10 lumens lasting from 6.5 hours [Pixa® 1] to 13 hours [Pixa® 2 and 3].
- ✓ Built to withstand a fall of up to 2 m
- ✓ Chemical resistant
- ✓ Withstands a crushing pressure of 80 kg
- ✓ Washable headband
- ✓ Designed for use in explosive environments [ATEX: zone 2/22]
- ✓ Chunky selector knob is easy to use even with gloves
- ✓ The body can be rotated to protect the lens and lock off the switch
- ✓ All torches come with a mounting plate for direct attachment to Vertex and Strato helmets [page 340]
- ✓ Can also be placed on the ground with the light tilted to suit your work position

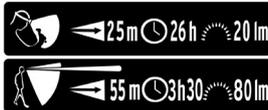
The PIXA® line comes in three models adapted for different uses:

60 Lumens



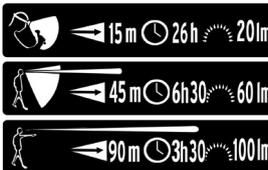
**Pixa 1:** An economical and very popular choice, mainly used for close range work. Wide beam in two modes [high and low].

80 Lumens



**Pixa 2:** The mid range option used for both close range work [wide beam] and walk lighting [mixed beam pattern].

100 Lumens



**Pixa 3:** Top of the range version offering the perfect solution for a wide range of situations, from close range work to walk lighting and even long distance lighting using a focussed beam of up to 90 m.

Petzl PIXA®	battery life (ANSI/NEMA FL1)			weight	code	price
	close	med	long			
PIXA 1	22 h 30	n/a	n/a	165 g	PETE78AHB2	£32.00
PIXA 2	39 h	16 h 30	n/a	166 g	PETE78BHB2	£45.00
PIXA 3	39 h	19 h 30	16 h 30	168 g	PETE78CHB2	£60.00

Includes Petzl Core battery!



**Petzl Tactikka® Core** Lightweight multi-beam headlamp with red lighting to preserve night vision and Petzl Core rechargeable battery included. Max Power of 450 lumens at 90 m for 2 hours. Black.



✓ Three white light modes: proximity, movement, distance vision

450 Lumens

✓ Two red light modes: proximity [2 lumens for 60 hours] and strobe

✓ Ergonomic single button to activate and change settings, even if gloved

✓ Comfortable and adjustable elastic headband with a clasp

✓ Constant Lighting technology

Water resistant for all-weather use IPX4. Operates on the Petzl Core [incl. charge time 3 hrs] or 3 x AAA/LR03 batteries [not incl.] without the need for adaptor. Five-year guarantee.

Petzl Tactikka® Core	weight incl Petzl Core	code	price
	77 g	PETE099HA00	£54.50



**Petzl Core** Large capacity Li-Ion 1250 mAh rechargeable battery for use with the Tikkina® and the Tactikka®. Universal charging via the integrated USB port [cable included]. Charging indicator displayed on the battery.

Petzl Core Battery	weight	code	price
	23 g	PETE99ACA	£24.94

Fantastic Value!



**Petzl Tikkina®** An excellent everyday headlamp with a wide beam and three lighting modes. At maximum brightness [300 lumens] the headlamp has a range of 65 m and burns for 2 hours. Max burn time mode [7 lumens] has a range of 10 m and a burn time of 100 hours. Grey.



✓ Single push button for quick lighting mode selection

300 Lumens

✓ Washable elastic headband that's easily adjusted

✓ Easy open battery case for fast battery changes

Water resistant for all-weather use IPX4. Battery compatibility: 3 x AAA/LR03 batteries [included] or CORE rechargeable battery [sold separately - see above]. Five-year guarantee.

Petzl Tikkina®	weight inc batteries	code	price
	92 g	PETE060AA00	£16.63



**Petzl E+LITE®** Ultralight and very compact, the e+LITE® emergency headlamp should always be with you. Ready to use in its

40 Lumens

heat storage case, it can be stored with its batteries for 10 years in a vest or an emergency kit, etc. Its white or red, continuous or strobe lighting allows you to be seen and to signal an emergency.

Includes a whistle!

✓ White close range work mode [15 lumens up to 6 m] allows you to move around easily in the dark

✓ For emergency situations, the red LED allows you to be seen from a distance [100 m for 15 hours, or in strobe mode 100 m for 70 hours]

✓ Locking on/off switch designed to prevent accidental operation

✓ Resists extreme temperatures: -30 °C to +60 °C

Waterproof up to a depth of 1 m for 30 minutes, IPX7. Operates on 2 lithium CR2032 batteries [included]. Certification: Certified CE, ATEX [Ex II 3 GD Ex in IIC T6, Ex tD A22, IP 68 T85°C].

Petzl E+Lite®	weight inc batteries	code	price
	26 g	PETE02P4	£20.78

# HAND TORCHES

## Hand Torches

Hand torches have greatly improved in the last decade. With reliable LED technology it is possible to incorporate powerful beams into much smaller torches. However, LED technology isn't simple. We have tested torches that completely failed after relatively short periods, some LEDs cause radio interference, others start flickering. We hope that the ones we have listed will provide you with long-lasting and impressive service. Sadly, there is no magic involved. More Lumens means more energy and a shorter battery life, although improvements in batteries is helping here. You will need to decide when you are most likely to need a torch and what for. Sometimes a dull torch is better if you need to illuminate a working drawing, script or map as it will help to preserve your night vision. If you are on event security patrol a really powerful beam will help. You need to decide if you will carry it on your belt or in your pocket? Do you really need a strobe? Hopefully, you will find your perfect torch here.

## SMALL INSPECTION TORCHES

The perfect inspection torch



120 Lumens

**LED Lenser® P4 Core** Slim pen like torch which is ideal for engineers and technicians made from aircraft grade aluminium. Water Resistant to IP54.

NEW TYPE

Three power modes:

- Low Power – 15 lumens; 25 meters for 20 hrs
- Mid Power – 60 lumens; 55 meters for 9 hrs
- Standard Power – 120 lumens; 90 meters for 5 hrs

☐ Comes With: 2 x AAA Batteries & Pocket Clip

LED Lenser® P4BM	LED Colour	code	list	Tradeline
P4BM	High output white	LEDP4C	£32.50	£21.29

It's powerful!



37 Lumens

**Maglite® Solitaire LED** Using just one AAA battery, the Solitaire is a smaller and lighter option than the P4BM above. It is really a key ring torch but makes a great small inspection torch too. It also whacks out an impressive 37 lumens. The catch is the battery life is correspondingly lower. Black.

1 x AAA. Dimensions: 81 x 12.7 mm. Beam length: 61 m. Battery duration 1 hr 30 mins. Weight: 24 g.

☐ Supplied with: batteries and key holder.

Maglite® Solitaire LED	code	list	Tradeline
Solitaire	MAG10ILED	£24.16	£22.20

## POCKET TORCHES

It even has a bike mount!



NEW TYPE

**LED Lenser® P5 Core Torch** Compact, Powerful

Lightweight Torch with three power modes:

☑

Low Power – 15 lumens; 30 meters for 12 hrs

Mid Power – 60 lumens; 60 meters for 5 hrs

Standard Power – 150 lumens; 90 meters for 2.5 hrs

£

☑

☑ Convenient pocket size and light weight

☑ One-handed on/off button. A really useful feature

140 Lumens

☑ One-handed push speed focus

☑ Single AA battery. Keep a spare in your pocket, it is a better solution than having both go flat in the torch

☑

☑ 140 lumens giving a stunning 120 m beam!

☑ Suitable for use down to -20°C

☑ Gold-plated contacts

Weight 83g. Water resistant to IP44

☐ Supplied with: 1 x AA Battery & Wrist Strap



**Bike Mount for the P5** Fits torches that are 18 - 25 mm Ø such as the P5 above. Fixes to handlebars up to 32 mm with a bolt and plastic nut you can tighten with your fingers but is supplied with a rubber strip to provide grip to smaller diameter bars. Has rotate function to precisely place your beam.

LED Lenser® P5	code	list	Tradeline
P5 in belt pouch	LEDP5C	£41.63	£35.48
18 mm Bike mount	LED7799PT5	£9.12	£8.21



£

**Mini Maglite® AA** The classic incandescent Maglite®. Under 6 inches long with an adjustable beam plus the unique "candle mode".

14 Lumens

Black.

Dimensions: 146 x 25.4 mm. Beam length: 96 m. Battery life: 5 h 15 min. Weight: 108 g.

☐ Supplied with: 2 x AA batteries.

Mini Maglite® AA	code	list	Tradeline
Mini Maglite® AA	MAG0301	£24.99	£18.53

See the next page for our excellent value professional batteries.



## MINI MAGLITE® LED



77 Lumens

**Mini Maglite® AA LED** The second generation Mini Maglite® with a multi-mode electronic switch which offers FOUR operating modes – high power, low power, blink and SOS.

- ✓ A powerful beam that focuses by rotating the head
- ✓ Balanced Optics™, combining a highly refined reflector with a quality LED, for a brilliant adjustable beam
- ✓ Intelligent Energy Source Management (patent pending) balancing high brightness with extended battery life
- ✓ “Candle Mode” – unscrew flashlight head, place head down on stable flat surface and set flashlight barrel into head

Batteries: 2 x AA. Dimensions: 168 x 25.4 mm. Beam length: 141 m. Battery life: 10 h 45 min [31 h 30 min on low]. Weight: 118 g.

☐ Supplied with: 2 x AA batteries and a nylon pouch.

Maglite® AA LED Torches	code	list	price
AA LED in nylon pouch	MAG361LED	£56.99	£39.90

## HAND TORCHES



NEW TYPE

**LED Lenser® P7 Core Torch** Successor to the popular P7, the P7 Core has an advanced focusing system for efficient flood light and focused spot lighting. This compact torch easily slips into a jacket pocket and can be used with a Bike Mount when its long beam really comes in handy. In fact, the beam is as bright as many motorbikes. Water resistant to IP54.

450 Lumens

3 power modes [time to 30% power]:

Low Power – 40 lumens; 100 meters for 25 hrs

Mid Power – 250 lumens; 220 meters for 2 hrs

Standard Power – 450 lumens; 300 meters for 1 hr

Batteries: 4 x AAA. Weight [with batteries]: 175 g.

☐ Supplied with wrist strap, and batteries.



**Bike Mount for the P7** A well-built 25 mm bike mount that will fit torches up to 29.5 mm Ø such as the P7. Improved design, now with a rubber strap to keep your torch snugly in place. A rotate function precisely places your beam.

P7 Professional Torch and Bike Mount	code	list	Tradeline
Torch	LEDP7C	£62.46	£49.95
25 mm Bike Mount	LED7799PT	£9.12	£8.21

## TORCH ACCESSORIES



**Nite Ize® Lite Holster S-T-R-E-T-C-H** A universal holster which stretches to fit most shapes and sizes of torches. Fits from AAA, AA, L123 to C and D cell torches. Belt clip rotates 360°, locks in 8 positions and fit belts up to 2 3/8" wide. The open ended design allows access to a torch's tail cap switch.

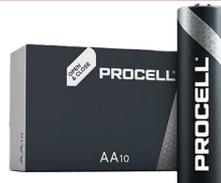
Nite Ize® S-T-R-E-T-C-H	code	price
	MAGLHS03	£8.24



**Nylon Holster for Mini Maglite® AA** Very popular Maglite® accessory. Full flap with a belt loop.

Maglite® Nylon Holster for AA	code	price
	MAGAM2A051	£7.33

## BATTERIES



**Procell Alkaline & Lithium Batteries** The professionals' choice for hand torches and radio microphones. Great value, why not stock up now?

Duracell Industrial Batteries	code	price	Tradeline 10+
AAA [1.5 V]	DURAAAN	£0.39	£0.34
AA [1.5 V]	DURAAAN	£0.39	£0.34
C	DURCN	£0.98	£0.85
D	DURDN	£1.49	£1.27
9 V	DUR9VN	£1.49	£1.27
CR123 Lithium	DURCR123N	£0.95	£0.76



**Coin Cell Batteries** Choose the Duracell Alkaline LR44 type to power the Faithfull Digital Calipers [page 293]. Both types sold in packs of two.

Coin Cell Batteries	qty	code	price
CR2032 [3 V Lithium]	pack of 2	DURCR2032	£1.95
LR44 [1.5 V Alkaline]	pack of 2	DURLR44	£1.50

### Suggest a Product!

Do you have a torch in mind that you think we really must stock? Or just a product in general? We want to know! Please scan this QR code to be taken to our “Suggest a product” form:



# MATERIALS HANDLING

## SKATE WEIGHTS

NEW



See stage weights on page 152

**Weight Skate XL** Flints is synonymous with Stage Weights but we haven't ever stocked anything to help you move them around... but now we have the Weight Skate; designed to carry up to 24 stage weights with a welded steel frame that weights neatly stack into. Think of this like a very fancy and much safer dolly. The

frame extends on two sides for you to have a two handed grip whilst manoeuvring. Great for moving weights around but also a compact weight storage frame with heavy duty braking castors and a black finish, so can be discretely stowed away backstage. The Weight Skate can also be customised with your own logo if you wish, please get in touch with us for a quote!

Specification: Dimensions: 53cm (W) x 52cm (H) x 54cm (D)

Weight Skate XL	code	price
Weight Skate XL	FHS023WSXL	£400.00
Weight Skate XL + 20 Stage Weights	FHS023WSXLK	£995.00

## PANEL CARRIERS



**Panel Carrier – The Original** Transforms lifting heavy panels into an effortless task due to a clever ergonomic design. The cams quickly [and gently] lock onto any panel up to 65 mm thick at a comfortable handling height. This prevents having to bend down to get your fingers under heavy panels and saves your back from undue strain. The comfy handgrip protects your hands from sharp

edges and splinters. This particular design can also grip the top of narrow panels which panel lifters, with a single central leg, are unable to do.

☐ Supplied in a box with: two handles. Red rubber handle.

Panel Carrier	Load limit	takes panels	code	price
Per pair	75 kg	65 mm	TOLZKH01	£128.45

## PLATE SKATES



**Plate Skates** These useful devices will grip panels up to 56 mm thick and take loads of 250 kg on their strong 150 mm Ø wheels. Ideal for moving heavy flattage or sheets of ply from lorries or around stage. Just use one in the centre of the panel and the crew can manoeuvre heavy items with ease.

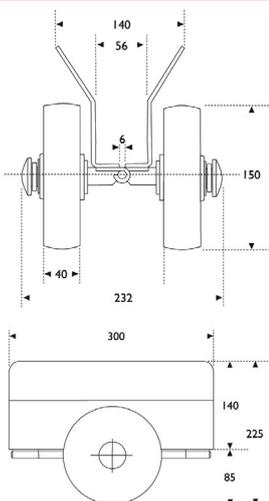


Plate Skates	capacity	takes panels	code	price
	250 kg	56 mm	CASPS15056	£60.90

## RATCHET STRAPS



F



50 mm width has these handles.

**Rubberised Handle Ratchet Straps** Very well made 8 m ratchet straps with a comfortable easy to use handle mechanism. We like them.



25 mm width has handles like this.

SPECIFICATION: Breaking strain: 25 mm = 1.5 tonnes, 50 mm = 5 tonnes.

Ratchet Straps	code	price	10+
length width end fittings			
8 m 25 mm Endless	RS25RE	£7.78	£6.95
8 m 25 mm Claw Hooks	RS25RC	£7.58	£6.90
8 m 25 mm Delta	RS25RD	£7.58	£6.90
8 m 50 mm Endless	RS50RE	£13.21	£11.63
8 m 50 mm Claw Hooks	RS50RC	£15.41	£13.55
8 m 50 mm Delta	RS50RD	£15.41	£13.55



**Tie Off Webbing** Soft and flexible, this webbing is ideal for securing scenery in trucks when ratchet straps are not suitable. Made from 1 mm thick white polyester. For other Polyester Webbing see page 208. For Roping Eyes see page 252.

Tie Off Webbing	width	Min BL	code	per m	100 m+
	25 mm	1,300 kg	ROPBW	£1.59	£1.00

## ROLLER CROW BAR



**Roller Crowbar** Essential equipment for fitting-up heavy steel scenery and trucks whilst aligning bolts or servicing castors. Now fitted with 75 mm diameter steel rollers. For other Crowbars see page 305.

SPECIFICATION: Handle length: 2 m. Load capacity: 1.5 tonnes. Max skate height: 145 mm. Weight: 13 kg.

Roller Crowbar	code	price
	CAS800	£163.90



**Low Plate Roller Crowbar** This model has a heavy-duty fabricated flat plate giving it a low profile, enabling it to get right under heavy scenery with little ground clearance. Fitted with 70 mm diameter steel rollers.

SPECIFICATION: Handle length: 1.5 m. Load capacity: 5 tonnes. Weight: 11 kg.

Low Plate Roller Crowbar	code	price
	CASV4402	£112.85

Capable of lifting loads up to 5,000 kg!

## SACK TRUCKS



**Heavy-Duty Folding Sack Trucks** A versatile sack truck which is strong and robust. Fully welded tubular steel, epoxy coated. The toe folds up for easy storage.

SPECIFICATION: Max load: 200 kg. Dims: 960 mm high x 500 mm wide. Foot size: 310 x 330 mm deep. Wheels: 200 x 50 mm. Weight: 10 kg.

Folding Truck	code	Tradeline
	TS182H	£152.78



**Stair Climbing Trolley** The foot folds up allowing it to be stored or carried in the boot of a car. We recommend the use of a ratchet strap when shifting items like driers or washing machines.

SPECIFICATION: Max load: 150 kg [50 kg on stairs]. Foot iron size: 355 x 395 mm deep. Wheels: 160 mm x 40 mm rubber tyre plain bearing wheels. Weight: 20 kg.

Stair Climbing	code	Tradeline
	TS160Y	£140.30



**Compact Folding Trolley** This is a useful and well made compact trolley for transporting loads of up to 50 kg. The wheels automatically fold flat for slim storage. It comes with a 1,060 mm bungee cord to help secure goods.

SPECIFICATION: Max load: 50 kg. Dims [when folded]: 670 x 336 x 100 mm. Wheels: 100 mm Ø. Weight: 2.75 kg.

