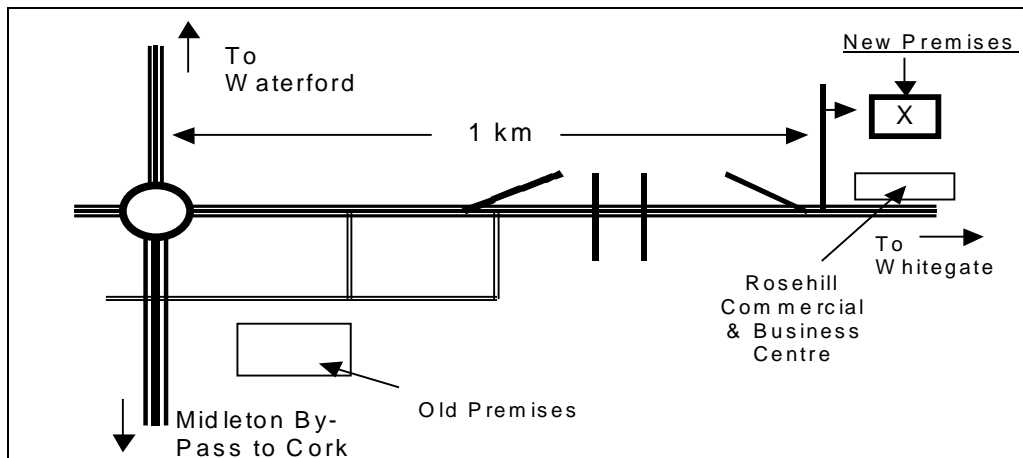


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This catalogue lists the main products we carry in stock. For further information, technical assistance, or information about related but unlisted materials, please contact us.



Reinforcements

Chopped Strand Mat

Standard roll is approx. 3 ft (92 cm) wide, and c.75 mtr long, though this may vary. Grades are 300, 450, 600 and 900 g/m², and the material is sold by weight. Standard material is emulsion bonded though powder bound can be supplied to order.

Woven Cloth

Standard grades 280/300, 500/600, and 800g/m², in varying roll sizes, sold by weight. 200g/m² surfboard cloth is sold in a 1-mtr wide roll, per linear metre.

Non-Woven mat

Upica non-woven mat is available in 1,2,3,4 and 5 mm thickness, and gives a much higher strength: weight ratio than a standard CSM/WR laminate. Material is 1 mtr wide and sold by linear metre.

Surface Tissue

Very light weight (c. 35g/m²) tissue used for improved chemical resistance on a gelcoat or resin rich surface, ensuring an even thickness, freedom from cracking, and a long life product. Used as a final coat surface tissue is also used to improve the surface finish of the laminate.

Chopper Gun Rovings

Rolls of continuous E-glass strands rovings, approx. 19 kgs each, for use with a Glass Chopper gun.

Glass Tape

Woven glassfibre tape, in various widths from 25mm (1") to 150mm (6"), sold per linear metre or 50 mtr. roll. The material is a light open weave of 180g/m² and typical uses include 'stitch and glue' boat construction, and wrapping around a repair to give a neater finish than standard CSM.

Chopped Strands

Chopper Gun rovings cut to uniform lengths of 6 mm and 25 mm. These is added to a resin mix to make a thick paste for awkward corners.

Polyester Resins

We supply a full range of resins for the GRP user, available in container sizes from 500gm to 1000kg totes

General Purpose Resin

Standard orthophthalic laminating resin, available in standard opaque, or white as required. Isophthalic resins are also available

Gelcoat

Gelcoat is applied against the mould surface and is the outside finish on the final part.

Flowcoat

Flowcoat has a consistency between that of gelcoat and of resin but has a wax additive content to ensure a tack free surface when fully cured. It is used as a final coat on a GRP laminate and gives a finish similar to a paint finish. A non-slip flowcoat is also available for use on walkway such as boat decks.

Tooling Gelcoats & Resins

RM2000 is a pre-accelerated, filled resin, especially formulated for rapid manufacture of high quality moulds with superior surface profile. The laminates are built up in multiple layers, enabling complete mould manufacture within one day.

Please contact GRS to find out more about this material, and other mould making products available.

Chemical Resistant Resin

Resins for use in Chemically aggressive environments are available on request. To ensure the resin needed please advise on names and concentrations of chemicals present, and maximum temperature to which the resin will be exposed.

