

RESIMETAL 301 Epoxy Resin and Hardener

Resimetal 301 Epoxy Resin and Hardener is a two pack, thixotropic epoxy material used for use injection applications, bonding of dissimilar materials and for use in conjunction with a range of tapes and fabrics to produce high strength composite repairs.

Typical Applications

The product can be injected into voids ranging from 750microns (30mil) to 15mm (60mil) in depth. The product can be used for bonding wood, metal or plastic surfaces.

When used with either glass tape, glass matt, chop strand matt or linen scrim this product can be used to repair equipment such as leaking pipework up to 900mm (36"), holed pump casings, leaking flange faces, leaking tank seams, leaking valve casings.

Surface Preparation

Injection Applications – where possible all surfaces must be abrasive blast cleaned to ISO 8501/4 Standard SA2.5 (SSPC SP10/ NACE 2) and with a minimum blast profile of 75 microns using an angular abrasive.

However this product is tolerant of less than ideal surface preparation and will adhere to surfaces prepared using Hand tools, Mechanical Tools and Hydro-blasting.

Bonding of dissimilar materials - where possible all surfaces must be abrasive blast cleaned to ISO 8501/4 Standard SA2.5 (SSPC SP10/ NACE 2) and with a minimum blast profile of 75 microns using an angular abrasive.

However this product is tolerant of less than ideal surface preparation and will adhere to surfaces prepared using Hand tools, Mechanical Tools and Hydro-blasting.

Encapsulation using technical fabrics - where possible all surfaces must be abrasive blast cleaned to ISO 8501/4 Standard SA2.5 (SSPC SP10/ NACE 2) and with a minimum blast profile of 75 microns using an angular abrasive.

However this product is tolerant of less than ideal surface preparation and will adhere to surfaces prepared using Hand tools, Mechanical Tools and Hydro-blasting

***PLEASE BE AWARE THAT FOR THE BEST RESULTS THE REPAIR SURFACE SHOULD BE ABRASIVE BLAST CLEANED. IF USING INFERIOR PREPARATION TECHNIQUES THIS WILL AFFECT THE PERFORMANCE OF THE PRODUCT.**

Where there is corrosion pitting, this should be rebuilt using Resimac 302 Epoxy Repair Cement which can also be used to enhance adhesion onto poorly prepared surfaces.

Mixing and Application

Warm the Base component to 15-25°C (60-77°F) before mixing and do not apply when the ambient or substrate temperature is below 5°C (40°F) or less than 3°C (37°F) above the dew point.

Mixing of the product can be on full units or by part-mixing.

If mixing the whole unit, pour the contents of the Activator unit into the Base container ensuring that as much material is drained from the Activator container as possible. Mix the two components together until they are streak-free using a spatula and apply using a short bristled brush or applicator tool. From the commencement of mixing, all of the material must be used within 25 minutes at 20°C (68°F).

For mixing small quantities the mixing ratio is 2parts of Base to 1 part of Activator by volume or by weight.

Injection Applications - Once the material has been mixed dispense the product into a one component cartridge up to 1ltr volume (0.25 US gallon). Using a single component injection pump, air fed, the material can be injected into gaps to bond concrete to metal, metal to metal, plastic to concrete, plastic to metal.

Bonding dissimilar materials – the mixed material can be used to bond a wide range of material including, concrete, plastic and metal. Apply the product using a brush or applicator tool at a wet film thickness range of 1mm – 4mm (40mil – 3/16”). Once the materials have been joined leave the repair in place for

Encapsulation using technical fabrics – the mixed product can be used in conjunction with glass tape, glass cloth, chop strand matting and linen scrim. The use of a technical fabric is dependent on the type of repair to be performed. Typically the following repairs are performed with these materials –

3 layer pipe wrapping	<ol style="list-style-type: none"> 1. Apply 301 Epoxy Resin and Hardener at 1mm (40mil) WFT Wrap 50/100mm glass tape around pipe with a 50% overlap 2. Apply 301 Epoxy Resin and Hardener at 500 microns (20mil) WFT Wrap 50/100mm glass tape around pipe with a 50% overlap 3. Repeat step 2, and finish with a 500 microns (20mil) coat of 301 Epoxy Resin
3 layer pipe t-joint	<ol style="list-style-type: none"> 1. Apply 301 Epoxy Resin and Hardener at 1mm (40mil) WFT Cut the glass tape in to strips and lay over the surface where the 2 pipes meet Ensure there are at least 3 layers of 301 Resin and Glass tape around the join area 2. Once all the t-Joint area has been coated apply 301 Epoxy Resin at 1mm (40mil) WFT to all the repair area wrap 50/100mm glass tape around pipe with a 50% overlap 3. Repeat step 2, and finish with a 500 microns (20mil) coat of 301 Epoxy Resin
Leaking tank seams	<ol style="list-style-type: none"> 1. Apply 301 Epoxy Resin and Hardener at 1mm (40mil) WFT, ensure the repair area is oversized by 200mm (8”) in all directions 2. Cut a section of glass fibre matting to cover the leaking seam 3. Apply 301 Epoxy Resin and Hardener at 1mm onto the glass fibre matting 4. Apply a 2nd layer of glass fibre matting 5. Seal the repair with a final coat of 301 Epoxy Resin at 500 microns (20mil)

Coverage Rates

300gm (0.66lb) of fully mixed product will give the following coverage rates –

0.50m² at 500 microns 5.3ft² at 20mil

0.25m² at 1mm 2.7ft² at 40mil

Please note that the coverage rates quoted are theoretical and do not take into consideration the profile or condition of the surface being repaired.

Cure Times

At 20°C the applied materials should be allowed to harden for the times indicated below before being subjected to the conditions indicated. These times will be extended at lower temperatures and reduced at higher temperatures:

Usable life	25 minutes
Movement without load or immersion	2 hours
Light loading	16 hours
Full loading	5 days

Pack Sizes

This product is available in the following pack sizes –

300gm (0.66lb), 6kg (13.2lb),

Colour

Mixed material - Opaque
Base component – White gel
Activator component – Light yellow gel

Over-coating times

Minimum - the applied material can be over-coated as soon as it is touch dry.
Maximum - the over-coating time should not exceed 8 hours.

Where the maximum over-coating time is exceeded, the material should be allowed to harden before being abraded mechanically or using coarse sandpaper.

Storage Life

5 years if unopened and store in normal dry conditions 15-30°C (60-86°F)

Technical data and Performance

Volume Capacity	869cc/Kg
Compressive Strength ASTM D695	1034kg/cm ² (14,700psi)
Tensile Shear Adhesion ASTM D1002	148kg/cm ² (2100psi)
Flexural Strength ASTM D790	912kg/cm ² (13,000psi)

Please see Resimetal 301 Epoxy Resin and Hardener Specification Sheet for further technical and performance data.

Health and Safety

Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves must be worn during the mixing and application of this product. Before mixing and applying the material please ensure you have read the fully detailed Material Safety Data Sheet.

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