Compact Trolley	code	price
	SAFFTB	£44.75

## VIKING ARM



**Viking Arm** This reversible squeeze trigger clamp that can be used to pry things apart or forcibly bring them together. Used in the construction industry for the installation of windows and doors we think this ingenious tool is great for installing castors. Each arm has 150kg lifting capacity so if set on 4 corners it's a powerful squeeze trigger jack. To reverse simply unscrew bolt at the top of the clamp and reverse the handle.

There are also 2 options for release of the clamp, full release or a gradual allowing for fine adjustment both release buttons are located at the back of the handle.

SPECIFICATION: Made from Stainless Steel/Hardened Carbon Steel/Aluminium. Lifts: from 7 to 215mm. Base Size: 105 x 87mm (6 mm thick plate)

Viking Arm	code	list	price
	TOLVM	£162.00	£149.00

## PLANKFORM™



Watch the video!



Shorten the legs for a bench to sit and have a cuppa.



**PlankForm™** Alasdair Flint's brainchild, PlankForm™, spawned from a need for trestle tables which could be stored in a small space, be transported easily, and have endless uses. Simply slot a scaffolding board of your desired length [38 mm x 225 mm] through two PlankForm™ units and it will transform your plank into a platform. The legs are simply four scaffolding tubes of the same length. You can create anything from a low bench to a 7' frame for a swing.

- ✓ Easily fits in the boot of your car
- ✓ Extremely versatile! Use any length of scaffolding plank and tube
- ✓ The horizontal bar between the sockets is perfect for hanging items like tools or a paint kettle
- ✓ Wingnuts threaded into the sockets keep the trestle secure and stable.
- ✓ Create multiple trestles to create a supporting surface to work on.

Available as just the PlankForm units alone, or as a kit to make a work surface as shown above measuring 900 mm high, 985 mm long, and 225 mm wide. The kit includes:

- 1 pair of basic units [1 per end]
- 4 x 900 mm size 8 Aluminium Scaff legs [complete with end caps]
- 1 x Scaff board [38 x 225 x 985 mm]

PlankForm™	code	price
Plankform basic units alone	FHSPKF	£33.29
Plankform Kit - inc 4 legs + board	FHSPKFK	£71.00

## TOUGH TRUCKS



**Rough Terrain Turntable Truck** Multi-purpose trucks ideal for unloading flight cases and tool boxes from lorry to stage. Tubular steel surround with safe radius-ed corners and aluminium top. The handle springs up to vertical position when not in use. Ball bearing turntable and 250 mm Ø cushioned wheels.

SPECIFICATION: Max load: 500 kg. Platform size: 1,000 x 650 mm. Weight: 36 kg.

Turntable Truck	capacity	code	list	Tradeline
	500 kg	GP717J	£563.10	£499.00

# HOUSEKEEPING

## BROOMS



**Platform Brooms** Top quality pure Gumati bristles. Gumati is softer and finer than Bahia Bass. It is very hard wearing and excellent for sweeping dry concrete workshop floors or smooth stage floors. Complete with handle and stays. A pleasure to sweep with!

Platform Broom	code	price
18" wide [457 mm]	SAF320	£20.39
24" wide [610 mm]	SAF321	£25.75
36" wide [914 mm]	SAF322	£37.95



**Yard Broom** Not a yard wide, but a stiff 24" [610 mm] wide broom for sweeping the yard and you know it could do with a good sweep. PVC bristles.

Yard Broom	code	price
24" wide [610 mm]	SAF638	£18.45

**Broom Handles** Size SAFW611 fits Squeegee Heads [next page] and Roller Frames [page 81].

Broom Handles	code	price
4ft x 1 1/8" [1,220 mm x 28.5 mm]	SAF310	£2.46
4ft x 1 5/16" [1,200 mm x 23 mm]	SAFW611	£2.40
5ft x 1 1/8" [1,525 mm x 28.5 mm]	SAF311	£3.04



**Broom Clips** Give your brooms a home. It's poor form to leave a decent broom standing on its head.

Broom Clip	code	price
	GEN080	£1.60

## MAGNETIC SWEEPERS



**Magnetic Sweeper** This is a neat wheeled magnetic sweeper with a telescopic handle capable of collecting up to 20 lbs of magnetic items. Ideal for collecting tacks after stage cloths have been changed. Use it around the workshop to recycle or sort out dropped screws and nails. Run it over the stage after the fit-up to ensure nuts, nails, washers, swarf and filings do not cause damage to scenery tracks or equipment such as solenoids as well as safeguarding against injury to stage staff, actors' or dancers' feet. A great value piece of stage equipment. We're really impressed with this new version.

Magnetic Sweeper	code	price
	TOLMS4604	£29.95

## BRUSHES, PANS AND SHOVELS

### Banister Brushes



Banister Brushes	code	price
Soft	SAF584	£2.72
Hard	SAF595	£2.81

### Dustpans



Dustpans	code	list price
Metal	SAF920	£12.24/£10.40
Plastic	SAF851	£6.79
Plastic Dustpan & Brush	SAF1655	£6.55



**Shovel** A Spear and Jackson square shovel with a 28" [711 mm] ash handle and T grip. Type 2029AV.

Shovel	code	price
12 1/2" x 10" [317 x 254 mm]	SAF326	£19.98

## HAND SPRAYERS



**Hand-held Misters** Strong hand sprayers with a wide range of uses such as damping down floors prior to sweeping or applying flame retardant. We stock the popular and economical Kingfisher 2 pint version and the extra robust Hozelock Spraymist.

Hand-held Misters	code	price
Kingfisher Economy [1.5 L]	SAFS4000	£4.65
Hozelock Spraymist Sprayer [1.25 L]	SAFHOZ4122	£21.61

See page 88 - 94 for other Spray Equipment.

## MOPS



**Mops** The handle includes the bracket to hold the head. There is some debate as to which head to choose. The twine one is natural and has thinner strands and the PY one is artificial and has thicker strands. The artificial one is supposed to be more absorbent but we sell three times as many twine heads to PY heads.

Mops	code	price
Aluminium Mop Handle	SAFWT802	£11.32
Twine Head	SAFWT800	£3.90
PY Head	SAFWT799	£4.40



**Sponge Mop** Mop with extra long 1.27 m handle.

Sponge Mop	Frame	code	price
Mop Frame	320 mm	SAFSPNGFRM1	£27.29
Sponges for Frame		SAFSPONGE2	£9.32

## DUSTING MOP



**Scissor Dusting Mop** Ideal for sweeping stages and large surface areas. Mop measures 3' when closed and extends to 6'6" [914 x 1,981 mm].

Scissor Brush	code	list	Tradeline
Complete	SAF316K	£123.58	£95.00
Spare head	SAF5102		£44.53

## SQUEEGEES



### Wooden Squeegees

Useful for laying vinyl floors. The rubber can also be cut away so that they can be used

to apply wood grain texture to areas where the small Rubber Rockers [page 78] would be inappropriate. Supplied without broom handles. See previous page for 1 1/8" handles to fit.

Squeegees	width	code	price
	18" [457 mm]	SAFWT513	£5.42
	24" [610 mm]	SAFWT515	£6.56

## BINS AND BUCKETS



**Plastic Dustbin** Available in black. Comes with a lid. Ideal for mixing large quantities of paint or texture. Also make useful dustbins.

Plastic Dustbin	code	price
90 litre	SAF860	£23.72



**Galvanised Metal Dustbin** Comes with metal lid. Type 911.

Galv Metal Dustbin	code	price
18" x 24" [457 x 610 mm]	SAF911	£26.00



**12" Galvanised Bucket** Useful for warming glue size, use two buckets, put a brick and some water in the outer one. British Made.

12" Galvanised Bucket	code	price
	PBR619	£19.95



**Builder's Bucket** Black lipped plastic bucket for general use and paint mixing.

Builder's Bucket	code	price
	PBR614L	£3.50



**90 L Mortar Tub** A large plastic tub for mixing textures etc.

Mortar Tub	code	price
610 mm Ø	SAFWT9001	£22.10



## Gorilla Tubs

These multipurpose highly flexible tubs are ideal for mixing large batches of texture. Available as 35 litre shallow version shown above or deep versions to take 42 or 75 litres.

Gorilla Tubs	diameter	height	code	price
35 L shallow	570 mm	160 mm	GORTUB35	£18.09
42 L deep	440 mm	330 mm	GORTUB42	£12.90
75 L deep	580 mm	370 mm	GORTUB75	£27.39



**Step on it Bucket** Great for use with our Mops listed on page 361.

Step on it Bucket	code	price
	SAFWT902	£45.98



**Galvanised Mop Bucket** I can't really think of much to say about this bucket but I'll give it a go. This is the epitome of elegant and stylish galvanised holloware.

Mop Bucket	code	price
	SAF331	£18.40

## FIRE BUCKETS AND EXTINGUISHERS



**Fire Bucket** A useful prop as well as a fire bucket. For Flame Retarding solutions see page 70.

Fire Bucket	code	price
Bucket	SAF327	£25.38
Bracket	SAF328	£5.25
Lid	SAF329	£6.63



**Fire Extinguishers** These all-purpose dry powder domestic and semi-trade extinguishers will fight most common fires [Classes A,B,C], which includes wood, paper, cloth, plastic, flammable liquids, gas and electrical fires. Both have a six-year warranty. Suitable for vehicles and boats.

Conformity: BS EN 3:1996.

Fire Extinguishers	code	price
Kidde Multipurpose 1 kg	KIDLSTKG	£25.75
Kidde Multipurpose 2 kg	KIDKSPD2G	£42.54

## PLASTIC TUBING



**Clear Tubing** For practical uses, such as water levels, preventing rope from chafe, and proppy uses. Useful to slide over wire rope prior to splicing to protect items such as truss [or bikes!] from getting scratched. Not suitable for suction.

Clear Unreinforced Tubing		code	per m	30 m+
internal Ø	wall thickness			
3/16"	1/16"	SAF1080	£0.73	£0.46
1/4"	1/16"	SAF1081	£0.75	£0.47
1/2"	1/16"	SAF1084	£2.00	£1.02
3/4"	1/8"	SAF1091	£4.49	£2.98
1"	1/8"	SAF1093	£5.94	£4.38

## POLYTHENE SHEETING, BAGS AND WRAPPING



**Clear Polythene Sheeting [double fold]** 4 m wide sheeting folded twice onto 1 m wide rolls for easy transport. See also Bogus Paper ➡ .

Clear Polythene Sheeting [4 m wide]	length	thk	code	price
Medium weight	50 m	60 micron	SAF341	£36.30
Heavyweight	25 m	120 micron	SAF343	£41.75

**Clear Polythene Sheeting [single fold]** 4 m wide sheeting but folded just once onto 2 m rolls. Single fold is better suited for lining paint floors as the folds can interfere with the final artwork. See also Bogus Paper ➡ .

Clear Polythene Sheeting [4 m]	length	thk	code	price
Medium weight	50 m	60 microns	SAF341SF	£48.45
Heavyweight	25 m	120 microns	SAF343SF	£53.30



**Black Polythene Sheeting [double fold]** Tough 4 m wide sheeting. 120 micron thick.

Black Polythene Sheeting [4 m]	length	thk	code	price
Heavyweight	50 m	120 microns	SAF346	£49.50

**Strong Clear Polythene Bag** Ideal for storage of delicate props, costumes and wigs. The contents can be seen without disturbing the bag.

Clear Polythene Bag	code	price
6 ft x 3 ft [1,828 x 914 mm]	SAF347	£2.65

**Dustbin Bags** Heavy-duty. Comes in a box of 200.

Dustbin Bags	quantity	code	price
Heavy-duty	box of 200	SAF350	£29.99

**Rubble Bag** For rubble! Very heavy duty.

Rubble Bag	size [WxH]	thk	code	price
Very heavy-duty	510 x 770 mm	25 microns	SAF345	£0.92



**Bubble Wrap** To protect your scenery and props during tours and storage. See page 278 for Parcel Tape and Guns.



Bubble Wrap	size	code	price
Small Bubble	750 mm x 100 m	SAF352	£33.00
Large Bubble	750 mm x 45 m	SAF353	£28.40

**For delicate scenery and props try Hessian Bags [page 96].**

## PAPER



**Trimaco X-Board** Lightweight Moisture Resistant Temporary Floor Protector made of 100% recycled fibres that comes in a roll but lays flat. Breathable so can be laid on [DRY!!] newly painted/glazed flooring and still allow for curing. Reusable and recyclable [..in theory...depends on what paints/glazes/nastiness that ends up on it]

Specification: Size: 34" x 50' [0.89 m x 15.24 m].

Trimaco X-Board	code	price
0.89 m x 15.24 m	PATTXB15	£38.92
0.89 m x 30.48 m	PATTXB30	£19.48



**Bogus Paper** Bogus paper is a recycled versatile, multipurpose, economical grey paper that provides great absorbency. It has a slightly rough but soft finish. Since it absorbs so much moisture it is a fantastic product for covering paint floors prior to laying out cloths.

We've had some problems with supply, but will keep hunting for it.

- ✓ Avoids water pooling up under gauzes and helps to prevent stains caused by fireproofing chemicals
- ✓ Protects your paint floor from textures and stains
- ✓ Aids drying time of cloths
- ✓ Lays out flatter than polythene sheeting [see ◀ ].
- ✓ Extra wide size 1,524 mm [60"] and heaviest weight available!

Bogus Paper	length	area	code	price
Full Roll	515 ft [157 m]	2,575 sq ft [235.5 m <sup>2</sup> ]	SAFBOGUS60D	£65.00
per cut metre	1 m	16.4 sq ft [1.5 m <sup>2</sup> ]	SAFBOGUS60	£0.59



**Single Corrugated Paper and Brown Paper** For wrapping and protecting parcels. For Parcel Tape and Tape Dispensers see page 278.

Paper Wrapping	area	code	price
Single Corrugated Paper	[650 mm x 75 m]	SAF360	£28.25
Brown Paper 90 gsm	[900 mm x 200 m]	PAT694	£45.50



**Blue Roll** Endlessly useful strong cleaning wipes for drying your hands, mopping up spills, cleaning tab tracks, cleaning off grease etc. Never start a job without one. Individually wrapped and centre fed for easy use and to keep it clean. See also Amberclens Anti-Static Cleaner [see next page].

Blue Roll	qty	code	price	5+
Blue Roll	[500 paper wipes 240 x 340 mm]	SAF6140	£29.95	£28.50

For White Rags see page 85.

## LUBRICANTS



**WD40 and 3-in-1** We need not describe 3-in-1 or WD40 which are universally known. So we won't. See also non-sticky Boeshield [page 365].

WD40 and 3-in-1	size	code	price
3-in-1 Oil	200 ml	SAF501	£4.69
WD40 Spray	100 ml	SAFWD40100	£3.61
WD40 Spray	450 ml	SAFWD40450	£9.72



**Amberglide PTFE Spray** This PTFE lubricant is a multipurpose high quality lubricant enriched with PTFE for enhanced durability in high wear applications. It cleans, waterproofs and reduces friction. Particularly suitable for tab tracks. I have seen really troublesome tracks converted to smooth running ones with just one quick spray!

Amberglide	size	code	list	price
	400 ml	SAF516		£21.44



**McLube™ Dry Lubricant** This easy to apply, fast drying lubricant instantly bonds to clean, dry surfaces, repelling dirt, and significantly reducing friction. High Performance Dry Lubricant lasts significantly longer than Teflon® additives, oil- or wax-based lubricants and it is environmentally friendly, with no chlorofluorocarbons [CFCs], petroleum, or poison-emitting toxins. Use on curtain tracks, sliding traps, sliding doors, cloths and anywhere friction is a problem. ✓ Can be used directly onto cloth with virtually no marking ✓ No sticky grease or dirty oil ✓ Solves many friction problems making your show more reliable, slicker and faster!

McLube Dry Lubricant	size	code	price
	300 ml	HARML08	£18.85

## CLEANERS



**Amberclens Anti-Static Foaming Cleaner** For use on plastics, metals, painted and glazed surfaces. It removes tough stains such as grease, grime, dirt, and nicotine. The anti-static formulation reduces the attraction of airborne dust. Spray on and wipe off. A can of this plus a Blue Roll [page 363] will solve most cleaning problems.

Anti-static Foaming Cleaner	size	code	price
	400 ml	SAF357	£6.47



**IPA Solvent** Isopropyl Alcohol [IPA] is universally accepted as a "safe" solvent for cleaning electrical components such as video heads. It will form an azeotrope – a mixture of water and IPA which evaporates quicker than water. Excellent for cleaning prior to painting as the IPA evaporates quickly [unlike white spirit]. Conformity: BS1595 DIN 53245.

IPA Solvent	size	code	price
	400 ml	PAT538	£10.75



**Label Remover** Removes old glue residues left from labels and tapes. The controlled evaporation time allows the solvent to penetrate.

Label Remover	size	code	price
	200 ml	SAF356	£8.86



**Awlgrip T0340 Cleaner/Degreaser** A highly effective cleaner/degreaser for use prior to sanding and painting. It dries more slowly than Isopropyl Alcohol allowing it to loosen stubborn grease. Work on a small area, wetting it with a cloth soaked in the cleaner. Use a second clean rag to wipe clean.

Repeat as necessary. For professional use only. For White Rags see page 85. For Blue Roll see page 363.

Awlgrip T0340	size	code	price
	946 ml	PATT0340	£21.53

## ENVIRONMENTALLY FRIENDLY CLEANERS



**Home Strip Super Strength Degreaser** A water-based product with many applications in manufacturing, engineering etc. Suitable for ALL metals, grp, wood etc. Apply by brush or spray. Contains no chlorinated solvents. Available in 500 ml trigger spray and a 5 litre refill.

Degreaser	size	code	price
Trigger Spray	500 ml	PATSCD	£10.20
Refill	5 L	PATSCD5	£70.09



**Graffiti Go** Removes all types of graffiti using Home Strip's water-based technology. Available in 500 ml trigger spray and a 5 litre refill.