Casting Resins

Where resin is being cast into solid blocks, various special purpose resins are available which cure with reduced exotherm, thereby reducing shrinkage and the possibility of cracking. The resin is available ready to be loaded with a filler; at up to approx. 60% by weight, reducing costs, or crystal clear, for casting ornaments etc.

Curing Systems

The standard curing system supplied ex. stock for Polyester resins is an MEKP - Cobalt accelerator system as detailed below. Other systems are available to order.

Catalyst

MEKP catalyst, packaged in plastic containers to suit standard resin quantities.

Accelerators

Cobalt Accelerator available in 10%, 6% and 1% solution, depending on requirement. Cobalt accelerator can also be diluted with acetone for use as a primer when laminating onto timber.

Solvents and Additives

Acetone

A highly inflammable solvent used for cleaning brushes, rollers, etc. before the resin has cured.

Methylene Chloride

A non-flammable solvent, which will soften and dissolve cured resins. Will also remove uncured resins from laminating tools, but these must not be left soaking as the epoxy bond will be softened.

Wax Additive

Paraffin wax dissolved in styrene solution which is added to gelcoat prior to application to ensure a tack free surface on the cured material.

Colour Pastes

A wide range of colour pigments for polyesters are available ex. stock, and a colour matching services are also available (minimum order 5 kgs). RAL, BS5252 and other standard colour ranges are also available

Llewellyn Ryland

Bathroom Colours, LR Standard, Transparent, RAL, BS5252

West and Senior

Fascal Standard, RAL, BS5252,

Flexible Mould Making Materials

Where the shape of a part is complicated, and a solid mould is not practical, a number of different of flexible mould making materials are available. Choice of which material to use depends on the flexibility required, shrinkage allowed, material to be cast, final surface finish required, number of parts to be cast, time available and of course the cost. The hardness of rubber is measured by its Shore A Hardness. As a guide, skin has a Shore A of approx. 6, while a car tyre is approx. 90 below is a brief outline of each of the materials carried

Latex

A cheap, natural liquid rubber where the mould is made either by dipping the original in the liquid a number of times, or by brushing and air-drying layers to achieve the appropriate thickness. A thixotropic additive is available to facilitate this brush-on process.

Latex is a simple, low cost moulding material which gives moulds for short production runs, suitable where high quality is not a priority.

Gelflex

A reusable meltable vinyl rubber, which is heated to a liquid state and then poured over the original part when a suitable retaining case mould has been constructed. Gelflex comes in a hard and soft version, depending on the intricacy of the part to be moulded. This meltable rubber is suitable for making block moulds with very little undercut, and with non-porous surfaces has no problems. If the original surface is porous, however, the heat of the melted rubber causes expansion of the air, and hence bubbles on the mould surface can result. Being meltable, gelflex can be reused a number of times, reducing overall cost, but overheating during the melting process reduces life.

Polyurethane Rubber

A high quality, relatively low cost 2 component system used for a variety of applications which can be poured or brushed onto the model, and is stocked in a range of Shore A hardness's, from 6 through 50. PU rubbers have good abrasion resistance and so are particularly suitable for casting materials such as concrete. Polyurethane compounds are moisture sensitive, and it is vital that a good release system is applied to the master prior to application.

A range of ancillary products is available to assist in mould manufacture with PU rubbers. The resulting moulds are of excellent quality, but preparation of the original model is crucial, especially for porous surfaces, as Polyurethane is by nature an adhesive

Silicone Rubber

The Rolls Royce of the moulding rubbers, silicone rubber is easy to use, has the best release properties of all the rubbers and produces very high quality moulds, but is relatively costly. The 2-part mix is simple, and the material can be used in both pourable and brushable forms. General purpose silicones are available in hardness's from 10A to 25A, and are ideal for plaster cornice work Addition cure silicones can have higher hardness's.

Silicone Rubber

Moldsil

MOLDSIL is a high quality silicone moulding compound developed for the FIBROUS PLASTER AND RESIN CASTING INDUSTRIES, with a hardness of approx. 22 Shore A. Moulds made from MOLDSIL will give high quality reproduction and a long mould life with virtually no shrinkage and no risk of the plaster ever gripping to the mould surface. MOLDSIL has been designed to be easy to mix by hand with colour-coded components to offer a visual aid to ensure mixing is complete. The two components mix easily and because of its low viscosity MOLDSIL can be used without the use of a vacuum chamber. MOLDSIL comes in three grades: slow, fast and very fast, giving you a choice in how quickly you wish to have a finished mould in production. MOLDSIL can also be used with Silastic Thixotropic additive only enabling you to make skin moulds or to mould on site.

