



The Engineer's Choice

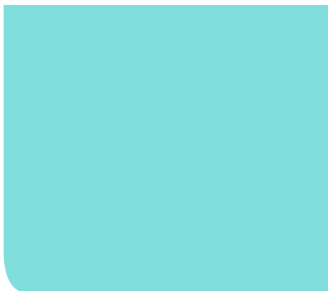
**Repair don't Replace!**

## UPS Engineering Repair Standard Resin TRK 19000

UPS Standard Resin TRK 19000 is a high performance, solvent free epoxy system designed for on-site repairs to metal, wood, glass and synthetic materials.

This material consists of a unique blend of epoxy resins combined with polyamino amine adducts, which have been specifically selected to provide the optimum adhesion, mechanical and physical strength.

UPS Standard Resin TRK 19000 is simple and easy to use and when used in conjunction with UPS Reinforcement products such as glass mat, glass tapes or glass cloth will result in an excellent repair medium having inherent strength and integrity.



### PHYSICAL CONSTANTS

Mixing Ratio: 2 parts base to 1 part activator by volume

Appearance: Base: Clear Liquid  
Activator: Clear Liquid

Volume Solids: 100%

V.O.C.: Nil

### Drying & Cure Times at 20°C (68°F)

Usable Life: 20 mins

Touch Dry: 2 hours

Hard Dry: 16 hours

Minimum Overcoating: 2 hours

Maximum Overcoating: 24 hours

Full Cure: 7 days

### PHYSICAL PROPERTIES

\*\*\* Low Pressure Repair: 35kg/cm<sup>2</sup> (500psi)

\*\*\* High Pressure Repair: 112kg/cm<sup>2</sup> (1600psi)

Tensile Strength ASTM D1002 (without bandage) 633kg/cm<sup>2</sup> (900psi)

Flexural Strength ASTM D790 (without bandage) 956kg/cm<sup>2</sup> (13600psi)

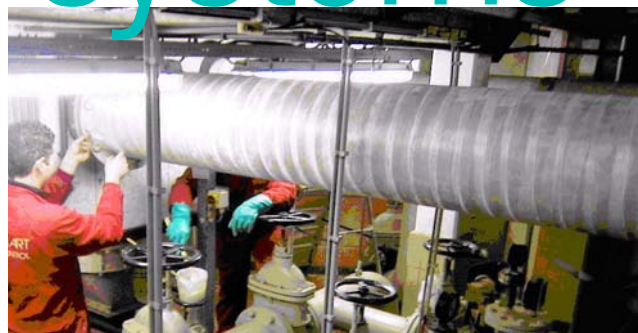
Compressive Strength ASTM D695 (without bandage) 1019kg/cm<sup>2</sup> (14500psi)

Maximum Working Temperature (in conjunction with glass tape) 170°C (338°F)

Maximum Working Temperature (in conjunction with sealer/filler resin mix) 180°C (356°F)

\*\*\* See application manual for full details

# High performance resin systems



## Surface Preparation

All surfaces must be clean, dry and free from oil, grease and loose materials.

**Metal Surfaces:** All loose material, rust and surface contaminants, including existing coatings, must be removed and the surface roughened by using an angle grinder, needle gun or abrasive blasting. Where grinding or needle gunning is used, the surface should be cross-scored to improve adhesion. Care must be taken, when angle grinding, to avoid polishing rather than roughening metal surfaces.

**GRP and Wooden Surfaces:** All loose or rotten material must be removed back to a sound edge. Flaking paint or lacquer scraped clear and sound paintwork thoroughly sanded to provide an effective key.

Where it is not possible to clean the surface thoroughly the application of a coat of UPS A & B Cement TRK19002 could possibly improve the bond of the final repair.

## Mixing

UPS Standard Resin TRK 19000 is a two component material consisting of a resin component and liquid hardener component. The resin component should be poured into a suitable mixing container and the hardener added then thoroughly stirred until a homogeneous mix is obtained.

The mixed material should be used within 30 minutes of mixing at 20°C. This time will be reduced at higher temperatures and extended at lower temperatures.

**UPS Standard Resin TRK 19000** should be applied to the prepared surface by stiff brush or roller to give a uniform even coating taking care to avoid excessive build up and ponding. On rough or pitted surfaces the product should be worked into the surface to ensure complete wetting of the substrate. To maximise the strength of the repair, it is essential that a complete coating of the resin mix is applied prior to the laying up of each layer of glass fabric. By doing so, a homogeneous glass fibre resin laminate will be achieved.

**Laying up of Glass Fabrics:** The principal strength of the glass fibre resin laminates lies in the glass tape or glass cloth layers which are either wound or laid on to the surface of the repair. When using glass tape, this should be wound on with half overlap and care must be taken to ensure that it is applied evenly and flat. This will eliminate any possible causes of weakness in the laminate. When applying multiple layers of glass tape, each subsequent layer should be applied in the reverse direction and the glass tape should not be cut at the end of each pass. It will sometimes be found difficult to keep the wind-



e.g. when the repair is on a bend in a pipe. In these instances, it is better to cut short lengths of glass tape and lap them one on the other. The same procedures generally apply when glass cloth is being used.

**Application of Glass Mat:** The purpose of the glass mat is to provide a rigid backing layer to a repair which has been effected using glass tape. To achieve this result, it is essential that the glass mat is thoroughly saturated with the resin mix. This is best achieved by working the mixed Standard Resin TRK 19000 into the mat, by stippling with a brush, before applying it to the repair. NOTE: The ideal film thickness prior to the glass tape or glass mat is 450 microns. This thickness is required to soak into the tape or mat. The coverage rate of the mat or tape per 225g unit is 0.35m<sup>2</sup>.

**Application of UPS Sealer Filler:** This material is a non asbestos powder supplied with sufficient material to add to one unit of UPS Standard Resin TRK 19000. Mix the UPS Standard Resin TRK 19000, then transfer to a clean mixing vessel. The UPS Sealer Filler should be added to the resin mix and stirred until the filler is thoroughly dispersed. The resultant paste should be applied to the repair, as required, using a trowelling tool. The mix can be applied to operate at temperatures up to approximately 180°C. When it is applied as a pre-coat, prior to carrying out a repair, it will help to insulate the resin laminate from the operating temperatures of the parent body.

**Application of UPS Fairing Compound:** This is a filler which consists of glass fibre strands supplied with sufficient material to add to one unit of UPS Standard Resin TRK 19000. The methods of mixing and application are similar to the UPS Sealer Filler. The main purpose of this mix is to fill in undulations prior

**Theoretical Coverage Rate 0.6 m<sup>2</sup>/unit at 200 microns dft.  
(12.75 ft<sup>2</sup>/unit at 4 mils dft).**

**Recommended Film Thickness**  
Wet 100 microns (4 mils)  
Dry 100 microns (4 mils)

## Important Notice

All statements, technical information, and recommendations related to UPS's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using these products, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in UPS's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorised officer of UPS.



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