Graffiti Go	size	code	price
Trigger Spray	500ml	PATGG	£12.61
Refill	5 L	PATGGR	£72.53

## WIPES, HAND CLEANERS AND BARRIER CREAM



**Hippo Bamboo Biodegradable Wipes** 100% Biodegradable and compostable [depending on what you're wiping...] wipes made from Bamboo fibre. Good for removing grime from paints, oils and adhesives. Tested to be safe to use for all skin types. Smells like lemon. Specification: 80 wipes per pack

Hippo Bamboo Biodegradable Wipes	code	price
80 Wipe Large Wipe Grab Bag	SAFBBW080	£9.95



**Virawipes Sanitiser Wipes** High-performance surface sanitary wipes Proven to kill at least 99.9% of disease causing micro-organisms. Useful for wiping down door handles, shared equipment etc.

Virawipes	code	list	price
Tub with 225 wipes	SAFVW225	£46.99	£27.89



**Deb Barrier Cream** Protective pre-work cream for both wet and dry work. This cream rubs into the skin forming a protective barrier which protects the skin against contaminants.

Barrier Cream	code	price
100 ml	SAF548314	£3.10



**Swarfega Orange Hand Cleaner** is an advanced formulation hand cleaner with polygrains. Its natural citrus oil removes oil, grease and general soilings quickly and efficiently. Contains moisturiser to help care for the skin. Removes ingrained oil and grease, and some paints and adhesives. ✓ Deep cleaning action ✓ Contains moisturiser ✓ Citrus fragrance ✓ Keep some in your tool box

Swarfega Orange	size	code	list	price
	450 ml	SAF450PP	£13.89	£8.80
	4 L	SAFSWASOR4LMP	£35.01	£28.00



**Home Strip Hand Cleaner** A water-based hand cleaner that really works. Made with an innovative formulation that is highly effective in removing all types of paint, stains, inks, oil and grime from your hands – safely. Easy to use straight from the pump action container, squirt directly onto your hands and work in well. Rinse under tap water and dry thoroughly. Your hands will be clean and your skin left soft. ✓ Removes paint, stains, ink, oil and grime ✓ No abrasives ✓ Effective and pleasant to use ✓ Tough not toxic ✓ Safe on skin for repeated use ✓ Solvent free ✓ water-based ✓ Safe to use all day

Home Strip Hand Cleaner	size	code	price
	500 ml	SAFHXC0050	£6.75

## SCUFF AND TAPE RESIDUE REMOVAL



**Wipeout Plus** Improved grime removing formula in a convenient pump spray bottle. Stagestep introduces a reformulated Wipeout that is eco-friendly and easy to use. Ideal for the removal of dye and scuff marks, the improved formula penetrates, loosens, breaks down and dissolves many unwanted stains. Wipeout works on all vinyl and non-porous surfaces. Not effective on aluminium compound tap residue. 200 ml pump spray bottle.

Wipeout Plus	code	price
200 ml pump spray bottle	SAFWP	£33.86

See also Label Remover [page 364]

## FLOOR MAINTENANCE



**Sprint Hard Surface Cleaner** Great value for a professionally formulated multipurpose cleaner. For light cleaning the 5 L flagon can be diluted up to 100 times. Use on unpolished floors, walls, laminates and all other hard washable surfaces. Worked really well on the lino at Arthur Beale.

Sprint Hard Surface Cleaner	code	price
5 L	SAFSHC	£17.25



**Proclean** Super concentrated industrial strength floor cleaner that will not harm your floor or floor finish. 3 ounces cleans 1,000 square feet! [85 ml for 92 m<sup>2</sup>] Use on a regular basis, at least once a week, to keep your floor looking clean and hygienic. One 3.79 L pot will clean a 1,000 sq. ft. floor for a year.

Proclean	size	code	price
	3.79L	SAFPC	£34.85



**Rosco Heavy-Duty Floor Cleaner**  
For stripping and deep cleaning Rosco Floors.

Heavy-Duty Floor Cleaner	size	code	price
	1 L	ROS1120034	£19.00
	3.79L	ROS1120128	£52.50



**Rosco All Purpose Floor Cleaner**  
Designed for the routine, regular cleaning of all Rosco Floors.

All Purpose Floor Cleaner	size	code	price
1 L	1 L	ROS1160034	£25.25
	3.79 L	ROS1160128	£65.00

## CORROSION PREVENTERS



**Lanoguard** Anhydrous lanolin combined with non-toxic corrosion inhibitors to provide long-term protection for rigging screws, shackles and sheep etc. Helps to prevent the cold welding sometimes associated with stainless steel threads. Also widely used to prevent weed growth on propellers. Dip wood screws into the pot before use and it will prevent nasty water stains and aid their removal. Available as a tub of thick butter-like lanolin or as a thinner concoction in a trigger spray.

Lanoguard	size	code	price
Prop-tection & Lube	250 ml pot	PATLAN250	£16.68
Marine & Chassis Spray	500 ml bottle	PATLANS	£23.83



**Boeshield T-9** Our customers suggested we stock this product. Developed by the Boeing Company, and originally intended for use on metals under threat from rust and corrosion, Boeshield can be used on paint, plastic, rubber, fibreglass or vinyl. It penetrates crevices deeply, displaces moisture, dissolves minor corrosion and leaves a clean, waxy coating with long-lasting durability. For backstage use, it provides a waterproof film which is non-sticky, doesn't leave an oily residue and is non-conductive so is handy to use around lighting and electrics. Also suitable for outdoor events such as festivals, concerts or open air performances where you want to protect your rigging and tools from the inevitable rain. You can rinse off sand, dust and mud with water leaving the Boeshield coating intact. 340 g aerosol can.

Boeshield T-9	size	code	price
	340 g	SAFDK7130	£19.50

## FLAMMABLE STORAGE CABINETS



**Double Door Flammable Storage Cabinets** These cabinets are of welded construction using 0.9 mm thick steel powder coated in high visibility yellow. They have the appropriate warning label attached. The handle is strong and chrome-plated. The cabinets come with adjustable perforated spillage trays and a lift-out sump in the base. Perfect to store your Methylated and White Spirit [page 61].  
**Large Size** 1,830 x 915 x 459 mm [HxWxD] supplied with three spillage trays and one base sump.  
**Small Size** 712 x 915 x 459 mm [HxWxD] supplied with one spillage tray and one base sump.  
**NB:** 15 days lead time for delivery. Check flammable storage cabinets carefully before accepting delivery. If you don't and there is damage our supplier will not replace it free of charge.

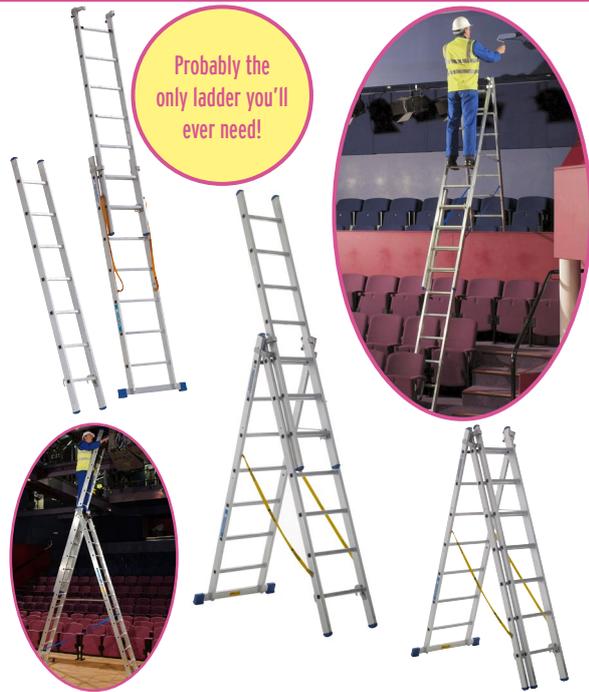
Flammable Storage Cabinets	code	Tradeline
Large	SAF88F894	£505.52
Small	SAF88F794	£351.92

### Flammable or inflammable?

They mean exactly the same thing. The "in" is from Latin like enflamed. Please don't think inflammable stuff won't burn – it will!

# ACCESS EQUIPMENT

## ZARGES 3-PART SKYMASTERS



Probably the only ladder you'll ever need!



**Zarges Trade 3-Part Skymasters** The Zarges Trade Skymaster Ladder is the standard type of ladder for performance venues. It is immensely versatile, you can use it as a three-part extension ladder, stepladder, free-standing two-part extension ladder or stairway trestle, etc. It's ideal for getting to studio grids, awkward lighting positions, over seating, up the back of scenery etc. It's also a great tool for the maintenance engineer, for corridor and stairwell lighting, difficult to reach windows and plants.



The Skymaster comes in seven sizes: 6, 7, 8, 9, 10, 12 and 14 rung three-part ladders. The 8, 10, 12, and 14 rung ladders are available as industrial versions on our website – see flints.co.uk. The Industrial type are fitted with twin locking bars and wheels on the top section. Each ladder comes with a stabiliser bar and one locking bar to lock the ladder in the closed position for ease of transportation. Flints' prices are well below list price. See the next page for accessories, including raked stage adapters.

Conformity: EN 131 approved to 150 kg.  
Delivery prices: UK mainland £15.00 [3 working days], £25.00 [next day].

Why not Hire the industrial version? [page 378].

### Zarges Trade Skymaster Sizes and Prices

Model no:	40227	41097	40228	41099	40229	40230	41231
Rungs per section	6	7	8	9	10	12	14
Closed Length	1.90 m	2.20 m	2.40 m	2.70 m	3.00 m	3.60 m	4.10 m
2-part extension length	3.00 m	3.60 m	4.10 m	4.70 m	4.96 m	6.10 m	6.90 m
3-part extension length	4.10 m	5.00 m	5.80 m	6.70 m	6.90 m	8.60 m	9.70 m
Stabiliser bar width	0.80 m	0.89 m	1.00 m	1.09 m	1.09 m	1.20 m	1.20 m
Stile dimension	68 x 25 mm	68 x 25 mm	73 x 25 mm	73 x 25 mm	73 x 25 mm	98 x 25 mm	98x25mm
Weight	13.8 kg	15.0 kg	17.5 kg	20.0 kg	23.3 kg	28.8 kg	36.4 kg

Zarges Skymaster	code	list	Tradeline
6 rung	ZAR41536	£495.02	£296.94
7 rung	ZAR41537	£536.20	£323.01
8 rung*	ZAR41538	£589.36	£353.53
9 rung	ZAR41539	£611.62	£366.89
10 rung*	ZAR41540	£707.02	£424.11
12 rung*	ZAR41542	£856.48	£513.76
14 rung*	ZAR41544	£1,079.08	£647.29

\* = also available as Industrial version - see our website for more details

### Falls from Height

Figures from the Health and Safety Executive show that 25 people died from a fall from height at work in 2016/17. There were 5,186 major injuries of which 2,516 caused the injured person to need at least seven days of work. Falls from height is the second most common cause of workplace fatality.

Please take care and follow the ladder safety tips below.

## YOUNGMAN COMBI 100



From under £100.00 delivered!



**Youngman Combi 100** A compact three-section aluminium combination ladder available in three sizes. It combines an innovative multi-functional design with the lightweight strength and durability of aluminium.

✓ Quick and simple to adapt ✓ Easy to store and transport ✓ Stabiliser bar and restraining straps for extra safety

### Combi 100 Modes:

- ✓ Extension ladder
- ✓ Step ladder
- ✓ Extending step ladder
- ✓ Stairway ladder

**SPECIFICATION:** Max static load: 150 kg. Max duty rating: 110 kg. Stile size: 73 x25 x1.32 mm. Sections interlocked by top and bottom clips. Rubber serrated feet tagged into the end of the stiles. Square rungs [30 mm<sup>2</sup>]. Ends are expanded and rivetted into stiles. Material for stiles and rungs: Extruded aluminium alloy.

Conformity: to EN 131 to 110 kg[BS Kitemark].

Prices include delivery to UK mainland [allow 7 working days].

Combi 100 model:	340381	341381	342381
Number of rungs per section	6+6+6	8+8+8	10+10+10
Extended length 3-part ladder	3,480 mm	5,120 mm	6,760 mm
Extended length free-standing	2,683 mm	3,680 mm	4,870 mm
Length of each section	1,925 mm	2,505 mm	3,085 mm
Maximum safe working height	3,940 mm	5,580 mm	7,220 mm
Weight	11.3 kg	17.2 kg	23 kg

Combi 100	code	Tradeline
6 rung	YM340381	£212.90
8 rung	YM341381	£275.50
10 rung	YM342381	£338.11

### Top Ladder Safety Tips

- ✓ Daily pre-use check – feet included. Do not use damaged ladders
- ✓ Lean ladders at the correct angle: 1 out and 4 up
- ✓ Maximum permissible load: 150 kg [check with each model]
- ✓ Check restraint straps are tensioned and locking bars are in place
- ✓ Lean-to ladders must end 1 m above level of access
- ✓ On multi-part ladders use the rung lock devices
- ✓ Never erect on slippery ground
- ✓ Do not lean to the side when working from a ladder. Ensure your belt buckle [navel] stays within the stiles and keep both your feet on the same rung
- ✓ Do not lean against an unsafe bearing point
- ✓ Do not stand beyond the fifth rung from the top on multipurpose ladders or the fourth rung on lean-to ladders
- ✓ Do not climb from step ladders to a higher level of access
- ✓ Short duration work [maximum 30 minutes]
- ✓ Light work [maximum 10 kg]
- ✓ Keep three points of body contact always on the ladder
- ✓ Always secure your tools with a Lanyard [page 336]

### About Youngman

Youngman has been associated with safety, quality and innovation since it was founded in the 1920s. They are now recognised internationally as a leading provider of innovative access equipment and systems that are designed and manufactured to the highest quality standards. Their Essex-based factory and head office has state of the art production facilities, extensive warehousing and distribution, a computerised customer services centre and fully equipped training facilities.

## PLATFORM STEPS



**Youngmans S400 GRP Platform Steps** Fitted with non-slip steps. The glass fibre-reinforced plastic stiles provide effective insulation and eliminate spark risk. Accessories and tools can be stored safely in the top tray. The working heights given are approximate.

Conformity: EN 131 for 150 kg.  
The stated number of steps includes the platform

GRP Platform Steps							code	Tradeline
length	platform ht	working ht	weight	width	no. of steps			
1.68 m	0.93m	2.68 m	9.15 kg	0.51 m	4	YM52745418	£144.83	
2.18 m	1.4 m	3.15 m	11.75 kg	0.58 m	6	YM52745618	£172.42	
2.68 m	1.87 m	3.62 m	15.17 kg	0.64 m	8	YM52745818	£220.35	
3.18 m	2.33 m	4.08 m	18.13 kg	0.70 m	10	YM52746018	£261.70	



**Youngman Atlas Platform Steps** A range of very competitively priced platform steps that are ideal for light trade use.

- ✓ Lightweight yet robust construction
- ✓ Deep comfortable treads
- ✓ Sturdy platform
- ✓ Safety straps on all sizes above 4 tread

Conformity: EN 131. Duty Rating: 110 kg.

Standard delivery terms apply.

Atlas Platform Steps							code	Tradeline
platform ht	safe working ht	weight	no. of steps	(inc platform)				
565 mm	2,065 mm	2.8 kg	3	YM353312	£50.58			
780 mm	2,280 mm	3.5 kg	4	YM354312	£59.08			
995 mm	2,495 mm	4.1 kg	5	YM355312	£70.81			
1,215 mm	2,715 mm	4.4 kg	6	YM356312	£84.04			
1,425 mm	2,925 mm	5.3 kg	7	YM357312	£98.09			
1,640 mm	3,140 mm	6.5 kg	8	YM358312	£123.89			

### About Zarges

Zarges are the largest manufacturer of access equipment in Europe. They have gained their position through stringent design quality standards and manufacturing control processes. Zarges ladders have a 10-year Guarantee.

**HIRE**

**Hire a ladder! Page 378**



### Zarges Anodised Trade Platform Steps

Fitted with 80 mm deep steps with a serrated surface, a 250 x 250 mm aluminium cast platform and an aluminium tool tray. Good strong practical step ladders. The working heights given are approximate.

Conformity: EN 131 for 150 kg.  
Delivery prices: UK mainland £15.00 [3 day] £25.00 [next day].

Zarges Platform Steps							code	list	Trade line
length	platform ht	working ht	weight	no of steps	(inc platform)				
1.41 m	0.67 m	2.70 m	3.7 kg	3	ZAR41223	£210.94	£126.54		
1.64 m	0.89 m	2.90 m	4.4 kg	4	ZAR41224	£259.70	£155.79		
1.88 m	1.10 m	3.10 m	5.1 kg	5	ZAR41225	£273.48	£164.05		
2.12 m	1.33 m	3.35 m	5.9 kg	6	ZAR41226	£341.92	£204.75		
2.36 m	1.55 m	3.55 m	7 kg	7	ZAR41227	£393.26	£235.90		
2.59 m	1.77 m	3.80 m	8.3 kg	8	ZAR41228	£465.34	£279.14		
3.07 m	2.21 m	4.20 m	10.1 kg	10	ZAR41230	£531.06	£318.56		

## LADDER ACCESSORIES



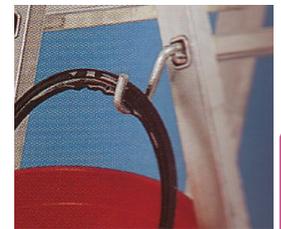
Universal Stile Extension



Ladder Platform



Paint Tray



Bucket Hook

**Ladder Platform** For comfortable working, helps prevent fatigue over long periods.

**Ladder Paint Tray** Holds paint pots etc. ready for use.

**Bucket Hook** Slides inside the rung to leave a handy hook.

**Universal Stile Extension** Evens up height differences on stairs and steps. Adjustment range : up to 375 mm. Fits box section stiles: 48 - 73 mm.