MOLDSIL SOFT grade for more intricate moulds has a shore A of approx. 18, while Silastic 3495 has especially high styrene resistance.

For further details on the Dow Corning range of Silicone rubbers, visit

www.reptech.co.uk

Polyurethane Rubber

PMC 121/50 and 121/30

Pourable 2 part rubbers, the 121 series have a mix ratio of 50:50 by weight or volume, and are exceptionally strong and abrasion resistant. Available as 30A or 50A hardness, these rubbers have a long (25 year) memory, and can be used for casting wax, plaster, concrete etc.

PMC724

This white pourable rubber has a Shore A of 40, and is mixed with 10% catalyst by weight. Using optional 'Part D', PMC-724 can be thickened to a paste-like consistency for vertical surface brush-on applications. By the addition of 'Part C' PMC-724 can be softened all the way down to a Shore A6.

Important: This rubber will last and perform in production, often for hundreds of castings But **PMC-724 does not have a long "library life"**. Moulds will soften and revert to a liquid within 2 – 5 years, depending on exposure to moisture, so is not for use for long production runs (2 years +)

Brush On 40

This is a medium hardness brushable rubber, mixed at a 1 ;1 ratio by volume, and is soft & pliable enough for reproducing sculpture, yet has superior physical properties (high tear strength & abrasion resistance) to stand up to production casting of concrete

Smooth On Polyurethane rubbers can be pigmented for effect, and various ancillary products are also available – see page.

For further details on the full Smooth On range of moulding rubbers visit

www.smooth-on.com

Ancillaries for Flexible Moulding materials

Silicone Thixotropic Additive – added to silicone rubbers at approx. 5% to make the rubber brushable, for use on vertical surfaces etc.

Petrogel – Liquid Release agent for use with Moldsil when moulding from very porous surfaces.

Smooth-On Products

Super Seal - This was developed as an economical, fast drying sealing agent for a variety of surfaces, including modelling clays, gypsum plasters, concrete and wood. This sealing agent will quickly and effectively seal surfaces without interfering with surface detail.

Universal Mould Release - Specially formulated for mold making and casting, this release agent works well with Smooth-On rubber and plastic products from properly sealed models, but should not be used with silicone rubbers.

Xtend-It - This is a dry gas blanket designed to extend the shelf life of moisture sensitive polyurethane products by displacing the air in the container it is sprayed into. Applying the XTEND-IT dry gas blanket to the unused portion of liquid polyurethane, before replacing the lid on the container, will significantly extend the shelf life of the product.

So-Flex - This is a softening agent that lowers the cured durometer hardness of a variety of Smooth-On polyurethane rubbers. For best results, an accurate scales should be used to properly use So Flex with PMC 121/50 and PMC724 rubbers.

So-Flex can be used with the Brush-On series, but the tear strength of the original rubber will be compromised.

PMC 724 Part D - For vertical surface brush on applications, Part D can be used with PMC724 rubber to achieve consistencies from that of thin latex to grease like putty. Addition rates of Part B and Part A are affected by the amount of Part D added. Read directions thoroughly before use.

Kick It - This Accelerator is an additive designed to shorten the cure time of some Smooth On Urethane liquid rubbers, without significantly affecting the ultimate physical properties, allowing for much faster removal of a part or rubber mould from the original model.



Smooth-On Liquid Plastics

Smooth Cast 300 & 305 White Ultra Low viscosity Liquid Plastics

Smooth Cast 300 and 305 are ultra-low viscosity casting resins, which yield castings that are white, **and virtually bubble free**, and also offer the convenience of a one to one mix ratio (one part A to one part B by volume). They can be filled, and pigmented.

Crystal Clear 200, 202, & 204 Clear Rigid Casting Compounds

Crystal Clear 200 is specifically for applications that require absolute clarity. Low viscosity ensures easy mixing and pouring. Crystal Clear products cure at room temperature* with negligible shrinkage. Cured castings are **UV STABLE** (will not yellow) and are not brittle. Vibrant colours and colour effects are achieved by adding pigment dispersions.

