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Supplying Quality Fibreglass & Moulding Products

Basic Fibreglass Repair

GENERAL INFORMATION

Fibreglass Reinforced Plastic (FRP) laminate sections are tough, but like other products they can be damaged. Repairs are easily accomplished if proper procedures are followed. This guide sets out simple repair procedures that are based on accepted industry practice and when followed will achieve satisfactory results.
Quality of the finished repair is largely dependent on proper surface preparation and cleanliness. Sufficient thickness and overlap is equally important. Follow the instructions for the preparation, mixing and application of materials carefully to achieve good results. Fibreglass may be used to repair a wide range of surfaces including fibreglass, timber and metal surfaces on boats, cars, caravans and for repairs to house components.

SAFETY INFORMATION

As many of the chemical used in fibreglass repair work are hazardous and/or flammable it is import to follow simple safetly procedures. Please ensure you are confident in the safety aspects before undertaking any repair work.

- Most resins, solvents and catalyst are highly flammable. Store in closed original containers and in cool dark areas.
- Do not smoke when using the above and avoid all naked flames and excessive heat.
- To avoid any contamination, properly dispose of unused materials.
- Do not return unused mixed materials to storage containers.
- Catalyst and solvents can damage skin and eyes. Wear close fitting eye protection, PVC gloves and suitable clothing as recommended by suppliers.

PERSONAL PROTECTION

- Resins, catalyst and acetone solvent can cause damage to skin and eyes. Wear close fitting eye protection. Wear gloves and suitable clothing to prevent prolonged skin contact.
- Keep all materials well away from naked flames and excessive heat sources. Always work in a well ventilated area, open doors and windows.
- Do not use oral suction methods for measuring. Do not ingest, or inhale any of the products.
- Ask for manufacturer's safety and emergency instructions if you are in doubt as to the correct handling procedures.

STORAGE AND HANDLING

- Most resins, acetone solvent and catalyst are, highly flammable. Store in sealed original containers in cool dark areas.
- Properly dispose of mixed unused materials. Do not return mixed unused resins to original container.

- The shelf life of GP Resin is approximately six (6) months at

IMPORTANT THINGS TO REMEMBER

When making any of the fibreglass repairs that are outlined in this leaflet, take care to adhere to the following points:

- When mixing catalyst and resin, mix only the quantity that can be used in approximately 15 to 20 minutes, the pot life of the mix. This will be reduced in hot conditions.
- The catalyst (MEKP) must be thoroughly mixed with the resin in the range of 1% to 2% of catalyst by volume.
- Avoid working in direct sunlight -the resin materials are heat sensitive and set more quickly the higher the temperature, 15'C to 20'C is most conditions. Avoid working in cold, damp conditions.
- Acetone solvent is used for surface preparation and cleanup of equipment. Do not use acetone for thinning the resin systems.
- All pigments will change colour after a period of exposure to sunlight. Exact colour matching is difficult, particularly with older parts. Excess catalyst or high curing temperatures will cause discoloration of the pigment.
- Thorough wetting out of the fibreglass cloth with the resin system is important to achieve the strength and lasting properties. This wetting out procedure normally requires the use of slotted metal rollers / paddle rollers.

HOW MUCH DO I NEED

The amount of resin required will depend on whether you are using heavy or light mat, or cloth. The average amount required is 1 litre of mixed resin per square metre of 450gm mat and approximately 750 mls mixed resin per square metre of 300gm mat or cloth.

SURFACE PREPARATION

It is essential that the surface to be fibreglassed is free from PAINTS, OILS. DUST.

For Fibreglass Repair

- Lightly sand the surface with medium grade abrasive paper to remove existing topcoat or paint, back to original fibreglass layer
- Wipe off surface, dust and clean with acetone solvent.

For Timber Surfaces

- Remove all paints, oils, dust etc.
- Lightly sand surface with medium grade abrasive paper.
- Wipe surface clean
- Timber must be dry before fibreglass application.

For Metal Surfaces

- Remove all paints, oils, dust etc.
- Sand with abrasive paper until metal surface is clean.

- Wipe over surface with acetone solvent to remove all dust/ contamination.
  Note: All corners and edges should be rounded.

MIXING STEPS

Catalyst addition must be carefully done -a minimum of 1 part catalyst (MEKP) to 100 parts of GP resin by volume to a maximum of 2 parts per 100 parts. In cool conditions use 2 parts/100 parts. If you have a measuring pot do not add the catalyst to the resin in measuring pot, transfer resin to a mixing pot then add catalyst to resin. This leaves your measuring pot in good condition to be reused. Add the catalyst into the resin and thoroughly mix.

CHOPPED STRAND MAT FIBREGLASS CLOTH

LIGHT CSM – 300gsm

- For areas such as fibreglassing timber where strength is not important.
- For normal household repairs
- For applications where laminate thickness and strength are not important.

HEAVY CSM – 450 / 600 / 900 gsm

- For flat surfaces where strength and laminate thickness are required and important.
- For boat hull repairs.
- For car body repairs.

APPLICATION

After measuring and cutting glass, mix resin and catalyst together. Brush the mixed resin onto the prepared area to be glassed then lay fibreglass mat over resin Apply a second coat of mixed resin and using a slotted metal roller force the resin through the fibreglass, carefully removing all the air bubbles. Allow to cure. It is much easier to wet out the fibreglass reinforcement by forcing resin up from below rather than rolling it in from the top surfaces. Pigment paste may be added if colour is required to the resin at approx. 20 gm per 1 litre. '

If a second layer of fibreglass is required for strength this may be applied immediately after the first layer is touch dry. Allow the fibreglass layer to cure for 1 to 2 days to achieve its full strength.

THE LAMINATING PROCESS

The type of glass used in the laminate will be determined by cost and strength considerations. Generally, most of the reinforcements are in the form of chopped strand mat which is cheaper than the other types of glass. However, the appearance of a laminate is enhanced if a layer of surface tissue, or a 300 gsm chopped strand mat is used in the outer surface.

THICKENING THE RESIN

The most common method for thickening catalysed GP Resin is by adding industrial talc. This can then be used as a putty or bog.

FLOCOAT / FLOWCOAT / TOPCOAT

Flow coat is a thick paint like consistency which can be brushed on after fibreglass repairs or for recoating worn areas such as boats, floors etc, this then protects the surface. Flocoat is available in a variety of colours and also available in non-slip versions.Flocoats be tinted if colour is required using pigment paste. The surface to be coated should be sanded and wiped clean with acetone solvent to remove any dust contamination. If a smooth finishes is required sand with a fine wet & dry paper and then cut and polish with an appropriate polish. Flocoat is a similar product to Gelcoat but a Gelcoat is unwaxed and will therefore result in a tacky finish when used as a topcoat. Flocoat should not be used in place of a gelcoat in mould layup procedures.

CLEANING UP

Brushes, rollers and equipment should be cleaned up with acetone solvent before resin / Flocoat starts to gel.

CARE AND UPKEEP OF FIBERGLASS PRODUCTS

Exposure to sunlight, water, dust and chemicals can be detrimental to the gelcoat surface, causing chalking discoloration, yellowing or loss of gloss. Simple periodic maintenance procedures will minimise these changes.