

Standard Resin & Hardener

ThistleBond ‘Standard Resin and Hardener’ is a high performance, solvent free epoxy system designed for onsite repairs to metal, wood, glass and synthetic materials.

ThistleBond ‘Standard Resin and Hardener’ consists of a unique blend of epoxy resin combined with polyamino amine adducts, which have been specifically selected to provide the optimum adhesions and mechanical and physical strength.

ThistleBond ‘Standard Resin and Hardener’ is simple and easy to use and when used in conjunction with ThistleBond reinforcement products such as glass cloth, glass tapes or glass mat will result in an excellent repair medium having inherent strength and integrity.

Before proceeding please read the following information carefully to ensure that the correct proper application procedure is fully understood.

SURFACE PREPARATION

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

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 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 coating of **ThistleBond ‘A & B Cement’** could possibly improve the bond of the final repair.

MIXING

ThistleBond ‘Standard Resin and Hardener’ 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 and 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.

APPLICATION

ThistleBond ‘Standard Resin and Hardener’ 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, 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 Tape or Cloth layers which are either wound or laid on the surface of the repair. when using 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 a possible cause of weakness in the laminate. When applying multiple layers of Tape each subsequent layer should be applied in the reverse direction and the Tape should not be cut at the end of each pass.

It will sometimes be found difficult to keep the winding smooth, e.g. when the repair is on a bend in a pipe. In these instances, it is better to cut short lengths of Tape and lap them one on the other.

The same comments generally apply when Glass Cloth is being used.

Application of Glass Mat: The purpose of 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 can best be achieved by working the Resin Mix 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 unit is 0.35m².

Application of Sealer Filler Resin Mix: Sealer Filler is a non-asbestos powder supplied with sufficient material to add to one unit of **ThistleBond ‘Standard Resin and Hardener’**. Mix the **ThistleBond ‘Standard Resin and Hardener’** then transfer to a clean mixing vessel. The 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 trowling tool.

The mix can be applied to operate at temperatures upto 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 Fairing Compound Resin Mix: Fairing Compound is a filler which consists of glass fibre strands supplied with sufficient material to add to one unit of **ThistleBond 'Standard Resin and Hardener'**. The methods of mixing and application are similar to the Sealer Filler Resin Mix. The main purpose of this mix is to fill in undulations prior to the application of a ThistleBond repair.

Theoretical Coverage Rate

0.6 m²/unit at 200 microns dft. (12.75 ft²/unit at 4 mils dft).

Recommended Film Thickness

Wet 100 microns (4 mils)

Dry 100 microns (4 mils)

PHYSICAL CONSTANTS

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

Appearance Base Clear Liquid
Activator Clear Liquid

Drying & Cure Times at 20°C/68°F

Usable Life	30 Mins
Touch Dry	2 Hours
Hard Dry	16 Hours
Minimum Overcoating	2 Hours
Maximum Overcoating	24 Hours
Full Cure	7 Days

These times refer to **ThistleBond 'Standard Resin and Hardener'** only. When the product is blended for other uses times will be extended and will depend on the final quantities of the mix.

Volume Solids 100%

V.O.C. Nil

Shelf Life Use within 5 years of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F).

PHYSICAL PROPERTIES

***Low Pressure Repair** 35kg/cm²
(500 psi)

***High Pressure Repair Bandage** 112kg/cm²
(1600 psi)

* (See application Manual for full details)

Tensile Strength (without bandage) 633kg/cm²
ASTMD1002 (900 psi)

Flexural Strength (without bandage) 956kg/cm²
ASTMD790 (13600 psi)

Compressive Strength (without bandage) 1019kg/cm²
ASTMD695 (14500 psi)

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

The maximum working temperature in conjunction with sealer/filler resin mix is 180°C (356°F).

HEALTH AND SAFETY

As long as normal good practice is observed **ThistleBond 'Standard Resin and Hardener'** can be safely used.

Protective gloves should be worn.

A fully detailed **Material Safety Data Sheet** is either included with the material or is available on request.

PACKAGING

Supplied in 225gms packs.

The information provided in this Product Data Sheet is intended as a general guide only and should not be used for specification purposes. The information is given in good faith but we assume no responsibility for the use made of the product or this information because this is outside the control of the company. Users should determine the suitability of the product for their own particular purposes by their own tests. Detailed specifications are available on request from the company.

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