Jesmonite Acrylic Composites



The Jesmonite range of solvent free casting and laminating system allows the user to have many of the benefits of GRP for certain applications, without the hazardous disadvantages, and can be used for many applications where GRP or GRC would previously have been used.

Jesmonite are supplied as 2 pack systems, which when mixed can produce a final product which can be demoulded in as little as 45 minutes. The main advantages of the Jesmonite system are as follows:

- High strength to weight ratio
- Low Toxicity
- High Durability
- Excellent Fire Ratings
- Resistant to chemical attack / ultra violet degradation
- Excellent dimensional stability
- Available for casting or laminating
- Varied natural stone/metal effects available
- Minimal degradation of rubber moulds
- Solvent Free – water based and safe
- Environmentally friendly waste

AC100

This composite is formulated to provide a high quality acrylic surface together with control of setting time (castings: 45 – 60 mins, laminates: 1 ½ - 2 hours) and dimensional stability (1% expansion on cure). AC100 can be used as a casting and laminating compound for cast products and lightweight panels and mouldings, (e.g. case mouldings), and as a coating composite for application onto a wide range of foam and rigid substrates.

AC200

This product offers the user a broad scope to produce soft carvable castings and coatings, it will adhere excellently to a wide range of substrates, and can be carved and tooled with normal carving tools, knives and scalpels.

Multicast

Multicast is a cost effective jesmonite system for casting and laminating, primarily for internal use, with similar characteristics to AC100. For information on appropriate external preparation, contact us.

Accessories

A range of accessories for the Jesmonite range is available, as listed below. A vital piece of equipment is a high shear-mixing blade, to ensure thorough mixing without air entrapment, settlement, or frothing. Pigments; Quad / Bi- axial Glassfibre reinforcements (ordinary CSM for polyesters is non-useable); Thixotropic additives to make gelcoat; Retarder; Sealer and Stone filler powders

For further information on the Jesmonite range, visit
www.tersus.co.uk

Durabuild Product Range

Base Primer

A low porosity, high building, fairing and shaping polyester primer for composites, wood, MDF, GRP, foam, plaster and clay. Used by manufacturers in the Automotive, housing, leisure products, marine and transportation industries for shaping plugs, patterns and models of various sub strates. Base Primer is easy to apply, by spray, brush or roller, and builds quickly – 1 to 3mm wet on wet application with minimum sag on vertical surfaces. It can be easily shaper by knife, file or sandpaper, and air cures quickly – c. 15mins.

Surface Primer

A high gloss surface primer for wood, MDF, foam and composite plugs, patterns and models, Durabuild Surface Primer provides rapid coat build up and a smooth surface with high gloss when required. Its low porosity provides a superior fine levelling and filling system on a variety of substrates with superior release properties.

Coverage at 10mil (250micron) thickness c. 110ft² (10.5m²) / US gallon

Untinted High Gloss

A special blend of polyester primers that produce a tack free, non wax high gloss finish – with chemical resistance, high impact strength and excellent colour and light stability – for composite plugs and patterns and wood product surfaces. Available as standard in black and untinted, to which pigment can be added. .

Coverage at 10mil (250micron) thickness c. 110ft² (10.5m²) / US gallon

Other Durabuild/Duratec Polyester coatings are available as listed below. For further details contact our offices:

Vinyl Ester Primer	Brush, roll or spray applied primer for composite marine surfaces.
Vinyl Ester Fairing Putty	Sprayable putty for fairing and priming composite marine surfaces.
Polyester Sealer	Low viscosity, rapid cure, penetrating sealer for a range of substrates.
Clear Hi Gloss Topcoat	High build, easily sandable coating for a clear topcoat for cured polyester, p.u. and lacquer coats.
Hi Gloss Putty	See page 14
High Heat Resistant Putty	See page 14

Fibrocem

Glass Reinforced Cement Composite

A range of high quality renders and casting GRC, reinforced with alkali resistant chopped strand glassfibre for use where resistance to abrasion is required.

Fibrocem is suitable for use on exterior or interior surfaces where durability, resistance to attrition and atmospheric pollutants are primary requirements.

MM1 is designed for the manufacture of precast mouldings for exterior use, and allows a much faster mould turn-around time than the standard sand and cement mix.

The system utilises state of the art cement technology to provide rapid setting, dimensionally stable mouldings which are shrink compensated, allowing mould utilisation to be optimised, with a turn around time of c.2½ – 3 hours at ambient temperatures from 15 – 30° C.

