



resimac<sup>®</sup>

## 301 Epoxy Resin & Hardener

A solvent free epoxy resin designed for injection applications, pipe wrapping, and gap filling. Provides corrosion protection and high strength bonding for dissimilar materials.

- Corrosion protection for pipework
- Pressure resistant up to 300 psi
- Ideal for gap filling on cleaned surfaces
- Compatible with glass fibre fabrics for composite repairs

2025 Product Sheet



## Typical Applications

301 Epoxy Resin & Hardener is a two component, solvent free epoxy resin designed for injection applications, bonding various substrates, and pipe wrapping. Ideal for gap filling, it offers effective corrosion protection and forms a durable bond on mechanically and abrasive blast cleaned surfaces, providing long term protection against erosion and corrosion.

- Injection applications
- Bonding dissimilar materials
- Gap filling
- Pipe wrapping
- Encapsulating problem pipework (1"-42" diameter)

## Cure times

Usable Life		Touch dry		Hard dry		Full Cure	
10°C/50°F	50 mins	10°C/50°F	4 hours	10°C/50°F	12 hours	10°C/50°F	6 days
20°C/68°F	25 mins	20°C/68°F	2 hours	20°C/68°F	6 hours	20°C/68°F	3 days
30°C/86°F	12.5 mins	30°C/86°F	1 hour	30°C/86°F	3 hours	30°C/86°F	1.5 days
40°C/104°F	6 mins	40°C/104°F	30 mins	40°C/104°F	90 mins	40°C/104°F	18 hours

## Characteristics

### Appearance

Base	White gel
Activator	Light yellow gel
Mixed	Opaque gel

### Solids Content

100%

### Volume Capacity

860cc/kg

### Sag Resistance

Nil at 3mm

### Density

Base	1.15
Activator	1.15
Mixed	1.15

### Mixing Ratio

By weight	2:1
By volume	2:1

### Storage Life

5 years if unopened and stored in normal dry conditions, 15-30°C (59-86°F)

## Coverage

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

0.50m <sup>2</sup> at 500 microns	5.3ft <sup>2</sup> at 20mil
0.25m <sup>2</sup> at 1mm	2.7ft <sup>2</sup> 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.

## Mechanical Properties

### Compressive Strength

Tested to ASTM D695  
1034kg/cm<sup>2</sup> (14700psi)

### Corrosion Resistance

Tested to ASTM B117  
Minimum 5000 hours

### Flexural Strength

Tested to ASTM D790  
912kg/cm<sup>2</sup> (13,000psi)

### Hardness

Rockwell R to ASTM D2240  
Shore D: 85

### Heat Resistance

Suitable for use in immersed conditions at temperatures up to 70°C (158°F)  
Resistant to dry heat up to 150°C (302°F) dependent on load

### Adhesion

Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75 micron profile 148kg/cm<sup>2</sup> (2100psi)

Pull off Adhesion to ASTM D4541 on abrasive blasted mild steel with 75 micron profile 244kg/cm<sup>2</sup> (3480psi)

### Heat Distortion

Tested to ASTM D648 at 264psi fibre stress:

20°C (68°F) Cure      70°C (158°F)

## Details & Legal

### Chemical Resistance

The product resists attack by a wide variety of inorganic acids, alkalis, salts and organic media. For more detailed information refer to the Resimac Technical Centre for advice.

### Pack Sizes

This product is available in the following pack sizes:  
300grams (0.66lbs)  
450grams (0.99lbs)  
6kg (13.2lbs)

### Quality

All Resimac Products are supplied under the scope of the company's fully documented quality system.

### Warranty

Resimac warrants that the performance of the product supplied will conform to the typical descriptions quoted within this specification provided material is stored correctly and used according to the procedures detailed in this document.

# Application Guide

## A. Surface Preparation

### **Metallic Substrates: Abrasive blast cleaning**

- 1 All oil and grease must be removed from the surface using an appropriate cleaner such as MEK.
- 2 All surfaces must be abrasive blasted to ISO 8501/4 Standard SA2.5 (SSPC SP10/NACE 2) minimum blast profile of 75 microns using an angular abrasive.
- 3 Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type material.

### **Metallic Substrates: Manual abrasion**

- 1 Use a wire brush or coarse sandpaper to abrade the surface.
- 2 Remove all loose material and as much surface contamination as possible.
- 3 Once abraded, the surface must be cleaned using MEK or similar type material.

### **Metallic Substrates: Mechanical abrasion**

- 1 Use a handheld mechanical grinder with a coarse grinding pad or rotary wire brush.
- 2 Remove all loose material and as much surface contamination as possible.
- 3 Avoid polishing the surface; ensure a cross-hatch pattern is achieved.
- 4 Once cleaned, the surface must be degreased and cleaned using MEK or similar type material.

