

GRP KITS APPLICATION GUIDELINES

PERSONAL PROTECTION

Please familiarise yourself with the Material Safety Data Sheets before starting. Personal protection should be worn at all times, safety goggles, gloves, apron and overalls.

MATERIALS

GRP Kits are supplied with the following materials

1. Fibreglass Matt
2. Polyester Resin
3. Topcoat
4. Catalyst / Hardener
5. Tools

WORKING AREA

Laminating should be done at warm temperatures ideally around 20°C, as this ensures the resin will cure correctly. Resin will not cure adequately below 15°C, and at temperatures above 30°C, they will cure too quickly.

MIXING CATALYST

All resins / topcoats require the addition of catalyst (hardener) to initiate the curing process. Use a safety dispenser to add 20ml of catalyst per kilo of resin. Stir thoroughly. The hardening process begins immediately, so only add catalyst to a working quantity.

Once catalysed the resin gradually cures, taking on a jelly-like consistency in about 10-20 minutes before becoming hard in about 30-40 minutes at room temperature (about 20°C). The curing process generates heat within the resin. Too much catalyst or large volumes of resin increases this heat, so a thick laminate or a large casting should preferably be built up in stages. Over catalysing the resin can cause the resin to overheat and sometimes cause a fire.

Thorough mixing of catalyst into resins and topcoat is very important. Also the correct quantities should be used for the best results. Dispensers are advised for accuracy. 1% catalyst is considered a slow mix, 2% is ideal, 3% is a fast mix.

The higher the temperature the faster the cure. As a general guide 2% addition at 20°C gives 15-20 minutes pot life.

APPLYING THE LAMINATE

- Mix a maximum of 2kg of resin at a time, enough for 2m² of fibreglass mat.
- If using the kit to repair a surface ensure that the surface is dry, clean, free from rust etc. It is advisable to sand the old surface as this will ensure better adhesion for the resin.
- The number of layers of Glass required will vary depending on the application. This can vary from one layer to multiple layers.
- Paint on a coat of catalyzed resin to the surface and then lay on the first section of fibreglass, apply more resin to “wet out” (saturate) the fibreglass. Then apply the next layer, which should be cut slightly smaller to create a built in staggered overlap and again apply more resin. Once the fibreglass has been ‘wetted out’ it is necessary to consolidate the two layers of fibreglass and this is done using a metal roller. The roller when used forces the two layers of fibreglass together and removes any trapped air, this appears in a laminate as a white blister, and care must be taken to ensure that this is done.
- Fibreglass mat will not lie into sharp corners easily. The best way is to lay the mat into the apex of the corner from each direction. The apex of the corner now needs some extra reinforcement. Tear a strip of fibreglass mat, approx. 100mm wide, wet out with resin and then place the fibreglass into the corner and form it into the corner using a brush.
- Since there will be a butt joint at the corner it is then recommended that a strip of fibreglass approx. 200mm is cut with the edges frayed out and then applied as a tape would be into the corner. Once the fibreglass has been “wetted out” it is easier to work into corners and around more complicated and compound shapes. For this purpose a brush is used.
- Apply as many layers as necessary.

TOP COATING

Topcoat is also known as painting resin. Topcoat forms a very hard wearing surface. When fully cured it can be sanded with wet & dry paper followed by polishing with a cutting compound to form a good finish.

PREPARATION OF SURFACE

If working on existing GRP mouldings they should be sanded/abraded with at least 100 grit sand paper so that the topcoat will adhere. A new fibreglass laminate does not need any preparation. Old fibreglass laminates will benefit from a quick sanding. Painted surfaces usually react badly with topcoat so it is advisable to remove all paint by sanding. Only paint strippers designed for use on fibreglass should be used. All surfaces should be clean & dust free.

CATALYST Hardener

Catalyst is added and stirred to activate the topcoat. Add catalyst at the rate of 2%-3% but never less than 1.5%. Mix enough topcoat for no more than 2 to 3m² to avoid wasting material. The topcoat can be painted on.

COVERAGE

Approx. 500g per m² of topcoat is required.

CURING

When activated with catalyst at 2% in temperatures of 20°C pot life is approx. 20 minutes. Higher temperatures and higher catalyst additions will reduce pot life.