Fibrocem products dry to a 'Portland Stone' colour, but other colours can also be achieved by the addition of pigments.

Release Systems

Release Agents

Poly Vinyl Acetate release agent forms a film on the mould to help ensure a successful release. The blue tint assists in ensuring total coverage, but PVA must only be applied after a release wax. PVA is also available untinted.

Release Waxes

A number of different paste waxes are available which are applied by hand, and allowed to dry before being polished off and the process repeated a number of times. :

Honeywax – A soft beeswax, ideal for general-purpose use, and a standard in the industry.

APW – A soft paste wax, which gives a very effective release from porous surfaces such as concrete, wood etc. Can be used in conjunction with G4 for best results, but the user should test for successful release on a small portion of the original.

Resin Release N

A highly effective external paste release agent, which is applied by cloth to a wide range of mould materials, including porous surfaces such as plaster, though these should initially be sealed with lacquer, resin or Honeywax.

A liquid version RRL, is also available.

Laminating Tools

Rollers

All rollers can be supplied as a complete unit, or refill and handle separately. A range of different rollers are carried ex. stock as detailed below

Mohair

Used to apply gelcoat to the mould surface, and also for finishing with a flowcoat.

Medium Pile

With more soakage than a mohair roller, this can be used as an all-purpose resin applicator.

Lambswool

Used for applying resin to the GRP laminate, prior to consolidating with a paddle or other roller.

Paddle

Manufactured from extruded aluminium, with plastic end caps, these rollers give quick wet out and good air removal from the laminate.

PTFE

Made from solid PTFE, these rollers, while expensive, are very comfortable to use and easy to clean as cured resin does not adhere to them.

Spiral Bristle Rollers

Nylon bristles wound around a metal core reduce splashing and very effectively consolidating the wetted glass.

Bolt Rollers

A 6 mm diameter threaded roller with an 'invisible' clip which ensures that snagging does not occur. The bolt roller is the smallest roller available

Corner Roller

Used for consolidating laminates in sharp corners, and places inaccessible to normal rollers. The single washer is 8 mm wide and 37 mm diameter.

Brushes

Standard Chinese hog bristle brushes, available with black or white bristles, in sizes from ½" to 6".

Cheaper 'chip' brushes are also available. These wooden handled brushes have a thinner bristle head, and are disposable. 1", 2", 3" and 4" widths available.

Cutting Tools

A range of knives and shears are available for cutting fibreglass and other materials, and for trimming the curing laminate when it is in the 'green' stage.

Stanley Knives

Stanley type knife with a fixed blade, Spare blades available in packs of 5.

CSM Wheel Cutter

A lightweight hand held roller cutter with a high quality Tungsten steel blade and an integral wheel guard to minimise risk to the operator. Spare blades are also available.

Wooden Trimming Knife

Used to trim mouldings while the laminate is partially cured and still in the mould

Protective Clothing

Dust & Fume Masks

Masks and respirators for use in the GRP industry;

Silner 12 Half Mask – A rubber mask with removable filters. Replacement filters for both dust and fumes are available.

3M 4251 Mask – A disposable rubber mask for use with both dust and organic vapours. When cared for properly this has a relatively long life.

Moldex 2405 Puramask – A disposable mask for use against solid particles and mildly toxic fumes.

Coveralls

Tyvex disposable overalls with relatively high resin and tear resistance, which are used for clothing protection when laminating or sanding.

Hoods

Disposable paper hoods for use when spraying GRP materials.

Gloves

Marigold type rubber gloves for longer life.

Latex disposable gloves for one off use, available in boxes of 50 pairs.

Safety Glasses

For protection against splashing, especially when dispensing catalyst.

Takleen

Specially formulated for the GRP industry, resinkleen quickly removes polyester and similar oils and grease safely and comfortably, while having the added benefit of Lanolin, leaving the hands smooth and soft.

Sanding and Polishing

Sandpaper

High quality SIA wet or dry paper, in grits from P40 to P1200

Rubbing Compounds

Water based, with no solvents or silicones, Durabuild rubbing compounds, were developed specifically for use on GRP surfaces. Ideally used with a Velcro Buffing or Finishing Pad (see below)

- * 500 grade removes coarse scratches and dullness from soiled surfaces
- * 1000 removes lighter scratches from moulds and finished parts
- * 2000 removes 600 grit scratches and polishes gel coat surfaces
- * 3000 removes fine scratches leaving high gloss finish

Handycloths

Polypropylene cloths for wax removal, polishing and general buffing.