Ladder Accessories [Zarges]	code	list	price
Ladder platform	ZAR40900	£135.68	£94.64
Ladder paint tray	ZAR40270	£81.62	£56.94
Bucket hook	ZAR40115		£19.00
Stile extension [universal]	ZAR40922	£169.60	£118.30

Ladder Spares [Zarges]	code	list	price
Stabiliser bar end stop	58 x 25 mm ZAR824242	£21.20	£14.79
Stabiliser bar end stop	73 x 25 mm ZAR824243	£25.44	£17.75

End stops for Skymaster stiles	code	list	Tradeline
68 mm deep stiles	ZAR824302	£16.96	£11.83
73 mm deep stiles	ZAR824352	£16.96	£11.83
85 mm deep stiles	ZAR824353	£16.96	£11.83
98 mm deep stiles	ZAR824354	£20.14	£14.05

## ZARGES HOP-UP WORK PLATFORM



**Zarges Hop-Up Work Platform** Although this platform is small it is fantastically useful. Place one next to you while you paint a wall to put your paint pot on while you stand and work. For the lower areas just sit on it rather

than bending your back, then stand on it for the higher areas to save stretching. Take it into the yard to sit in the sun while you have your deserved cup of tea. It doesn't look very impressive but you will love it! Lightweight, but durable, made from aluminium with steel locking hinges. Compact and easy to store when closed. Standard delivery terms apply. Now available in a double width version!

Hop-Up Work Platform		code	list	Tradeline
style	load capacity	dims [mm]	weight	
Single	150 kg	600 x 480 x 300	4.65 kg	ZAR100302 £80.00 £55.80
Double	150 kg	600 x 470 x 600	7.40 kg	ZAR100304 £120.00 £51.48

## MULTIPURPOSE LADDERS



Perfect for the car boot.

**Youngman Multipurpose Ladder** This four-section hinged folding ladder can be used in four different ways including being configured as a handy workbench. Lightweight and compact, when folded it fits easily into a car boot. Perfect for the freelance painter, carpenter and engineer.

✓ Square rungs and box section stiles for exceptional rigidity ✓ Large click-stopped hinges ensure positive lock in each position

SPECIFICATION: Load capacity: 110 kg. Dims [folded]: 920 x 350 x 260 mm.

### Four Multipurpose Modes:

- ✓ Leaning ladder
- ✓ Leaning ladder with stand off
- ✓ Step Ladder
- ✓ Work bench [not designed for standing on].

Conformity: EN 131. Max load: 110 kg.

Standard delivery terms apply.

Youngman Multipurpose Ladder		code	Tradeline
extended length	closed length	no. of rungs	
3,365 mm	920 mm	4 x 3	YM576704 £99.98

## TELESCOPIC LADDERS

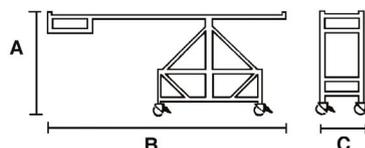
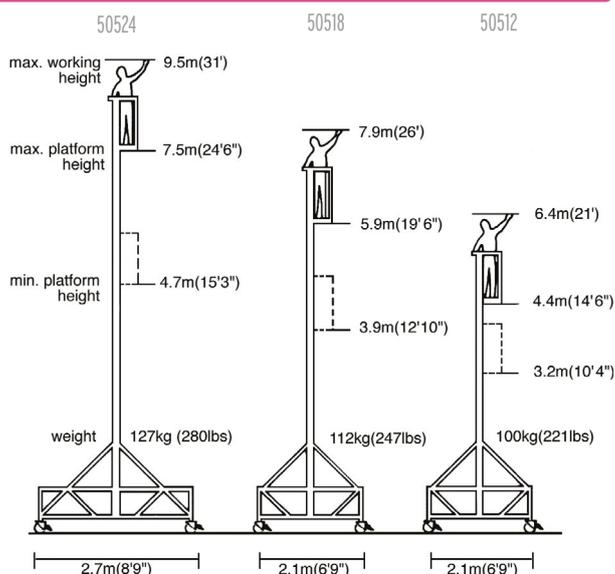


**Telemaster** A portable telescopic ladder. It's just 750 mm when closed but extends to 2.9 m. The slim width of 460 mm makes it very practical for tight spaces. It is also very portable making it a great choice for freelance workers, can easily be carried, or fit into the boot of a car. 9 rungs. Weight: 8.85 kg. Conformity: EN 131-6. Max load: 150 kg.

Standard delivery terms apply.

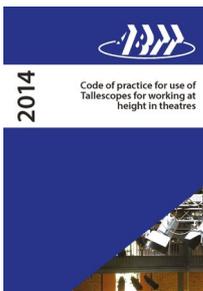
Telemaster		code	list	Tradeline
Telemaster		ZAR100599	£267.12	£186.32

## TALLESCOPES



### Tallescopes

The standard access tool for the entertainment industry, the Tallescope gives you easy access to work on rigging, electrics, draperies, and sound etc. This compact and manoeuvrable all aluminium work platform allows access to working heights up to 9.5 m [31']. The two-part ladder section is operated by pulling a simple rope line, which allows a rung by rung height adjustment. The ladder section pivots over allowing the unit to pass through a standard doorway and for low level storage. Three standard models are available and they all are now supplied with supplementary safety kit [four outriggers etc.] as set out in the ABTT Code of Practice COP012: For the Use of Tallescopes for Working at Height in Theatres. 12 month warranty. Conformity: EN 1004



Tallescope	A	B	C
50512	1.9 m [6'4"]	3.8 m [12'6"]	0.74 m [2'5"]
50518	1.9 m [6'4"]	4.6 m [15"]	0.74 m [2'5"]
50524	1.9 m [6'4"]	5.3 m [17'6"]	0.74 m [2'5"]

Platform capacity: 115 kg on all models.

Tallescope model no	50512	50518	50524
Max working height	6.4 m	7.9 m	9.5 m
Max platform height	4.4 m	5.9 m	7.5 m
Min platform height	3.2 m	3.9 m	4.7 m
Weight	100 kg	112 kg	127 kg

Tallescope	code	Tradeline
50512	TALL50512NFD	£3,445.52
50518	TALL50518NFD	£3,685.76
50524	TALL50524NFD	£3,980.08

Tallescope delivery: Price on application.

COP012	code	price
Code of Practice	BKS518	£15.00

# SCISSOR LIFTS

## FLEXIBLE LADDERS



**Fibreight Ladders** A black polyester webbing ladder with carbon fibre rungs providing a silent ladder suitable for occasional use. Supplied complete with bag and connector. Sometimes used for emergency mast climbing at sea.

Fibreight ladders	list	price
5 m LSFL05N	£204.16	£183.75
10 m LSFL10N	£325.01	£292.51
15 m LSFL15N	£450.00	£405.00
20 m LSFL20N	£570.83	£513.75



**Flexible Ladders** These can be useful for access to front of house trusses but should never be used without back-up fall arrest equipment [see the ASAP Lock on page 337]. We suggest using the 6" wide version with 10" rung spacings which are considered the easiest to climb. The 4 mm wire ends have a tested quick link termination which enables ladders to be joined with standard rung spacing. Also available with black rungs POA.

Flexible Ladders	rung spacing	code	price
5 m ladder	250 mm	PETLM40525	£101.25
10 m ladder	250 mm	PETLM41025	£184.12
Spare pair of Maillon Rapides		PETLNZ06	£1.38

**Scissor Lifts** A useful range of small scissor lifts originally designed for lifting TV and video screens but ideally suited for product reveals and stage effects. A twin power socket can power electrical equipment up to a maximum 350 W each. The raised height can be lowered by a maximum of 160 mm using a micro switch. It is also possible to install an optional radio remote control which works at a range of 10 - 15 m. High quality German manufacturing with a two-year guarantee. NB: Please ensure



the instructions are carefully followed before installing the lift. Take care to ensure shards, grit, metal filings etc. are kept clear of the worm shaft. Always lift the unit by its base frame. The standard length of cable to the rocker switch is 1.8 m.

Flints holds the popular Model SLTE in stock. The other lifts will have a four week lead time.

Single Scissor		speed without weight		speed with weight	
code	max load	up	down	up	down
SLTA	80 kg	26 s	26 s	33 s	24 s
SLTB	80 kg	31 s	30 s	39 s	27 s
SLTC	120 kg	38 s	37 s	54 s	33 s
SLTF	150 kg	38 s	36 s	80 s	42 s

Double Scissor		up	down	up	down
SLTD	80 kg	17 s	16 s	27 s	14 s
SLTE	80 kg	27 s	27 s	47 s	25 s

Single Scissor							Tradeline	
length	width	wt	min ht	max ht	max load	code	price	
705	480	20	135	565	80 kg	SLTA	P.O.A.	
830	480	22	135	665	80 kg	SLTB	P.O.A.	
960	480	30	145	765	120 kg	SLTC	P.O.A.	
960	510	36	150	780	150 kg	SLTF	P.O.A.	

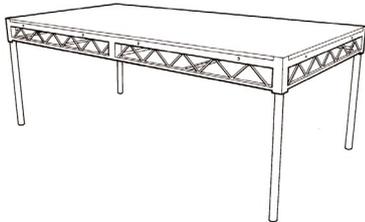
Double Scissor		up	down	up	down		
510	400	21	160	660	80 kg	SLTD	P.O.A.
710	480	28	170	1070	80 kg	SLTE	P.O.A.

Radio Controller		price
	SLFIR	£89.28

# STAGING

Flints has over twenty years of experience in supplying and hiring staging systems. Unlike the individual manufacturers, we can offer impartial advice on all makes of staging including RATstands' SpeedDeck, Doughty's Easydeck and the aluminium Nivoflex systems, as well as the Steeldeck and Stagebase we list below. Requirements vary widely, from systems that can be handled by school children to decks that can withstand the rigours of touring. Flints can offer independent advice so that you get the system best suited to your needs.

## STEELDECK



**Steeldeck** The most popular staging system used in theatres. It is strong, quick to rig, and easy to handle. The decks that we supply are the original Steeldeck invented by Philip

Parsons in 1986. The load capacity has been independently verified by structural engineers. The Steeldeck rostra uses steel or aluminium scaffolding tube for legs. Complex structures can be designed by bracing the legs with standard scaffolding components. Tiered seating can be accomplished by overlapping the units. Units can be wheeled by purchasing a set of scaffold castors ➡ . These wheeled units make handy storage trolleys for storing your decks and are widely used for shifting heavy gear during theatre get-ins. There are endless ways to use Steeldeck from rock concerts, choir tiers, raked stages and Santa's sleigh to banqueting tables and production desks. Overall height of deck including top is 180 mm. Steeldeck is rated at 7.5 kN/m<sup>2</sup>. The frames are painted black but the tops are unpainted plywood. See page 6 for Flints Theatre Black Paint or have them painted – see price option below.

Standard Steeldeck [Imperial]	code	Tradeline
8 ft x 4 ft	SD84	£570.24
8 ft x 4 ft [frame only]	SD84F	£454.00
8 ft x 3 ft	SD83	£486.00
8 ft x 2 ft	SD82	£411.00
6 ft x 4 ft	SD64	£486.00
4 ft x 4 ft	SD44	£437.00
3 ft x 3 ft	SD33	£308.00
Standard Steeldeck [Metric]	code	price
2 m x 1 m	SDM21	£486.00
1 m x 1 m	SDM11	£345.00
Top Options	code	per m <sup>2</sup>
To paint plywood top with black emulsion	PII36	£8.00

## STEELDECK



**Stagebase** is a staging system similar in principle to the famous Steeldeck but with a much simpler construction. The maximum size of these units is 2 m x 1 m making them perfect for the smaller venue. At 120 mm

deep the units take up less storage space than Steeldeck. This system is a great choice for clients who want all the versatility of Steeldeck but at less cost. Stagebase is rated at 5 kN/m<sup>2</sup>. A 2 x 1 m unit weighs 40 kg. For leg prices see other column ➡ .

- ✓ Lighter to move and easier to store
- ✓ Economical solution with no compromise to performance

## Stagebase System continued

The system could not be simpler – just choose your Stagebase units then select your leg heights from the section below.

Stagebase	code	Tradeline
2 m x 1 m with plain ply top	PI028	£302.00
1 m x 1 m with plain ply top	PI029	£240.00
2 m x 1 m frame only – no top	PI035	£265.00
1 m x 1 m frame only – no top	PI036	£215.00
Top options	code	per m <sup>2</sup>
To paint tops with black emulsion	PII36	£8.00

## LEGS



**Legs** We list a selection of the most popular leg heights which we sell as sets of four. Each leg will have a plastic insert in one end and comes in steel or aluminium. Legs can be cut to any height. For tube cutting prices visit page 232.

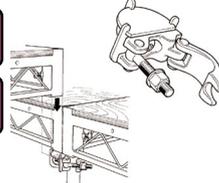
To achieve a certain overall deck height, the legs need to be shorter by the following amounts:

Steeldeck	30 mm*	Stagebase	30 mm*
Megadek®	33 mm*	SpeedDeck	28 mm*

\*These measurements allow for the 5 mm used by

the plastic insert. When ordering please make it clear whether the dimension you give is the overall deck height, the leg height including the end stop or the actual tube cut length.

Set of 4 Legs for Height	code steel	price	code ali	price
up to 305mm [1 ft]	SCFLG1	£15.60	SCFLG1A	£18.64
305 - 610 mm [2 ft]	SCFLG2	£27.26	SCFLG2A	£32.90
610 - 915 mm [3 ft]	SCFLG3	£38.70	SCFLG3A	£47.20
915 - 1220 mm [4 ft]	SCFLG4	£50.14	SCFLG4A	£61.46



**Multi-Leg Adapter** can be used where four legs would normally meet allowing just one leg to be used. This provides two major advantages. Firstly, one adjustable foot can be utilised allowing the staging to be used on uneven ground.

Secondly, cross bracing can be clamped onto the single leg with traditional scaffolding clamps. [Although Rotalock will work with clustered legs, see page 236]. Designed to fit standard Steeldeck.

Multi-Leg Adapter	code	price
	SDMLA	£33.00



**Adjustable Scaffold Foot** Useful for levelling staging legs on uneven ground.

**Scaffold Base Plate** Reduces point loading, prevents damage to floors.

**Scaffold Base Plate Protector** For use under the Scaffold Base Plate and Adjustable Scaffold Foot to protect floors from damage. You can't miss them – they're bright yellow.

For full details see page 233

Adjustable Feet	weight	code	price
overall height adjustable height base			
310 mm 210 mm [+/- 10%] 150 x 150 mm	2.1 kg	SCF140	£17.62

Scaffold Base Plate & Protector	base	weight	code	price
Base plate	150 x 150 mm	304 g	SCF119	£1.32
Base plate protector	220 x 220 mm	161 g	SCF121	£1.95

## ACCESSORIES



the 125 mm  
braked  
castor

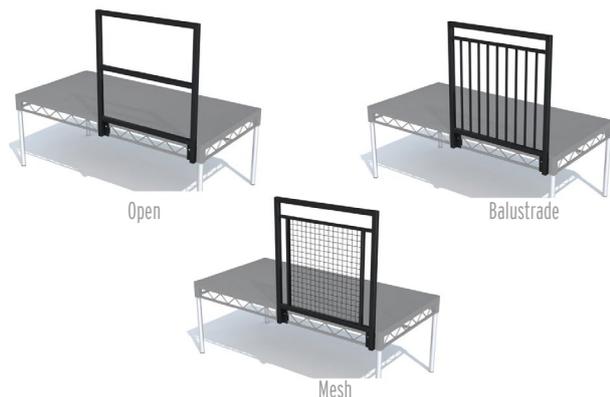
**Scaffold Castors** Flints stocks the versatile plug type scaffold castors which are suitable for converting steel rostra into slave trucks [with the addition of a short scaffold sleeve if going directly into the rostra corner post]. Fitted with strong nylon wheels. Has a safe working load (SWL) of 535 kg. NB: Due to manufacturing tolerances on the plug and the tube, the castor can sometimes be a slack fit. See page 245 for full tech specs! **Conversion Sleeve** A 127 mm length of scaffold tube to convert the plug to fit the corner posts of Steeldeck/Megadek rostra systems. Not needed when the castors are mounted on scaffolding legs first.

Scaffold Castor	code	price
125 mm nylon castor with brake	CAS316	£44.74
150 mm nylon castor with brake	CAS317	£56.36
Conversion sleeve	SCF092	£1.10

**Bolts** You'll be stuffed without these! Perfect for Steeldeck. For more bolts see page 262.

Bolts	box qty	code	price	100+
M10 x 65 mm hex bolts	100	FIX7610Z	£0.23	£0.19

## STEELDECK GUARD RAILS



**Steeldeck Guard Rails** These units are available in three styles: an open handrail, a handrail with mesh or a balustrade type handrail. They are designed to fit Steeldeck only.

Steeldeck Handrail		code	Tradeline
width	type		
4 ft	open	P1037	£141.00
3 ft	open	P1038	£129.00
2 ft	open	P1039	£111.00
4 ft	mesh	P1041	£178.00
3 ft	mesh	P1042	£166.00
2 ft	mesh	P1043	£154.00
4 ft	balustrade	P1045	£203.00
3 ft	balustrade	P1046	£185.00
2 ft	balustrade	P1047	£166.00

## EASYDECK



**EasyDeck** is a modular performance system suited to the smaller venue. It is a "no fuss" system, which is simplicity itself to install and requires no special tools to assemble.

- ✓ No tool assembly
- ✓ Easily managed by one person
- ✓ Reversible deck panels from a renewable source
- ✓ Black powder-coated finish
- ✓ SWL 500 kg per m<sup>2</sup>
- ✓ 1 m and 750 mm square options
- ✓ Conforms to DIN 53799, BS 6566:1985, BS 3755:1964 and are made in accordance with ISO 9001:1994 quality assurance systems.