Buffing & Finishing Pads

Velcro backed pads to fit on a backing pad with 14 mm threaded screw for polishing machine, to be used with the Durabuild compounds above.

Available in both Lambswool (coarser) and mohair (fine).

Foam Pads

6" diameter foam pad with 14 mm screw thread for polishing. Ideal for non slip surfaces.

Tack Rags

An impregnated slightly tacky cloth, for removal of dust immediately before gelcoating of the mould.

Metal Powders

For use in the cold cast metal industry, these fine metal powders are added to the gelcoat and applied to the mould prior to back filling with a thickened resin. When cured the surface can be polished with wire wool to give a metal-effect finish. Bronze, brass, copper, aluminium and iron powders are carried ex. stock.

Pattern Making

Clays, fillers, wax fillets and casting resins for use in pattern and prototype making.

Kleenclay

A soft plasticene like putty, which can be shaped easily and is ideal for giving a smooth radius on a sharp internal corner.

Body Filler

Standard 2-part car body fillers ideal for shaping, filling etc. Easily sanded and can be used in conjunction with resin release N for mould making where the surface shine is not critical, or with the Durabuild range of primers and gloss coats to give a high sheen finish.

Durabuild Hi Gloss Putty

High quality paste designed to provide a strong repair material for all forms of polyester moulds and parts. It is easily sandable yet develops a surface hardness formulated to be used as the finished mould or part surface.

Durabuild Rapid HHR Putty

This high setting, high heat resistant (up to 230°C) system offers the user a smooth workable paste with a fast cure time to expedite repairs.

Sheet Wax

Used where a definite thickness has to be added to a surface, as in the manufacture of moulds for cold press or RTM . Available in 29 thicknesses from 0.25 mm to 9.5 mm. The sheets are packed in cartons, each sheet being 24"x 12" (610 mm x 305 mm).

Wax Fillets

Used for forming radii on moulding patterns, supplied in lengths 18" long, in various radii from 3 mm to 25 mm.

Primers

For bonding GRP to certain materials a primer is required to ensure effective adhesion. Some Primers can also be used to seal porous surfaces prior to application of a release when mould making.

G4

A single component moisture cured polyurethane that forms a non-porous seal on the surface. Because G4 is moisture cured it is not inhibited from curing by dampness in the substrate, and so is an ideal primer for GRP to surfaces such as concrete.

Microseal T20

T20 is a special purpose primer to ensure an excellent bond between GRP and PVC.

Mould Clamps

For clamping GRP flanges, this mould clamp incorporates a locating mechanism, and a bolt. The female clamp is moulded into the first flange, followed by the male in the second, and the complete unit ensures exact alignment of the 2 surfaces and extended mould life without the abrasion normally associated with the use of nuts and bolts.

Filler Powders

Faults such as cracking or grazing in resin rich areas, excessive shrinkage, warpage and buckling can easily be eliminated by the use of a suitable filler, and mouldings with improved rigidity, surface finish, surface hardness and water resistance can be produced. Fillers can also be dispersed in polyester resin with little effect on viscosity, while reducing the cost by as much as 30%.

Fillite

An Alumina Silica sphere, which is a by-product of coal burning power stations. These glass bubbles are used to make a thick resin paste for use in awkward places.

Calcium Carbonate

OMYA BLR2 is fine calcite white filler, which is suitable for use in mouldings, which are pigmented, in white or light coloured shades.

Q-Cell Glass Bubbles

Very fine hollow glass spheres of uniform shape, wall thickness and size, which are used as a cost effective very light volume filler.

Cabosil

A thixotropic additive for addition to resin to make putty like paste.

2 part Polyurethane Foam

Two liquid components are mixed together using a mechanical mixer in accordance with the instructions supplied to the correct proportions to make polyurethane foam of approx. 33 kgs/m³ density. This material can be used to fill cavities, and also as a form of buoyancy, though due to it not being 100% closed cell, the solid should ideally be sealed in a watertight container.

A system with Lloyd's approval for use as buoyancy is also available, but the mixing method for this is critical.

Smooth-On Foam It!

Foam It! 15 is a 2 part PU foam system that can be coloured etc., and is also available in flexible form, Foam It 15!V

Containers & Dispensing

Buckets and Tins

We stock a wide range of open- and screw topped- plastic and steel containers for storage of different materials and also as mixing containers.

Auto Dispensers

A measuring cylinder incorporated into the top of a plastic bottle. When the bottle is squeezed the cylinder fills up to the required volume and can then be poured out. These are ideal for dispensing catalyst into resin mixes.

WARNING Safety glasses should always be worn when handling catalyst

Syringes

For dispensing small amounts of catalysts. Available in 5 ml, 10 ml, and 20 ml sizes.

Wall mounted Catalyst Dispenser

The Downland Catalyst Dispenser has been designed to produce accurate one off or constantly repeatable quantities at the pull of a handle. Up to 100 ml can be dispensed in one stroke, and the Stainless Steel / PTFE construction ensures accuracy while retaining the essential ease of operation.

Metal Resin Taps

These large aperture, cast iron, non-drip sliding plate taps fit into the 2" or ¾" B.S.P. holes in 45 gallon drums.

Plastic Acetone Taps

Plastic swivel tap to fit into ¾" BSP hole on a drum, used to dispense acetone.

Brass Acetone Taps

As above but of brass construction, with a locking lever, and suitable for use with other solvents such as styrene.

Processing Equipment

We supply range of Downland processing equipment for the GRP industry. Below is a small part of the range available, but for other products and further information please contact us.

Polycon Gel Gun

This uses a selection of plug in nozzles to spray a wide variety of materials. The resin is catalysed in the plug in container prior to use, eliminating the danger of curing resin in pipelines etc., and the system uses compressed air from 30 to 150 psi. The reusable plastic containers are available in 500ml, 1.1 ltr and 2.2 ltr sizes.

Diamond Cutting Tools

Air and electric powered trimmers with diamond tipped cutting blades from 2" to 5" diameter, spoked or unspoked. For replacement blades please specify outside diameter and internal bore.

Health and Safety Information

Below is a brief outline on Health and Safety for some of the various products we carry. For further information please refer to the relevant Material Safety Data Sheets (MSDS), available on request. Please refer to the hazard warning labels on the container labels and take note of the risk and safety phrases.

Polyester Resin

Polyester contains Styrene, which is harmful. Vapours can irritate the eyes, throat and nasal passages. Skin contact can cause defatting leading in some cases to dermatitis. Accidental ingestion can cause gastrointestinal irritation. High concentrations of solvent vapour can cause dizziness, nausea and headache.

The machining of finished mouldings can create dust. The dust concentration should be kept as low as possible, and not exceed the Occupational Exposure Limits for nuisance dust.

Catalyst

MEKP catalyst has an irritant effect on the skin, mucous membranes and respiratory passages. It has a particularly strong irritant effect on the eyes, which can be permanently damaged. Avoid contact with eyes and skin. Avoid inhalation of vapour and ingestion of liquid.

Acetone

Acetone is a Narcotic at high vapour concentrations, and is Highly Flammable, The vapour is heavier than air, spreading along the ground, and so distant ignition is possible. Can cause irritation of the skin, eyes and respiratory tracts, headaches, dizziness, nausea, narcosis and dryness to the skin.

Styrene

Styrene is harmful by inhalation, irritating to eyes and skin, and aspiration to the lungs may cause chemical pneumonitis, which can be fatal.

Styrene is Flammable, with a high risk of vapour ignition at normal handling temperatures.

Polyurethane Foam

Polyol Component This is a potentially hazardous material and requires care in handling. The vapour will irritate the membranes of the nose, throat, lungs and eyes, and exposure will produce a variety of symptoms including watering of the eyes, dryness of the throat, tightness of the chest and headaches.

DISCLAIMER

The above information is a guideline only, and relevant material Safety Data Sheets (MSDS) should be referred to for correct handling procedures.

KEEP ALL MATERIALS OUT OF THE REACH OF CHILDREN

Quantities and kit weights for GRP

To calculate the quantities of glassfibre, resin, flowcoat, and catalyst, the following method should be used:

1. Calculate the total area in m² of glassfibre required for the repair, allowing for overlaps, extra layers etc. 1 m² = approx. 10 ft²
2. From the area required, the weight of fibreglass can be calculated, depending on the grade of material to be used:
CSM450 = 450g/m² i.e. 1 m² of fibreglass weighs 450gms
CSM600 = 600g/m² i.e. 1 m² of fibreglass weighs 600gms
3. The ratio of resin: fibreglass = 2.5: 1
i.e. 1kg of fibreglass requires approx. 2.5 kgs of resin.
4. Flowcoat and gelcoat give a coverage of approx.0.5 - 0.75kg/m²
i.e. 1 kg of gel/flowcoat will cover approx. 1.5m²
5. Catalyst should be added at between 1.0 and 4.0% by weight depending on ambient conditions and cure time required. The standard addition rate is 2%.
(= 20gm catalyst per kg of resin.)