NB: Panels are sold separately to the frames. For the full range see flints.co.uk



Standard Frame DOUT76000



Triangular Frame DOUT76300



Step Unit DOUT76507



Handrail DOUT76900



Joint Clip DOUT77500



Joint Channel DOUT77600

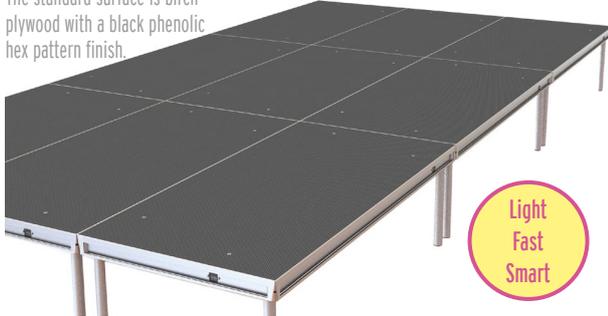
EasyDeck	height	weight	code	price	
Standard	1 m frame	250 mm	7.57 kg	DOUT76000	£178.14
Standard	1 m frame	500 mm	8.74 kg	DOUT76100	£188.67
Standard	1 m frame	750 mm	9.91 kg	DOUT76200	£199.11
Standard	1 m frame	1 m	10.52 kg	DOUT76250	£211.83
Triangular	1 m frame	250 mm	5.28 kg	DOUT76300	£170.28
Triangular	1 m frame	500 mm	6.15 kg	DOUT76400	£178.14
Triangular	1 m frame	750 mm	7.02 kg	DOUT76500	£185.99
Single Step		250 mm	4.28 kg	DOUT76505	£92.60
Double Step		500 mm	8.70 kg	DOUT76506	£282.93
Treble Step		750 mm	15.89 kg	DOUT76507	£341.84
Deck Panel	1 m x 1 m		7.57 kg	DOUT76600	£130.99
Deck Panel	1 m Triangular		5.28 kg	DOUT76700	£83.84
Deck Panel for each step			4.28 kg	DOUT76800	£47.11
1 m Handrail		800 mm	4.02 kg	DOUT76900	£99.56
1 m Corner Handrail			3.26 kg	DOUT77000	£104.78
1 m Chair Stop			1.68 kg	DOUT77300	£31.44
Joint Clip			0.10 kg	DOUT77500	£4.40
Joint Channel [to join rails together]			0.14 kg	DOUT77600	£4.60
Support Channel [to level boards]			0.10 kg	DOUT77650	£4.60
Storage Dolly			9.51 kg	DOUT77400	£252.07

## SPEEDDECK BY RATSTANDS

### RAT

Manufactured in the UK, and shipped worldwide to symphony orchestras, concert halls, theatres and... the US Marines! Started in 1976 when they were asked to develop an illuminated opera stand. Today the company produces more than just music stands, and everything they make is guaranteed quality. SpeedDeck is no exception, and is particularly well suited to smaller spaces.

The standard surface is birch plywood with a black phenolic hex pattern finish.



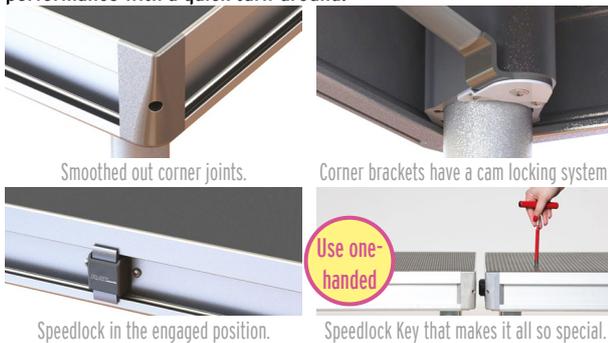
Light  
Fast  
Smart

**SpeedDeck** The ideal solution for indoor and outdoor staging! This is our lightest staging solution, so it's easy for professionals or novices to move around. Very simple and quick to build and disassemble.

The Speedlock system allows you to quickly fit decks together in any configuration without grotting around underneath, and it can be done by anyone without the need for heavy tools - just 1 key is required!

It offers a steady stage which can support a weight of 5 kN/m [see the full spec below]. Available in 1 x 1 m or 2 x 1 m per piece of deck, it takes standard sized scaffold legs 48 mm Ø - go for aluminium to keep the system really lightweight, and finish with a 5 mm cap. We can supply legs to your desired height - see page 370, or alternatively look at page 232 for Black Anodised Scaffold Tube for a super swanky finish.

SpeedDeck is especially perfect for venues where there may be limited storage space or when the stage needs to be disassembled after every performance with a quick turn-around.



Smoothed out corner joints.

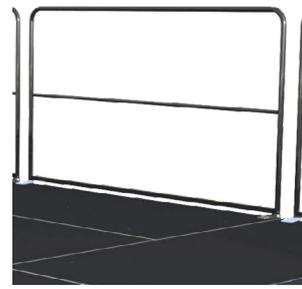
Corner brackets have a cam locking system.

Speedlock in the engaged position.

Speedlock Key that makes it all so special.

**SPECIFICATION:** Aluminium frame. 18 mm birch plywood platform. Diecast aluminium corners. Finishes available: Black phenolic hex pattern, clear varnish, black varnish, carpet. Legs should be cut 28 mm shorter [this allows for the 5 mm cap] than the finished height of the stage. So for a height of 1,500 mm the legs should be 1,472 mm. Accessories: handrails, chair stops, locating bracket, skirting and skirt hooks, modular stairs, fixed stairs, ramp, fascia hangers, trapdoor, grill. Max uniformly distributed weight: 7.5 kN. Max point load [on 0.5 x 0.5 m square] in middle: 2.4 kN. Max point load [on 0.5 x 0.5 m square] along edge: 3.6 kN. Stacking height: 97 mm. Max height without diagonal bracing when loaded with 7.5 kN/m<sup>2</sup>: 1.2 m. Handrail loading: 0.25 kN - 3 kN.

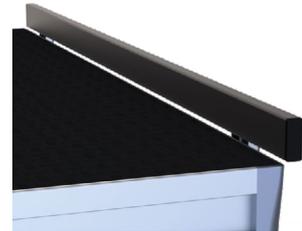
**NB:** This is a lightweight deck more suited to a corporate environment than standard theatre decking like Steeldeck.



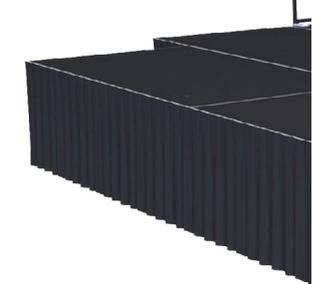
Handrails



Stairs



Chairstops



Dimalan Skirt



Storage Trolleys

**SpeedDeck Accessories** - we list a wide range of SpeedDeck Accessories below, but for legs see page 370!

Handrails	code	price
Handrail with chairstop [1 m]	RAT141Q11	£125.00
Corner socket for handrail	RAT141Q23	£174.00
Edge socket for handrail (LH)	RAT141Q24	£106.00
Edge socket for handrail (RH)	RAT141Q25	£106.00
Stairs	code	price
Stair for 300 mm high stage	RAT145Q1S1	£902.00
Stair for 600 mm high stage	RAT145Q1S2	£1,245.00
Stair for 900 mm high stage	RAT145Q1S3	£1,265.00
Chair Stop [1 m edge length]	code	price
Chair stop	RAT112Q21	£82.00
Dimalan Skirt [1 m length, inc skirt hooks]	code	price
for 300 mm high stage	RAT108Q0300	£75.00
for 600 mm high stage	RAT108Q0600	£85.00
for 900 mm high stage	RAT108Q0900	£95.00
Linking Accessories	code	price
Ramp for 300 mm high stage	RAT146Q0300	£1,665.00
Ramp for 600 mm high stage	RAT146Q0600	£4,348.00
Ramp for 900 mm high stage	RAT146Q0900	£5,400.00
Starter ramp	RAT117Q21	£175.00
Ramp connector	RAT143Q02	£10.00
Edge Connector	RAT143Q01	£17.00
Gap filler for convex ramp	RAT119Q21	£42.00
Leg joining clamp	RAT115Q21	£44.00
Storage Accessories	code	price
Trolley for 2 x 1 m SpeedDeck	RAT107Q21	£850.00
Trolley for 1 x 1 m SpeedDeck	RAT107Q22	£835.00
Converting Castor	RAT107Q12	£69.00

N.B the trolleys take up to 6 platforms stored vertically. The converting castor allows a single SpeedDeck Platform to become a dolly and carry up to 15 platforms.

# RATSTANDS MUSIC STANDS

## RATstands

Manufactured in the UK, and shipped worldwide to symphony orchestras, concert halls, theatres and... the US Marines! Started in 1976 when they were asked to develop an illuminated opera stand. Today, they are still the only company who produce one with an integral light. Fit out a whole concert hall or throw a Jazz Stand in a Gig Bag to go busking. Guaranteed quality.

We have opted to not list the details of the Concert or Opera Stands [shown right] as these are best suited to refurb or new professional venues, however we can supply these for both full orchestras, and one-off replacements [lights too!] - just send us an email!



## ALTO AND JAZZ STANDS - IDEAL FOR SCHOOLS & INDIVIDUAL MUSICIANS



The unbreakable Alto Stand has no sharp corners.

The Jazz Stand folds down and fits in the Gig Bag.

The Jazz Stand Trolley holds 24 stands.

**Alto Stand** An unbreakable stand with a strong anodized aluminium stem. Height adjusts without knobs. With 25% less closed height than comparable stands Alto Stands can be stacked on a flat floor or put away in a cupboard. Use with any of the clip-on lights listed below.  
SPECIFICATION: Stem: anodised aluminium. Base: polymer. Tray: polypropylene. Feet: natural rubber. Height to base of tray: 715 - 1,601 mm. Tray dims WxH: 503 x 323 mm.

**Jazz Stand** Quietly fold in three moves to a size no bigger than the tray and just 70 mm high and pop into the Gig Bag. No need to disassemble. Friction joints can face its base towards or away from the musician. The tray will cope with weight of one "Real Book" but not two.  
SPECIFICATION: Stem: anodised aluminium. Base: diecast aluminium. Coating: epoxy. Tray: polypropylene. Feet: natural rubber. Height to base of tray: 432 - 1,207 mm. Tray dims WxH: 503 x 323 mm. Jazz Stand Trolley: WxDxH 570 x 610 x 1,270 mm. Holds 24 Jazz Stands.

	weight	code	price
Alto Stand	2.3 kg	RAT88Q01	£67.00
Jazz Stand	3.5 kg	RAT69Q13	£98.00
Gig Bag	1.2 kg	RAT69Q2	£29.00
Jazz Stand Trolley	20 kg	RAT69Q7	£340.00

## RATSTANDS LIGHTING SYSTEMS

All lights have a two-year warranty



Duo Clip-on



Trio Light



Apollo Light



Star Light

RATstands Lights	volts	LEDS	colour temperature	mains	mains PSU	DMX-PSU	battery	IDS	weight	code	price
Duo Clip-on	230	12	4,000 K	inc	-	-	-	-	1.0 kg	RAT73Q02UK	£189.00
Duo Clip-on IDS	230	12	4,000 K	-	-	-	-	4	1.4 kg	RAT73Q02UKIDS	£210.80
Trio Clip-on	24	32	2,700 - 4,000 K	5	1	2 <sup>a</sup>	3	-	1.0 kg	RAT73Q03	£347.00
Apollo Light	24	18	3,000 K	inc	-	2 <sup>b</sup>	P.O.A	-	1.0 kg	RAT73Q06	£75.00
Star Light [comes with charger]	-	10	6,000 K	-	-	-	inc	-	0.3 kg	RAT89Q1	£37.00

The above table shows which components [listed below] are required for each power solution for each light. Where nothing is listed, that power solution is unavailable for that light.



Plug Top Mains Adapter



Mains PSU



DMX-PSU



XLR Daisychaining Box



XLR Extension Lead



Rechargeable Battery Pack



Charging Station



Plug Top Fast Charger



Duo with IDS Junction Box fitted

### RATstands Lights To put together the systems above you will need the components below.

For instance, if you have 20 Opera Stands with 20 Trio Opera Lights and you would like to connect them in a daisychain to your theatre's lighting desk you will need 2 x DMX-PSU [RAT74Q37] as each box can only handle 17 lights, 20 x Daisychain Boxes [RAT74Q31]. The DMX-PSUs come with a power cable and an output that connects to the lighting desk. Easy.

RATstands PSUs and Components	weight	code	price
5 Plug Top Mains Adapter for Trio lights [1 per light / 2 m]	0.3 kg	RAT74Q11WW	£44.00
1 Mains PSU for Trio lights [controls up to 17 lights]	4.0 kg	RAT74Q36	£272.00
2 <sup>a</sup> DMX-PSU for Trio lights [controls up to 17 lights]	4.0kg	RAT74Q37	£901.00
2 <sup>a</sup> XLR Daisychaining Box for Trio lights [1 per light / 2 m cable]	0.5 kg	RAT74Q31	£77.00
2 <sup>a</sup> XLR Extension Lead for Trio lights [Optional / 2 m]	0.01 kg	RAT74Q33	£22.00
2 <sup>b</sup> DMX-PSU for Apollo light [controls up to 24 lights]	4.0 kg	RAT74Q38	£822.00
2 <sup>b</sup> "Bud" Linear Daisychain Cable for Apollo light [8 lights]	0.10 kg	RAT74Q383	£53.00
2 <sup>b</sup> "Star" Daisychain Cable for Apollo light [8 lights]	0.10 kg	RAT74Q384	£42.00
3 Li-on Battery for Trio lights [1 per light]	1.5 kg	RAT74Q47	£215.00
3 Charging Station for Trio battery [holds 10]	10.5 kg	RAT74Q54	£1,470.00
3 Plug Top Fast Charger for Trio battery [in-line charger]	0.4 kg	RAT74Q56UK	£32.00
4 IDS Connecting Cable [1 per link / IEC to IEC socket / 2 m]	0.1 kg	RATEXL18L	£9.00

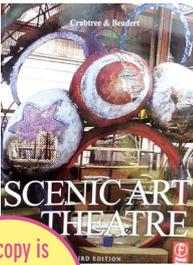
## PAINTING



Why not order online at [flints.co.uk](http://flints.co.uk)?

**Painting and Decorating** [Derek Butterfield, Alf Fulcher, Brian Rhodes, Bill Stewart, Derek Tickle, and John Windsor] This is a well-written, clear, and serious information manual which covers most painting and decorating techniques. Often used as a course book for professional trainees, it covers the NVQ and SVQ painting and decorating syllabi. It is written by a team of authors involved in teaching painting and decorating. 302 pages.

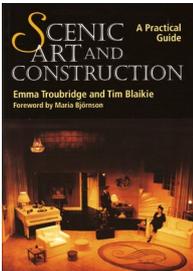
Painting and Decorating	code	price
	BKS261	£29.75



My copy is used so much it's wearing out!

**Scenic Art for the Theatre** [Susan Crabtree and Peter Beudert] Significantly revised featuring new interviews with "old masters" and successful "divas" of the industry, updated safety tips, and additional insights into the business of scenic design. Expanded to include a new chapter on painting techniques, the book now features detailed step-by-step descriptions of common two-dimensional painting applications. Woodgraining, marble, stone, and brick painting are a few examples of the kind of finishes covered. Focal Press 2nd Edition. 439 pages.

Scenic Art for the Theatre	code	price
	BKS208	£46.99



**Scenic Art and Construction** [Emma Troubridge and Tim Blaikie] Describes the construction, painting, and finishing of most of the scenic elements used in professional theatre. It explains how to bring a stage design to a three-dimensional reality.

Scenic Art	code	price
	BKS207	£14.99

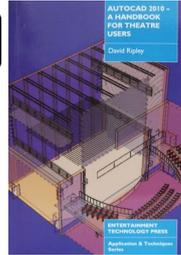


**Theatrical Scenic Art** [Emma Troubridge] The latest book from scenic-artist-extraordinaire, Emma Troubridge. An in-depth guide to the creative process, from conception to delivery, of painting and preparing theatrical scenery. An essential book for professional scenic artists as well as technical theatre students and anyone with an interest in the painted surface in a theatrical context. Covers practical information such as how to plan and budget, how to become a scenic artist, work experience and career options. It looks at both traditional and contemporary approaches including colour and drawing theory, painting and texture techniques, and tool use and selection. Designers give personal insights to guide the reader through the fundamentals of design interpretation and realisation. Paperback with over four-hundred images and illustrations.

Theatrical Scenic Art	code	price
	BKS701	£25.00

See also Scenic Construction for the stage on the next page.

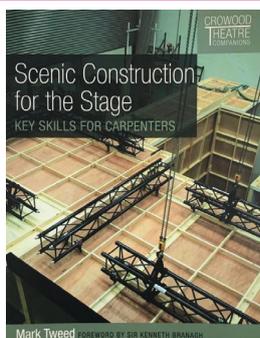
## SCENERY DRAFTING AND CONSTRUCTION



**AutoCAD 2010 - A Handbook for Theatre Users** [David Ripley] From setting up to "Drawing in Three Dimensions" via "Drawings within Drawings" this compact and fully illustrated guide to AutoCAD covers everything from the basics to full colour rendering and remote plotting.

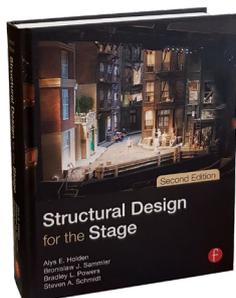
AutoCAD 2010 - A Handbook for Theatre Users	code	price
	BKS201	£29.95

## STRUCTURAL STAGE DESIGN AND MACHINERY



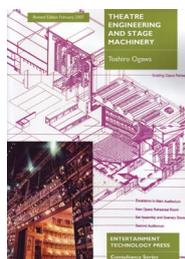
**Scenic Construction for the Stage** [Mark Tweed] A practical guide to scenic carpentry for the theatre. Includes detailed instructions for fabricating stage essentials as well as advice on developing working techniques. Comes in paperback supported by over four-hundred images and illustrations.

Scenic Construction for the Stage ..... code ..... price  
BKS700 ..... £22.50



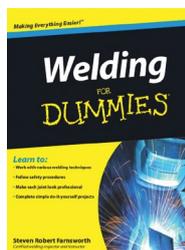
**Structural Design for the Stage** [Alys E. Holden and Bronislaw J. Sammler] For the serious professional. This useful text is invaluable with carefully selected reference tables which are applicable to most structural situations encountered in the theatre. If you need to know how deep that four chord truss needs to be, then all the data will be contained in this book. Now a hardback with a whopping 600 pages! Poor trees!

Structural Design for the Stage ..... code ..... price  
BKS506N ..... £120.00



**Theatre Engineering and Stage Machinery** [Toshio Ogawa] Written by a working technical director and theatre consultant, this up-to-date book covers stage lifts, flying systems, revolves, winches, hydraulics, and control technology. 342 pages with many illustrations. Latest 2016 edition includes a section on ideal layouts for opera.

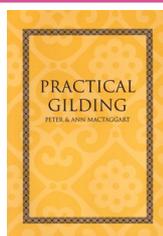
Theatre Engineering and Stage Machinery ..... code ..... price  
BKS509 ..... £30.00



**Welding for Dummies** [Steven Robert Farnsworth] Will help you approach setting up a small welding shop sensibly and safely. Has lots of information about different kinds of welding, necessary hardware, metal, plasma cutting and soldering.

Welding for Dummies ..... code ..... price  
BKSWFD ..... £16.99

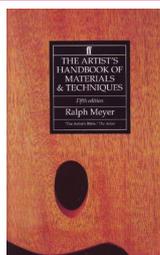
## GILDING



**Practical Gilding** [Peter and Ann MacTaggart] Paperback with black and white illustrations. A serious informative work.

Practical Gilding ..... code ..... price  
BKS246 ..... £11.95

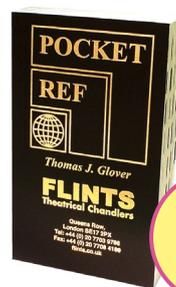
## GENERAL ARTIST TECHNIQUES AND REFERENCE



**The Artist's Handbook of Materials & Techniques** [Ralph Mayer] Essential reference manual which is very highly recommended. The most useful book covering artist's techniques and materials. A complete mine of information.

The Artist's Handbook ..... code ..... price  
BKS401 ..... £30.00

## GENERAL INFORMATION



**Flints Pocket Reference Book** [Thomas J. Glover] A real mine of information packed into 768 pages and yet still in a pocket size so you can cheat at pub quizzes. It has conversion tables for just about everything: trig formulas, ice strengths, first aid, rope breaking loads, crane driver's signals, knots, and even chilli strength tables! Just the book to get you out of trouble. Very highly recommended.

Makes a great gift!

Flints Pocket Reference Book ..... code ..... price  
BKS200 ..... £19.25

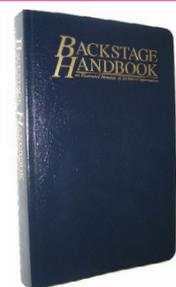
## BLANK BOOKS



**Black Sketch/Note Books** These strong hardback Daler Rowney books have 62 x 150 g/m<sup>2</sup> acid-free cartridge paper leaves. They make excellent books for taking production notes or making sketches, or making sketches when you should be taking production notes.

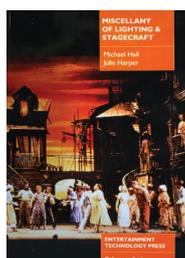
Sketch Book 150 g/m<sup>2</sup> ..... code ..... price  
A4 [portrait] ..... DRW701 ..... £10.42  
A5 [landscape] ..... DRW702 ..... £8.29

## BACKSTAGE HANDBOOKS



**Backstage Handbook - An Illustrated Almanac of Technical Information** This 309-page handbook from America is packed with useful information with clear line drawings. It has illustrations of roller cloths, counterweight systems, hardware, and tools. The chapters cover types of theatres, architectural mouldings, electrics, geometry, paints, and materials. Although some of the terms are American, this book is still a valuable source of information and would be useful for those starting on a career in the industry as well as old hands.

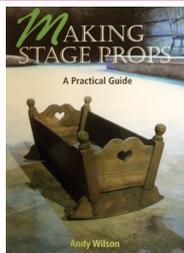
Backstage Handbook ..... code ..... price  
BKS514 ..... £24.50



**Miscellany of Lighting & Stagecraft** [Michael Hall & Julie Harper] Within its pages numerous professionals share their own special knowledge and expertise interspersed with diversions of historic interest and anecdotes. As a result, much of the advice and skills set out have not previously been in print. The intention is to provide a Miscellany that encourages the reader to flick through or dip in, finding nuggets of information to entertain, inspire, and engender curiosity.

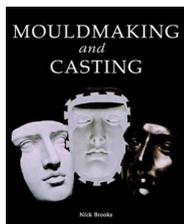
Miscellany of Lighting & Stagecraft ..... code ..... price  
BKS517 ..... £22.95

## PROPMAKING



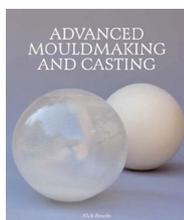
**Making Stage Props** [Andy Wilson] Explains the materials and techniques that the propmaker may need. Topics include working with wood, mild steel and polystyrene. With sections on modelling, making moulds, casting and laminating, plus using upholstery, paints, and finishes.

Making Stage Props	code	price
	BKS206	£14.99



**Mouldmaking and Casting** [Nick Brooks] A technical manual with step-by-step illustrations explaining the materials required and the processes involved for a wide range of mouldmaking techniques. Especially useful on silicone moulds and casting techniques. For propmakers, model makers, and sculptors.

Mouldmaking and Casting	code	price
	BKSMC	£19.95



**Advanced Mouldmaking and Casting** [Nick Brooks] Aimed equally at the student and the professional wishing to further their skill base, this book provides an invaluable learning and reference tool for the studio or workshop of any artist, model maker, or designer.

Advanced Mouldmaking and Casting	code	price
	BKS262	£19.95



**The Book Of Prop Making** [Svetlana Quint] This book covers a variety of materials, but seems to concentrate on foam, Worbla's Finest Art™ mostly being used for detailing. It goes into a good deal of detail about practical concerns of props, strength, and transportability. There is also some useful information on using expanding foam for prop making.

The Book Of Prop Making	code	price
	BKSSQ3	£15.00



**The Book Of Cosplay Armor Making** [Svetlana Quint] This book goes over the basics of Worbla's Finest Art™, talks about its properties and gives an idea of how to manipulate it. More complex techniques follow using Worbla's Finest Art™ with other materials. The last section is good for inspiration. Flints' staff have used techniques from this book.

The Book Of Cosplay Armor Making	code	price
	BKSSQ1	£15.00



**The Book of Cosplay Painting** [Svetlana Quint] Good for beginners. If you've not done much prop making this is a pretty decent start. Covers the materials and techniques and goes into some detail on how to make fake props look good at a distance. What might be useful to old hands is the information on getting a good finish with Worbla's Finest Art™.

The Book of Cosplay Painting	code	price
	BKSSQ2	£15.00

## ASSOCIATION OF BRITISH THEATRE TECHNICIANS

NEW



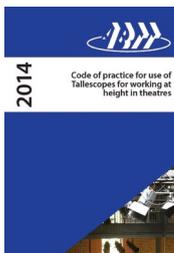
**Technical Standards for Places of Entertainment 2022 Edition** Details the necessary physical standards required for places of entertainment. Latest Edition 2022.

Technical Standards	code	price
	BKS519N	£60.00



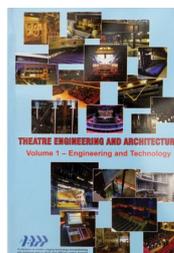
**Wire Ropes** The code of practice for wire ropes used in theatres.

Wire Ropes	code	price
	BKS510	£12.50



**Code of Practice for use of Tallscopes for working at height in theatres** Covers selection of the right equipment, safety risks involved and offers a guide to safe use. 2014 edition.

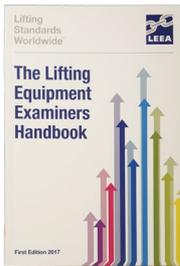
COP012	code	price
	BKS518	£15.00



**Theatre Engineering & Architecture Volume 1** A great compendium of information about elevator mechanisms, stage wagon drives, power flying hoists, control systems, British Standards, and many allied topics. With details about proprietary Spiralift and Rigid Chain mechanisms as well as screw-jacks, chain and wire-rope lifts, rack and pinion drives, and scissor mechanisms. It reviews different types of power flying hoists, has fascinating insights into the physical strain caused by handling counterweights, and shows different ways to change auditorium forms. It describes the effect of harmonics in power supply systems arising from the use of dimmer and motor control equipment in theatres. Concluding with safety warnings relating to working at height, and a practical check list for carrying out risk assessments. For anyone involved in stage machinery, rigging or technical installations.

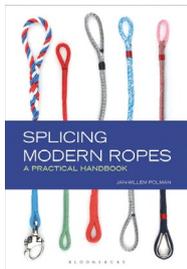
Theatre Engineering Volume 1	code	price
	BKS516	£15.00

## RIGGING



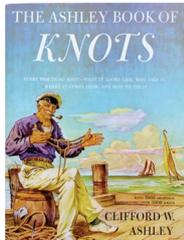
**The Lifting Engineer's Handbook & Quick Reference Guide** [LEEA] A pocket reference and working tool for competent engineers or riggers to carry around for immediate use when required. Covers technical data and legislation concerning lifting equipment. Updated Version for 2017. Also available is the Lifting Equipment Examiners Quick Reference Guide. A pocket sized flip book designed for use on site. Barry thinks it is brilliant!

The Lifting Engineer's Handbook	code	price
	BKSLEHN	£7.50
Quick Reference Guide	BKSLEEORG	£7.50



**Splicing Modern Ropes A Practical Handbook** [Jan Willem Polman] The definitive guide to this crucial skill. The clear step-by-step photographs and easy-to-understand instructions have never made splicing easier. Our Rigging Manager, Barry, swears by it!

Splicing Modern Ropes	code	price
	BKS600	£20.00



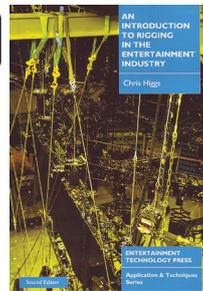
**The Ashley Book of Knots** [Clifford W. Ashley] This book was out of print for over a year but we're glad it's back as it's the ultimate knot book with 7,000 illustrations representing 3,800 different knots. A must for the serious knot enthusiast but overwhelming for the beginner.

The Ashley Book of Knots	code	price
	BKS303N2	£50.00



**Knots Step by Step** [Des Pawson MBE] Recommended to us by the technical director of Opera North. We came to the conclusion that it was indeed the best knot and splice book available although Splicing Modern Ropes is now a close contender. This updated version now has much clearer visual instructions as well as a length of braided rope to practice with. Des Pawson is the co-founder of the International Guild of Knot Tiers and is never seen without his trademark red beret.

Knots Step by Step	code	price
	BKS307	£12.99



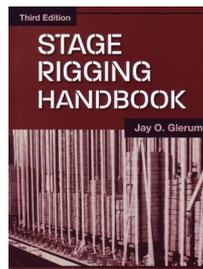
**An Introduction to Rigging in the Entertainment Industry** [Chris Higgs] This book is a practical guide to rigging techniques and practices. It thoroughly covers the implications of working within recommended guidelines and regulations.

An Introduction to Rigging	code	price
	BKS203	£24.95



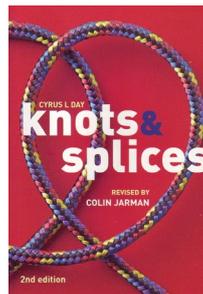
**Rigging for Entertainment: Regulations and Practice** [Chris Higgs] This book continues where the author left off from the book above and covers the regulations in greater detail.

Rigging for Entertainment	code	price
	BKS204	£19.95



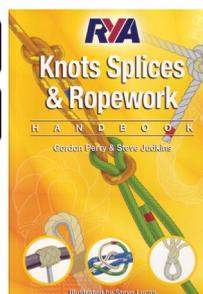
**Stage Rigging Handbook** [Jay O. Glerum] Succinct and jargon free, Stage Rigging Handbook remains the only book that covers the design, operation, and maintenance of stage rigging equipment. This publication uses American terminology.

Stage Rigging Handbook	code	price
	BKS504	£39.50



**Knots and Splices** [Cyrus L. Day] Small enough to keep in your back pocket to avoid embarrassing moments when confronted with a dangling rope and a stage weight.

Knots and Splices	code	price
	BKS301	£5.99



**Knots, Splices & Ropework** [Gordon Perry and Steve Judkins] Although beautifully illustrated by Steve Lucas with the boating fraternity in mind, the content suits a much wider readership. Guides a complete beginner, or a seasoned sailor step-by-step through simple knots on to the advanced skills required to make a Turk's Head or Star Knot.

Knots, Splices & Ropework	code	price
	BKSG63	£18.99

# HIRES, PROJECTS & INSTALLATIONS

**Our Hires Team** is dedicated to helping you achieve your projects. We have an exciting range of products from special effects to staging. We also offer several delivery options depending on your needs:

- Dry Hire** – The equipment is ready for you to pick up from our shop and you return at the end of the hire.
- Carriage** – The Hires Team can deliver and collect [door to door].
- Full Delivery** – Carriage + the Team deliver to a specific location onsite [This takes into account time required, crew and ease of access to the venue]. This is a perfect solution for imposing items that needs to be carried to various floors into a building.
- Installation** – Full Delivery + our team sets-up the equipment/staging for you.
- Need advice?** – The Hires Team can offer project management support. They can help you choose the equipment and/or help you design and organise the set-up of the hired items.

For projects not requiring hire items, we have a project team who is always excited about new challenges see Page 382.

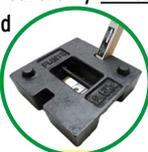
**Contact us – 020 7703 9786 [Option 2] or at hires@flints.co.uk**



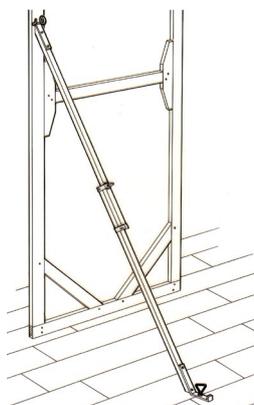
## STAGE EQUIPMENT



**12.5 kg Stage Weights** Flints normally holds at least 12 tonnes of stage weights for hire. A discount is offered for hires of full crates containing 80 weights. Please ensure only Flints weights are returned after hire. For full details see page 152 or visit [flints.co.uk](http://flints.co.uk).



Stage Weights	code	1st week	Following weeks
Stage Weight	HIRSW	£2.50	£1.75
Crate containing 80 Weights	HIRSW80	£150.00	£105.00



**Stage Braces** Available in 4 m, 3 m and 2 m [open length] sizes. The braces interlock with our stage weights listed above or they can be secured with Stage Screws [page 152]. The top cowhorn is generally secured with a 55 mm screw eye. For full details on braces see page 152 or visit [flints.co.uk](http://flints.co.uk).

Stage Braces	code	1st week	Following weeks
Stage Brace 2 m extended	HIRSB2	£2.50	£2.00
Stage Brace 3 m extended	HIRSB3	£2.50	£2.00
Stage Brace 4 m extended	HIRSB4	£2.50	£2.00

Screw Eyes - sale item	code	price	100+
Screw Eye [55 mm x 12 g]	FIX3161	£0.22	£0.18



**Tank Trap** These tank traps with a heavy plate base allow 48 - 50 mm scaffolding tube to free stand. They are indispensable for rigging lights or screens in halls where screwing into the floor would be inappropriate. Great for bauproben. For full details see page 232 or visit [flints.co.uk](http://flints.co.uk). For purchase of scaffolding tube and fittings see from page 234.

Tank Trap	code	per week
	HIRTT	£8.50

## ACCESS



**Zarges Industrial Skymaster Ladders** Hugely popular and very versatile. You can use them as three-part extension ladders, stepladders, free standing two-part extension ladders or stair way trestles, etc. It's ideal for getting to studio grids, awkward lighting positions, over seating, up the back of scenery etc. The industrial versions are fitted with twin locking bars and wheels on the top section. Each ladder comes with a stabiliser bar and locking clips for ease of transportation. EN 131 approved to 150 kg.

These Industrial Skymaster Ladders are not listed in the Access Equipment section of the catalogue but they can still be purchased online and by phone. See [flints.co.uk](http://flints.co.uk) for full details and codes. The more economical Trade Skymaster versions are also available to purchase. You can find these in the on page 366.

Zarges Skymaster Ladders	code	per week
8 rungs	HIRZ8	£23.00
12 rungs	HIRZ12	£35.00
14 rungs	HIRZ14	£40.00

# TRACK

Huge stocks available for hire!



**Triple E Unitrack**  
Flints have very large stocks of Triple E Unitrack available for hire. Our stocks include 90° curved sections to form horseshoes or complete wrap-around pull-along tracks.

Our staff will be able to tell you exactly which components you will need to make your track work. They will need to know the following:

- ✓ Centre opening or single wipe?
- ✓ Overlapped track or overlap arms on master carriers [simpler]?
  - ✓ Hanging from standard bar mm Ø or deadline fixings?
  - ✓ Floor fixing pulley or foot stirrup?
- ✓ The drop of the drapes so we can work out the handline length?

Handline is supplied as a sale item.

**For rough budgeting purposes the track complete with all the components normally works out around £10.00 per metre for the first week then it reduces for following weeks.**

Unitrack components - track	code	1st week	Following weeks
Unitrack 250 mm length	HIREETRA01	£2.50	£1.25
Unitrack 500 mm length	HIREETRA02	£4.50	£2.25
Unitrack 1 m length	HIREETRA03	£8.00	£4.00
Unitrack 2 m length	HIREETRA04	£16.00	£8.00
Unitrack 90° curve 2 m radius	HIREETRC2090	£24.00	£12.00
Joint set and bolts	HIRTRA05	£0.55	-
Endstop	HIRTRA24	£0.55	-



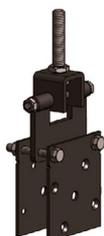
Single Track Header Pulley



Standard Runner



Hook Clamp



Scenery Carrier [bottom part - bolts to either master carrier]



Heavy-duty Master Carrier



Master Carrier

Unitrack components - suspension	code	per week
Hook Clamp	HIRFHS040HC	£0.55
Deadline fixing	HIRTRA15	£0.50
Offset plate	HIRTRA17	£0.80
Overlap clip	HIRTRA26	£0.80

Unitrack components - runners	code	per week
Standard Runners	HIREEER	£0.30
Master runner with rope clamp	HIREEMR	£1.60
Overlap arm	HIREETRA07A	£1.15
Scenery carrier complete	HIREEESC	£4.25
Heavy-duty sc. carrier complete	HIRTRA28ABHD	£8.00

Unitrack components - pulleys	code	per week
Single track header pulley	HIRTRA31H	£2.65
Single track return pulley	HIRTRA31R	£2.65
Overlap track header pulley	HIRTRA09	£2.65
Overlap track return pulley	HIRTRA10	£2.65
Foot stirrup	HIRTRA11	£2.10
Adjustable floor pulley	HIRTRA12	£2.10

Other individual components are available to hire.