This ratio applies to all polyester resins, gelcoats, flowcoats etc. unless otherwise specified. Too much or too little catalyst will inhibit cure, while gel time is adversely affected by high humidity and low temperature.

Below are some suggested kit sizes of suited resin/fibreglass quantities, with acetone for cleaning and brushes etc. for application.

CSM450 (450gm/m²) is the standard grade of fibreglass for general repairs.

Kit A

For repairs of approx. 1 m²

Resin	1 kg
Fibreglass	1 m ² (=c. 0.5kg)
Catalyst	25 gm
Acetone	100 ml
1½ Brush	1 off

Kit B

for repairs of approx. 2 m²

Resin	2.5 kgs
Fibreglass	2 m ² (=c. 1kg)
Catalyst	50 gm
Acetone	250 ml
2" Brush	1 off

Kit C

For repairs of approx. 4m², with a flowcoat finish

Resin	5 kgs
Fibreglass	4 m ² (= c.2kgs)
Flowcoat	5 kgs
Catalyst	250 gm
Acetone	500ml
2" Brush	1
3" Brush	1
3½" Paddle Roller	1

GENERAL INSTRUCTIONS FOR WORKING WITH GLASSFIBRE

1. Work in dry, well-drained and warm conditions. Dampness and cold inhibit cure.
2. Protect yourself and your clothes. Wear gloves. Wear a fume mask if working in enclosed spaces. Protect your eyes from contact with resin, catalyst and acetone.
3. Thoroughly prepare surface to be worked on, removing all traces of oil, dirt, water etc. For repairs to existing GRP ensure a good key is obtained by aggressive sanding with coarse grit sandpaper.
4. Have everything ready before starting work:
Cut glass mat to size. Pour the required amount of resin into a container. Have a jar of acetone ready to clean the brushes and rollers after use.
5. Add hardener to the resin accurately and carefully – too much will prevent cure, too little will retard it. As a rule of thumb 20cc of hardener to 1 kilogram of resin should be used, giving a pot life of about 20 minutes at 20 deg C. In warm weather reduce this to no less than 10cc per kilo and in cold weather increase to no more than 30cc per kilo. Only catalyse as much resin as can be used within the pot life.
The lids of the hardener bottles hold approximately the following amounts:
100cc bottle – 3cc; 250cc bottle – 4cc; 500cc & 1 litre bottle – 5cc.
Mix the hardener thoroughly into the resin before use.
6. Using a brush or mohair roller, apply the resin evenly over the surface to be fibreglassed. Lay down the glass mat and apply more resin, spreading out liberally and evenly over the mat. Using a paddle roller, or stippling with a brush, thoroughly “wet-out” the glassfibre, so that the glass is fully impregnated with resin and all air bubbles removed.
7. Wash out brushes and rollers thoroughly in acetone after use. To save for re-use follow this by washing in warm soapy water and allow to dry.

Further Notes

Gelcoat: is the hard glossy external finish on a GRP product. When applied to the prepared mould, the surface exposed to the air dries with tackiness so that a good bond is achieved with subsequent laminates.

Flowcoat: is similar to gelcoat in consistency, but has a wax additive which prevents tackiness. It is used as a finishing coat on raw laminates and repairs etc. It can be bought pre-mixed or can be made by adding wax solution to a resin-gelcoat mixture. (Approximately 40cc per kilo) Non-slip flowcoat is also available.

Coverage for both materials ranges from 0.5 – 1kg per m², depending on consistency and surface detail. As both gelcoat and flowcoat are polyester resins, catalyst must be added as outlined in (5) to effect cure.

HEALTH AND SAFETY:

Please refer to the labels on the resin, catalyst and acetone containers and note the hazardous nature of the products and the safety precautions to be taken when using them. For further information refer to the relevant MSDS (Material Safety Data Sheets) - available on request.

KEEP ALL MATERIALS OUT OF THE REACH OF CHILDREN

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