Handline - sale item	code	per m
8 mm x 8 plait black rope	ROP122A	£1.40

# LOAD CELLS & BEAMS



**Dynafor Load Cell 2,500 kg** Supplied complete with up-to-date copy of the calibration certificate plus two 3.25 t Crosby Bow shackles to aid your rigging. Our hire unit is model LLX 2.5.

SPECIFICATION: Capacity: 2.5 t.

LLX 2.5 Digital Load Meter	code	per week
Load cell + 2 x 3.25 t Crosby Bow Shackles	HIRDYNA25	£70.00



**Load Beams** It is now a prerequisite to mark the weight of scenery before it is flown. These beam scales are ideal for weighing large pieces of scenery up to 2,000 kg. The beams

are 1.2 m long and supplied with 4 m long cables to a remote digital indicator unit.

Load Beams	code	per week
	HIRWB2000KG	£90.00

# ELECTRO KABUKI



**Kabuki System** Used to drop items such as cloths, flags, dummies etc. from a remote position. The system that we hire is extremely easy to rig and operate. Plugs are colour coded and mechanisms can be daisy-chained. 230 V AC. Full details of the system can be found on page 156 or at flints.co.uk. We have single and two-channel firing units available. Our Kabuki Systems are supplied in a Zarges Flight Case for protection during transport. All the systems are fully bench tested and PAT tested before shipment.

Kabuki System	code	1st week	Following weeks
Electro Kabuki + coupler	HIR240EK	£27.00	£13.50
Single Firing unit + power-in cable	HIR240FU	£27.00	£13.50
2-channel Firing Unit + power-in cable	HIR240FU2CH	£37.00	£18.50
Three-way splitter	HIREKASP3	£16.00	£8.00

Kabuki System Cables	code	per week
30 m cable	HIRSOLA30A	£8.00
20 m cable	HIRSOLA20A	£6.50
10 m cable	HIRSOLA10A	£5.00
5 m cable	HIRSOLA5A	£4.50
2 m cable	HIRSOLA2A	£3.50
Cable connector	HIRSOLA1C	£2.50

# WIRE TOOLS



**Nicopress® Tools** Capable of terminating a wide range of galvanised and stainless steel wires. Flints Terminations Section, page 168 - 178, lists all the options available. To keep things simple for you in this Hires Section we have only listed some of the most popular combinations of tool, wire and ferrule. If the options below do not suit the task in hand please refer to page 170 or ask one of our staff.

## MICRO CABLE TOOL HIRE 0.26 – 0.87 MM



**Nicopress® Micro Cable Tool Hire** This small versatile tool will terminate wires from as small as 0.26 mm up to 0.87 mm. These micro wires are almost invisible and are ideally suited for display wires and trick lines. For more ferrules, see page 168. Gauges not returned will be charged.

Micro Cable Tool Hire				code	per week		
Type 17BA + Check Gauge				HIRNIC17BA	£10.00		
Micro Cables [bare Stainless Steel] – sale item				code	price		
Ø mm	grade	constr.	MBL		100 m drum		
0.26	304	1 x 3	6.8 kg	WIRO47D	£45.55		
0.51	304	1 x 7	34 kg	WIRO48D	£46.90		
Micro Ferrules – sale item				code	price	100+	1,000+
For 0.26 mm wire				NIC161A	£0.10	£0.09	£0.08
For 0.51 mm wire				NIC162A	£0.11	£0.10	£0.09

## SMALL WIRE TOOL HIRE 1.5 – 2.5 MM



**Nicopress® Small Wire Tool Hire** This is a great choice of tools for inconspicuous suspension wires for objects such as large pictures or for control lines for animatronics. Also popular for custom made small lanyards and component tethers. The Type 32-VCVG is suitable for crimping 1.5, 2.0 and 2.5 mm wire ropes using Nicopress oval sleeves. Also fits the 1.5 mm stop sleeve.

Nicopress Small Wire Tool Hire				code	per week			
Type 32-VCVG + Check Gauge				HIRNIC32VCGV	£20.00			
Flexible SS Wire Rope – sale item				code	price	code	price	
Ø mm	constr.	MBL	WLL [5:1]		per metre	1 m	per drum	100 m
1.5	7 x 7	140 kg	28 kg	WIRO50	£0.52	WIRO50D	£40.00	
Ferrules for SS Wire – sale item				code	price	100+	1,000+	
For 1.5 mm stainless wire				NIC4282VC	£0.33	£0.26	£0.24	

## NICOPRESS STOP TOOL HIRE



**Nicopress® Stop Tool Hire** These copper stops have many uses such as control cables, hidden handrail terminations, yacht spreader supports and hanging shelves. The 1.5 mm stop uses the tool 32-VCVG above. Gauges not returned will be charged.

Nicopress Stop Tool Hire				code	per week		
Type 51-MJ for 2.5, 3, 4, 5 and 6 mm inc. Gauge				HIRNIC51MJ	£20.00		
Nicopress® Stops – sale item				code	price	100+	1,000+
suits wire	uses tool						
1.5 mm	HIRNIC32-VCVG	NIC8711C	£0.31	£0.24	£0.22		
3 mm	HIRNIC51MJ	NIC87118J	£0.36	£0.31	£0.28		
4 mm	HIRNIC51MJ	NIC87119M	£0.46	£0.39	£0.37		
5 mm	HIRNIC51MJ	NIC87120M	£0.72	£0.58	£0.52		

## MEDIUM WIRE TOOL HIRE 1.5 – 5 MM



**Nicopress® Medium Wire Tool Hire** These larger tools are suitable for crimping wires up to 5 mm diameter. Use them for on-site work when pre-made wires cannot be utilised. Excellent for small yacht and dinghy rigging, heavy-duty tailored lanyards, handrail wires etc. Gauges not returned will be charged.

**Type 64-CGMP** Suitable for crimping 1.5, 2.0, 2.5, 3.0, 3.5, and 4 mm wires.

**Type 63V-XPM** Suitable for crimping 3.0, 3.5, 4.0, and 5 mm wires.

Nicopress Medium Wire Tool Hire		code	per week					
Type 64-CGMP + Check Gauge		HIRNIC64CGMP	£20.00					
Type 63V-XPM + Check Gauge		HIRNIC63VXPM	£20.00					
Flexible SS Wire Rope – sale item		code	price	code	price			
Ø mm	constr.	MBL	WLL [5:1]		per metre	1 m	per drum	100 m
3	7 x 19	521 kg	104 kg	WIRO56	£0.78	WIRO56D	£60.00	
4	7 x 19	927 kg	185 kg	WIRO55	£1.45	WIRO55D	£92.50	
5	7 x 19	1,448 kg	289 kg	WIRO57	£1.74	WIRO57D	£142.00	
Ferrules for SS Wire – sale item		code	price	100+	1,000+			
For 3 mm SS wire		NIC4284VM	£0.75	£0.67	£0.59			
For 4 mm SS wire		NIC4285VP	£0.88	£0.82	£0.75			
For 5 mm SS wire		NIC4286VX	£1.69	£1.55	£1.42			

## HAND CRIMPERS FOR EN TYPE FERRULES HIRE



**Hand Crimpers** See page 173 or our website for full details and to purchase ferrules. The sizes listed relate to fibre core wire.

Type	fits ferrules	code	per week
TSC1	EN 2, 2.5, 3.5, 4.5 mm	HIRTOL1920	£16.00
TSC2	EN 2, 3, 4, 5 mm	HIRTOL1921	£16.00
TSC3	EN 2, 2.5, 6.5 mm	HIRTOL1922	£16.00

## WIRE ROPE CUTTING TOOL HIRE



**Wire Rope Cutter** Felco C16 for cutting flexible wire ropes up to a maximum of 16 mm diameter. Not to be used as bolt croppers – please see for bolt cropper hire.

Felco Wire Cutter	code	per week
	HIRC16	£16.00

## BOLT CUTTING TOOL HIRE



**Bolt Cutter** See page 308 or website for full details. Cuts up to 13 mm Ø in mild steel and 10 mm Ø in high tensile steel.

Bolt Cutter	code	per week
	HIRHBCR	£16.00

# SPECIAL EFFECTS



**Mini Mist Machine** See our main catalogue for full details. The popular Mini Mist can be used off the power supply for up to 20 minutes. It uses smoke canisters. See our Special Effects Section [pages 105 -106] or flints.co.uk for more fog fluids.

Smoke Machine	code	per week
Mini Mist Machine	HIRSMKMM	£37.00

Smoke Machine – sale item	code	price
Smoke canister for above [404 ml]	SFX1911	£17.50

# POLYSTYRENE CUTTERS



110 V version for building site work



**Polystyrene Cutters** Ideal for sculpting rock faces, making mouldings or cutting through large blocks of polystyrene for insulation work. For full details of the polystyrene cutters see page 102, or visit [www.flints.co.uk](http://www.flints.co.uk), or phone Flints and ask for Gary, our expert on the subject. The polystyrene cutters are delivered in foam lined Boxes with full instructions. Now available in 230 V and 110 V versions for site work.



For more details on the organic vapour respirator see page 342.

Polystyrene Cutter Hire	code	per week
Polystyrene Cutter 230 V [hire price includes sculpting and cutting handles]	HIRPOLY240	£50.00
Polystyrene Cutter 110 V [hire price includes cutting handles only]	HIRPOLY110	£50.00

Polystyrene Cutter – sale item	code	price
Thin cutting wire 125 g reel	PROT400CW	£29.95
Sculpting Wire per metre	PROT400SW16	£4.30
Sculpting Wire 29 m roll	PROT400SW16D	£109.35
Organic Vapour Respirator	SAF090N	£21.30

## Servicing and Repair

We can arrange servicing and repair for Compressors and Polystyrene Cutters.

Please call or email Hires to discuss your requirements:  
020 7703 9786 [Option 2]  
[hires@flints.co.uk](mailto:hires@flints.co.uk)

## Terms and Conditions of Hire

- All orders shall be confirmed in writing.
- All descriptions including drawings issued by Flint Hire & Supply Ltd [“the Owner”] are for information only and do not form part of the contract. The Owner reserves the right to change specifications without notice.
- All equipment at all times remains the property of the Owner. The Hirer will not sell, hire, lend or otherwise part with possession of any such equipment.
- Repair or replacement of any equipment damaged through misuse or lost, however arising, during the period of hire will be paid in full by the Hirer prior to the equipment being accepted for return by the Owner.
- Hire commences immediately on receipt of the equipment by the Hirer and continues until the equipment is accepted for return by the Owner.
- Non Account hire charges are due and payable without deduction on collection or delivery of the equipment. Account hire charges will be charged as set out in our full terms and conditions. The Hirer hereby waives all and any future claims and rights of set off against any sums due to the Owner hereunder regardless of any equity, set off or counter-claim on the part of the Hirer against the Owner.
- All charges are subject to the addition of delivery costs and of VAT at the rate applicable.
- Interest at 3% above base rate of the Owner’s bank for the time being in force shall be added to all outstanding sums until payment is received.
- Upon receipt of equipment, the Hirer shall conduct a reasonable inspection. Any damage or loss shall be notified to the Owner and carrier in writing immediately.
- The Hirer shall ensure that the equipment is correctly installed and/or operated by competent qualified personnel with proper skill and care in compliance with any statute regulation or order from time to time in force including but not limited to those relating to Health and Safety.
- The Hirer shall keep and return equipment complete and in good order without alteration.
- The Hirer shall allow the Owner access to inspect and if necessary to recover the equipment upon request at all reasonable times.
- The Hirer shall insure the equipment at full replacement value against loss or damage from all risks and claims during the hire period. The certificate of insurance shall be available for inspection and approval by the Owner at the start of the hire period.
- The Hirer is solely responsible for and holds the Owner harmless and fully indemnified against all claims, demands, liabilities, losses, damages and proceedings, costs and expenses including but not limited to legal costs which may be brought against or incurred by the Owner from any cause what-soever or where-soever arising from this agreement.

### Exclusions

- The Owner shall not be liable for any delay in delivery of the equipment howsoever caused. Please note that delivery is defined as to a specified address. Additional labour cost will be charged for any on site movement.
- Liability of the Owner is limited to direct physical injury or damages to persons or tangible property of the Hirer caused by the negligence of the Owner, its employees or agents or any breach of contract and shall not exceed two million pounds. The Owner shall not be liable for any consequential loss including but not limited to any loss of profit, goodwill or anticipated savings whether sustained by the Hirer or any other person or third party what-soever or where-soever.
- The Owner gives no warranty that any equipment is fit for any purpose or purposes whether or not made known to the Owner. The Hirer warrants that he has satisfied himself that the equipment is fit for any purpose which he requires and that he does not rely on the skill and judgement of the Owner. The Owner relies on the Hirer’s skill in all matters connected with this agreement.
- No neglect, delay or indulgence by the Owner in enforcing his rights under this agreement shall prejudice such rights or be construed as a waiver.
- In case of any conflict, Terms and Conditions of the Owner shall prevail. Any variation must be confirmed in writing.

# PROJECTS & INSTALLATIONS

## No project too small

As a leading name in the entertainment industry, Flints has been advising and assisting on projects for over 35 years. Our breadth of experience ranges from working on staging and tracking systems, to laying specialist dance floors, to fitting out photography studios, and installing complex art works. Flints is extremely well placed to act as consultants from the earliest stages, whatever the size and nature of your project.

We have recently worked with:

- ✓ The BBC
- ✓ ITV
- ✓ Amazon

## INSPECTION SERVICES AND CERTIFICATION



We offer a wide range of inspection services including:

- ✓ Six-monthly and yearly thorough reports of examination
- ✓ Safety checks
- ✓ Maintenance inspections
- ✓ All in compliance with Lifting Operations and Lifting Equipment Regulations [LOLER]

Our technical staff inspect:

- ✓ Theatres
- ✓ Schools
- ✓ Individual wires
- ✓ Lifting equipment
- ✓ Winches

## Project Spotlight: Conrad Shawcross' Space Trumpet



In 2013 we advised and helped before and during the install to get this sculpture perfectly placed in the atrium of Unilever House.

## INSTALLATIONS AND RIGGING

Flints collaborates with a wide variety of artists and venue technical staff to install works in a way that will transform their space. Our team has experience of working in both performance venues and unconventional spaces. This experience means that we can best work out suitable methods of hanging for your requirements using a wide range of materials and techniques.

Our staff have extensive knowledge of both fibre rope and wire rope manufacturing. We have training from the following:

- ✓ International Powered Access Federation [IPAF]
- ✓ Lifting Equipment Engineers Association [LEEAA]
- ✓ Prefabricated Access Suppliers' and Manufacturers Association [PASMA]

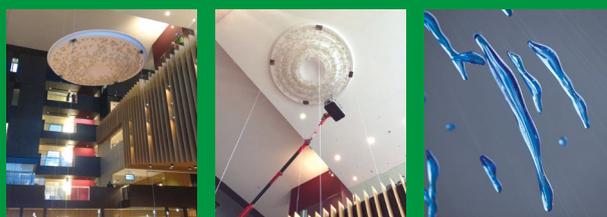
[Ask to see our TEAM Cards]

## NEW VENUES



With our experience in several fields we're well placed to be able to consult on new venue requirements, either new builds or refurbishments. We're full of ideas on how to improve or lay out venues to provide for future requirements such as flexible performance spaces and rigging possibilities.

## Project Spotlight: Resounding by Annie Cattrell



Installed in 2015 at Oxford Brookes University this piece also features our unique micro cable system to hang the "droplets" [page 168].

## STAGE TRACKING AND DRAPES

Flints supplies and installs tracking from all the main manufacturers [from page 224]. In addition to completely new systems, we are well placed to also extend existing set ups as we have expertise in such a wide range of track systems. If you're having problems with your tracking, we offer a refurbishment service to get your set-up running like new.

We're also able to provide draping to industry standards: from plush front of house drapes, to wing masking, and even blackout drapes – we supply it all.

We can also supply temporary tracking set-ups for specialist requirements such as shoots on a hires basis, see page 379.



## SPECIALS

Something odd? We're happy to speak to anyone that has an out-of-left-field project requiring an open mind. Control ropes in a cereal factory? Suspend a leopard in a fridge for a TV show? Rope swings for an outdoor event? And yes, these are all real projects, so we really are the right people!

### Contact us:

- ☐ Barry Hudson – Rigging  
barry.hudson@flints.co.uk Tel: 020 7703 9786 [#712]  
✓ For General Rigging, PPE, Inspection, and Installs
- ☐ Gary Cross – Projects  
gary.cross@flints.co.uk Tel: 020 7703 9786 [#706]  
✓ For Stage Tracking & Rigging, Installs, and Scenic Construction Advice.





# DELIVERY

## GENERAL INFORMATION

Flints realises that you need your goods in time for your fit up and that budgets can be tight. We use delivery companies who are firstly reliable but offer great value too. The diverse nature of our strange products results in unavoidable exceptions, but as a general rule:

**An envelope we can pop in the post costs from £6.25**

**A small box costs £9.95**

**If you can wait a couple of days small orders over £50.00 go FREE**

**A big heavy box starts from £19.50**

**If your order exceeds £325.00 it goes FREE**

**In Central London orders over £100.00 go FREE**

Prices held!



Ok, that was the easy bit that applies to most of our deliveries but here are the nitty gritty details. Please note that all weights are based on the greater of actual and volumetric weights. To calculate volumetric weight in kilograms, multiply the length by height by depth of the parcel measured in metres and divide by 0.005.

Too complicated? In most cases our online system will work out the carriage for you at the point of order.

## MAINLAND UK OTHER THAN CENTRAL LONDON

Flints offers an Economy Service for smaller, lighter orders but the majority of orders are sent on an overnight service. Orders over £50 net can be sent free of charge on Economy Services. Orders over £325 net are sent free of charge on Standard Services. This offer excludes all offshore areas of the UK and the items excluded below. The below costs are guidelines and are subject to change. Please contact us directly if you require an exact quote.

Service	Price	Limitations
Royal Mail 24 hrs	£6.95 up to 5 kg maximum	Dry goods only. No aerosols. Goods must be able to be packed in an envelope measuring 450 x 300 mm
Royal Mail Economy 48 hrs	£6.25 up to 2 kg maximum	
Small Parcel 24 hrs	£9.95 up to 10 kg maximum	No aerosols or other hazardous goods. Maximum length 1.5 m
Small Parcel Economy 48 hrs	£7.95 up to 10 kg maximum	No aerosols or other hazardous goods. Maximum length 1.5 m
Standard 24 hrs	£19.95 to 20 kg then £0.60 per kg	Maximum length 3 m
Longer Lengths 24 hrs	£55.00 to 20 kg then £0.60 per kg	Maximum length 6 m [Full scaff length]
Regrettably we have been forced to withdraw before noon / am deliveries as couriers were proving too unreliable.		
A pallet 24 hrs [price per pallet]	£65.00 England, Wales, Central and Southern Scotland	Suitable for most deliveries over 65 kg to non-residential UK mainland addresses only excluding the Scottish Highlands Maximum length 1.2 m

## NOW FOR THE UK EXCEPTIONS

### Area Exceptions

Isle of Wight [PO 30 - PO 41]	2 - 3 day service.	£50.00 to 20 kg then £0.60 per kg
Scottish Highlands [postcode definitions vary]	5 day service.	£75.00 to 20 kg then £0.60 per kg
Scottish Grampian [postcode definitions vary]	2 - 3 day service.	£55.00 to 20 kg then £0.60 per kg
Scottish Islands, Channel Islands, Scilly Isles, & Isle of Man	3 - 4 day service.	£80.00 up to 20 kg then £1.10 per kg
Northern Ireland	3 - 5 day service.	£70.00 up to 20 kg then £0.85 per kg

Regrettably the ongoing issues relating to customs controls between mainland UK and Northern Ireland have made it difficult for us to adequately support our much valued customers in this area. We will continue to do our best to serve these customers, but there may be additional delays and costs to services until the situation is completely resolved.

For all of these areas you can place an order via our website, and the cost of carriage will be automatically calculated for you as you checkout. Otherwise, please contact our customer services team by email [sales@flints.co.uk] or by phone [020 7703 9786] and they will be give you exact pricing based on the goods ordered.

### Product Exceptions [UK Only]:

Stage and counterweights, filled sandbags, lead shot bags, polystyrene cutters, compressors and nails are carried at the rates quoted regardless of order value. Flooring, access equipment, staging, lifts, hazardous goods including Froth-Pak and pyrotechnics, oversized goods and hire goods: please call for delivery prices for these items. Hire goods are priced separately.

If your requirements fall outside of any of these we are always happy to obtain a tailored haulage quotation for you.

## CENTRAL LONDON & FILM STUDIOS VAN RUN

Most deliveries in the London postal districts are made on our own vans. Orders over £100 net are delivered free of charge. A £6 charge is made for smaller orders. Order by 4 pm for delivery the next day [subject to stock availability] Urgent deliveries can be sent on the same day by bike or parcel car, please call for a quote. The following postcodes are included in our Van Run, for other London postcodes refer to our Mainland UK deliveries on the previous page.

E 2, 3, 5, 8, 9, 10, 14, 15, 20  
SE 5, 10, 15, 21, 22, 23, 24  
SW 2, 3, 4, 7, 8, 9, 11, 12  
W 2, 9  
NW 1, 3, 5, 6, 8  
N 1, 4, 5, 7, 16, 19



Included Film Studios: Pinewood, Elstree, Shepperton, 3 Mills, Twickenham, West London, Ealing, Sands, East London, Leavesden, Longcross and Flash Film Transport, Troubadour Meridian Water, UX1 Studios, Shoe Bucket, OMA:X, Garden, Bray, Sky Studios Osterley, Westernd Sky Elstree, Park Royal, Shinfield, Langleybury.

If you're not sure if you're covered, just give us a ring. Regrettably to book this service to most film studios, you must do so by phone or by email rather than via our website. Listed postcodes can book for delivery online.

## REST OF WORLD

**Europe** With Brexit this has all got a lot more complicated! We are still happy to ship to our dear neighbours, but please be aware that things are not as straightforward as they used to be. There may be additional customs and import duties which might need to be paid on receipt of the goods into the destination country for which you would be liable, separate to any shipping costs incurred and paid for through us. If preferred, we can parcel up orders as directed and you can arrange your own shipping.

**Australia** We are delighted to announce that we now have a distributor based in Sydney! HME Services have really impressed us so far and we are sure they will be well placed to serve all existing customers in Aus. To find out more about HME and their brilliant range of products and services please visit their website: <http://www.hmeservices.com.au/>

**Rest of the world** We can arrange air and sea freight to virtually any destination with very competitive rates. Please phone [+44 (0) 20 7703 9786] or email [sales@flints.co.uk] for a quote. We can also arrange for the preparation of orders to facilitate you to organise your own shipping arrangements.

## TERMS & CONDITIONS

### Prices

All prices in this catalogue exclude VAT which will be charged at the prevailing rate. Prices are correct at the time of going to press but are subject to change without notice. Errors and omissions excepted.

### Payment

We accept payment by cash, cheque [payable to Flint Hire & Supply Ltd], credit card or bank transfer. Please do not send cash by post. Payment must be made in sterling. Credit accounts can be opened subject to status. Please contact the accounts department for details.

### Delivery Times

We will endeavour to arrange delivery of goods within the time scales requested, but cannot be liable for any consequences of failure to deliver on time.

### Stock Availability

We endeavour to keep adequate stock levels of all our products. However this is not always possible. You will be advised as soon as possible of any delays.

### Damage or Short Delivery

Damage/shortages must be noted on Carrier's Delivery Sheet immediately and notice in writing given to the company within 3 days of receipt of goods.

### Non-Delivery

Claims for non-delivery must be made in writing to the company within ten days of despatch shown on Invoice.

## WEST END & CITY RUN

Since launching our Van Run many years ago, traffic conditions in Central London have significantly deteriorated. This combined with our desire to reduce our carbon footprint has led us to thinking of other options... plus a need to service the West End for those last minute emergencies! Introducing the West End & City Run serviced by PediVan; it's eco-friendly and fast! Order by 12 pm for delivery that day, just £6.75 or free when you spend over £100.00

All WC and EC postcodes  
SE 1, 4, 8, 11, 13, 14, 16, 17  
E 1  
SW 1  
W 1



Mówimy po Polsku



Nous parlons Français

### Returns

Your rights to return goods may be protected under UK consumer laws pertaining to distance selling. Section 2 of the Consumer Rights Act 2015 lays out the key definitions pertinent to the Act.

**Consumers:** Entitled to cancel orders and return the goods within 14 working days for a full refund, including the cost of delivery. Do this by contacting us by email or telephone and quote the order number. Returns are not possible for special orders, cut lengths, made up cloths or lifting equipment. Refunds will be paid within 30 days. You are responsible for the cost and risk of loss or damage when returning the goods, so you should take out enough postal insurance to cover their value. This cancellation policy does not affect your rights when we are at fault - for example, if goods are faulty or mis-described.

**Traders:** Other than goods which reach the customer in an unusable condition, the company will only accept returns subject to a 20% handling charge unless by prior arrangement. Returns will not be possible for special orders, cut lengths, made up cloths or lifting equipment. Any goods returned should be in a good and saleable condition. In regard to suspected faulty products, they should be returned to us for inspection, and if deemed faulty we will replace, refund or repair.

### Specification

The specification and description of goods in our catalogue were correct to the best of our knowledge at time of going to press. However we reserve the right to change specifications without notice. The customer shall be wholly responsible for ensuring that all products are entirely appropriate for the use and application intended.

All sales are subject to our full terms and conditions which are available on request.  
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Eco glazes! Plastic free and made in the UK.  
Check them out on pages 55 & 57!



Eco Rollers!  
See page 81

Long lasting Eco brushes!  
See pages 72 & 73



Eco Bio Beads. Made from Corn Starch  
and Sugar Cane. See page 101.



Eco textures - Cork Granules  
See page 48



Rubber Ice Cubes and Glass shards, for  
realistic, but safe effects! See page 108.



This beautifully crafted oak mallet is perfect  
for propmakers and carpenters alike. Page 297



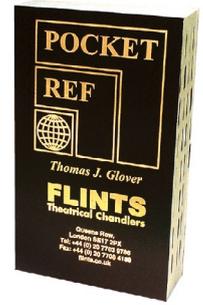
Weight Skate XL - for manoeuvring up  
to 24 stage weights! See page 359.



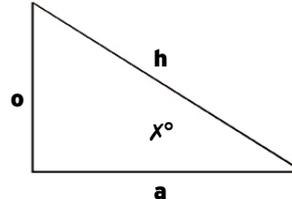
Viking Arm - is it a jack or a clamp?  
See page 360

## CONVERSIONS AND STUFF

Conversions	Multiply by
Metres to feet	= 3.281
Sq metres to sq feet	= 10.7639
Litres to pints	= 1.761
Kilos to pounds	= 2.205
Inches to millimetres	= 25.4



**To Find Out  
Anything Else**  
Buy the Flints Pocket  
Reference  
on page 375.



$$\begin{aligned} o &= h \times \sin X^\circ & h &= o \div \sin X^\circ \\ o &= a \times \tan X^\circ & h &= a \div \cos X^\circ \\ a &= o \div \tan X^\circ & \tan X^\circ &= o \div a \\ a &= h \times \cos X^\circ & \sin X^\circ &= o \div h \\ \cos X^\circ &= a \div h \end{aligned}$$

### Circles

$$\begin{aligned} \text{Area} &= \pi r^2 \\ \text{Circumf.} &= \pi 2r \\ \text{Pi} &= 3.14159 \end{aligned}$$



See the Construction Master Pro on page 113.

### Stair Proportions

9" rise should have a 5" tread  
8" rise should have a 7" tread  
**7" rise should have a 9" tread**  
6" rise should have a 11" tread  
5" rise should have a 13" tread

### Weights

Lead	=	11,200 kg/m <sup>3</sup>
Iron/steel	=	7,700 kg/m <sup>3</sup>
Aluminium	=	2,700 kg/m <sup>3</sup>
Paper	=	1,120 kg/m <sup>3</sup>
Water	=	1,000 kg/m <sup>3</sup>
Oil	=	800 kg/m <sup>3</sup>
Length of ali scaffold	=	10.07 kg
Length of steel scaffold	=	29.82 kg
Wood	=	800 kg/m <sup>3</sup>
Plywood	=	615 kg/m <sup>3</sup>
3 x 1 PAR per m [11%]	=	0.81 kg
Scenic flax per sq m	=	0.25 kg

### Tons, tonnes, short tons & hundred weights

Most lifting items nowadays will be rated in tonnes and kilograms. The symbol for a metric tonne is always a small "t". 1 t = 1,000 kg. The old imperial Ton always has a large "T" and is equal to 1,016 kg. So if you come across a piece of lifting gear rated in old Tons you can, for practical purposes, convert it straight into tonnes. The old Ton is divided into hundredweights [cwt]. There are 20 cwt to 1 T. 1 cwt = 50.8 kg. Just to confuse us, the Americans have their own ton which is often referred to as a short ton. 1 US ton = 907 kg.

**Showcase continued...** Originally we had only dedicated two pages at the beginning of our catalogue to showcase the work of our customers but we had so many excellent submissions we thought we had to squeeze some more in somewhere!



These images display fine examples of the unrivaled finish of Dutch Metal Gold Leaf [page 37] & Flints Pearl Lustre Powder [page 39] created for a production of 'Nutcracker' at Birmingham Royal Ballet. Design by Dick Bird and finished by the scenic team at Visualscene Ltd



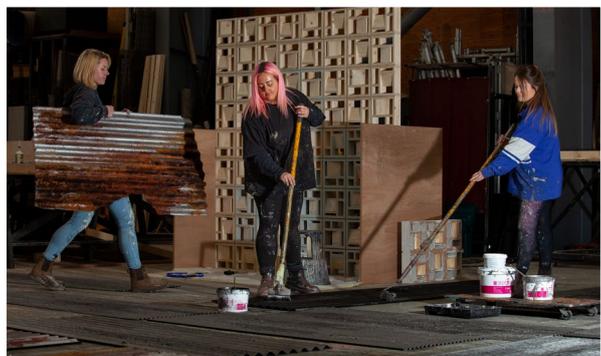
This colourful set was skilfully painted by Scenic Artist Alan Wood at Durham Scenic Workshops using Rosco Supersaturated Paints [page 12] for a production of 'Dick Whittington'. Design by Rhys Jarman. Thanks to Company Director Mike Brown for the images.



This gorgeous front and backlit cloth was painted with Hato Silk [page 28] to great effect for a touring production of 'The beekeeper of Aleppo'. Designed by Ruby Pugh, the Lighting was Designed by Ben Ormerod and it was painted by Scenic Artists Sofia Edjeros, Lucy Hollinshaw, Emily Hackett & Erin Fleming



This is the stunning ceiling of the Prince Edward Theatre Foyer, painted as part of the refurbishment by Scenic Artists Anna Stamper, Laura Hyde, and Hannah Scott. The gilding was achieved with Flints Metallic Gold Powders [page 35] and Polyvine Glaze [55]. Images kindly provided by Anna Stamper.



Scenic artists Katherine Murphy, Chelsey Goord & Beth Crows hard at work at TR2, Theatre Royal Plymouth for the show 'Crazy for you' using Bristol Metallic Paints [Page 34], Images kindly provided by Anna Whittall & Brendan Cusack.



## THANKS & ACKNOWLEDGMENTS

### Back in Black

Welcome to the **2023/2024 edition of the Flints Reference Catalogue** containing thousands of products, gigabytes of useful information and a handful of good jokes. Whatever your field, I hope you find inspiration within its' pages.

The search for new and interesting products to bring you has always been Flints' core mission, but for this edition, inspired by the ABTT's Theatre Green Book and by many of you, we have been putting environmental concerns down stage centre of this process. For example our new range of Spirit Renaissance Eco Paint Brushes [page 72] have handles made of recycled plastic and bamboo waste, our new Flints BioBeads [page 101] are a biodegradable alternative to polystyrene beads [we are still working on sheets - watch this space]. Our Product Manager, Jack, is especially proud of his Cork Granules [page 48] idea to replace foam crumbs or rubber chips. We now list Dekozell [page 44], made from 100% cellulose fibres, a renewable resource, which is great as a texture coating and is recommended by Emma Troubridge of the Royal Opera House amongst many others. Our Earthborne Wall Glaze [page 55] is an entirely plastic-free alternative to traditional emulsion glazes. Or how about Treefix ties [page 208] to replace plastic cable ties or PVC tape? The list goes on, and so do our efforts - read more about this on page 2. Away from our "greener" products there is the Viking Arm [page 307 & 360] which we think has a myriad of uses on a stage and then there is our ever-expanding range of Rader Busch castors [from page 241], designed specifically with the theatre and film industries in mind. Nothing is greener than using quality products that can be re-used again and again. Finally, there is the blackest paint we have ever sold: Flints Very Black paint [page 7].

Stepping back, it has been wonderful to see the theatre sector recovering from the Covid pandemic even if it is clear that there is some way to go. Cuts in spending on the Arts, especially outside London, are having a direct effect on production budgets. In London reduced visitor numbers and the Government's levelling up agenda is adding pressure onto both the commercial West End and national companies. While our business in theatres is still in a recovery phase, our work with customers in the Film and TV sector continues to grow, and we are very grateful for it. Our van has become a well-recognised feature on studios around London serving customers working in Art Departments and now increasingly Gaffers and Camera Operators too. You are all very welcome. Do let us know if you feel that we are missing anything from our range - we really do want to be the one stop shop that delivers to your door!

My thanks go to those involved in producing this catalogue. Our Customer Services team, headed by Talia, have been reporting product ideas from customers. Please do keep those ideas rolling in. Our Purchasing team: John, Yvie, Emily and Cat have been sourcing (and often re-sourcing) products for inclusion, negotiating with our suppliers to ensure that our customers benefit from the best possible prices. Collating all the information and organising it into a concise, authoritative and above all readable reference catalogue falls to our Marketing Manager Hannah who has been ably assisted by Jack. Each edition brings her new challenges: new and updated products, discontinued lines, regulatory changes, crazy ideas from the Managing Director, an ever increasing awareness of environmental issues, the technical aspects of turning a database of thousands of products into a paper catalogue. Hannah does this all with unflinching good humour and everyone at Flints is grateful to her, but especially me.

I have a picture of Angus Young of AC/DC throwing around a can of good old Bolloms paint as part of the promotion of the Highway to Hell album which I would love to have used to illustrate this letter. If that famous blue and white striped can was good enough for the greatest rock and roll band in history, it was good enough for me, and appropriate too as Flints black is now widely seen as today's Bolloms black. Unfortunately the image is copyrighted so you will just have to Google it. And my apologies if none of this means anything to you, it must be great being young.



Ben Lyle, Managing Director

## SYMBOLS & GUIDE TO CATALOGUE



This product is new to our catalogue



Marine product



We love it



Sells like hot cakes



Cheap as chips



Excellent value product



Separate brochure available



Colour swatch available



Video available



Suitable for Personal Protective Equipment



Product suitable for lifting operations



Product is CE and/or UKCA marked [used only sparingly]



Product is also available to hire



Adhesion value in approximate newtons per 10 mm



Regrettably, no longer available



This item is being sold as cheap as we dare go before Andy Repka, our Finance Director, shouts at us



This product is a Flints Own product



Flints is approved to ISO 9001: 2015



Flints is a member of the Association of British Theatre Technician Industry Supporters Group



Flints is a full member of the Lifting Equipment Engineers Association



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