***For the best mechanical surface preparation results use an MBX bristle blaster.***

## B. Product Preparation

Prior to mixing, please ensure the following:

- 1 The base component is at a temperature between 15–25°C (60–77°F).
- 2 The ambient & surface temperature is above 5°C (41°F).

*PLEASE NOTE: To achieve optimal results, the repair surface should be abrasive blast cleaned. Using substandard preparation techniques may compromise the product's performance.*

## C. Mixing

Mix the complete unit material:

- 1 Transfer the contents of the Activator unit into the Base container.
- 2 Using the spatula provided (300–450gm units) or an electric paddle mixer (6kg unit), mix the 2 components until a uniform material free of any streaks is achieved.
- 3 From the commencement of mixing the whole of the material should be used within 25 minutes at 20°C (68°F).

### Health & Safety

Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves and other recommended personal protective equipment must be worn during the mixing and application of this product.

Before mixing and applying the material, please ensure you have read and fully understood all information.

## D. Application

### Injection Applications:

- 1 Dispense the product into a one-component cartridge with a capacity of up to 1 litre (0.25 US gallons).
- 2 Use a single component, air fed injection pump for application.
- 3 Inject the material into gaps to bond dissimilar materials.

### Bonding dissimilar materials:

- 1 The mixed material can be used to bond various materials, including concrete, plastic, and metal.
- 2 Apply using a brush or applicator tool.
- 3 Maintain a wet film thickness of 1mm–4mm (40mil–3/16”).
- 4 Suitable for encapsulation applications.

**Overcoating times:** *Minimum* – the applied material can be overcoated as soon as it is touch dry. *Maximum* – the overcoating time should not exceed 8 hours.

Where the maximum overcoating time is exceeded, the material should be allowed to harden before being abraded or flash blasted to remove surface contamination.

## D. Continued Application

### Encapsulation using technical fabrics:

- 1 The mixed product can be used with glass tape, glass cloth, chop strand matting, and linen scrim.
- 2 The choice of technical fabric depends on the type of repair required.

#### Typical repairs performed with these materials include:

### Layer pipe wrapping:

- 1 Apply 301 Epoxy Resin and Hardener at 1mm (40mil) WFT.
- 2 Wrap 50mm (701) or 100mm (703) glass tape around the pipe with a 50% overlap.
- 3 Apply 301 Epoxy Resin and Hardener at 500 microns (20mil) WFT.
- 4 Wrap 50mm (701) or 100mm (703) glass tape around the pipe with a 50% overlap, ensuring the return wrap follows in the opposite direction.
- 5 Repeat step 2 and finish with a 500 microns (20mil) coat of 301 Epoxy Resin.

### Layer pipe T-joint:

- 1 Apply 301 Epoxy Resin and Hardener at 1mm (40mil) WFT.
- 2 Cut the glass tape into strips and lay it over the surface where the two pipes meet.
- 3 Ensure there are at least three layers of 301 Resin and glass tape around the joint area.
- 4 Once the T-joint area is fully coated, apply 301 Epoxy Resin at 1mm (40mil) WFT to the entire repair area.
- 5 Wrap 50mm or 100mm glass tape around the pipe with a 50% overlap.
- 6 Repeat step 2 and finish with a 500 microns (20mil) coat of 301 Epoxy Resin.

**Overcoating times:** *Minimum* - the applied material can be over-coated as soon as it is touch dry. *Maximum* - the overcoating time should not exceed 8 hours.

Where the maximum overcoating time is exceeded, the material should be allowed to harden before being abraded or flash blasted to remove surface contamination.

# Quick Application Guide



## Step 1

Ensure you have:

1 x base unit

1 x activator unit

1 x spatula

1 x brush

1 x 701 or 703 glass tape



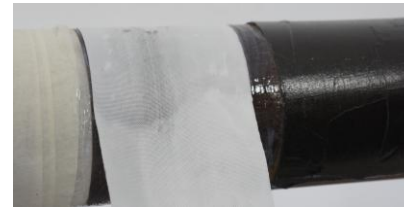
## Step 2

Mix the two components using the spatula provided, ensure any unmixed material around the edges is mixed.



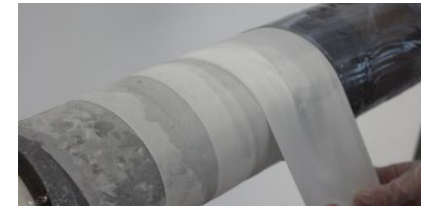
## Step 3

Apply the mixed material at 1mm WFT using a brush.



## Step 4

Wrap the glass tape around the pipe 3 times to create an anchor point.



## Step 5

Then wrap the glass tape along the length of the pipe ensuring you overlap the glass tape by 50%.



## Step 6

Once the entire length of pipe has been wrapped apply mixed resin to the pipe surface, wrap the tape 3 times around the pipe to terminate the repair.



## Step 7

After the pipe wrap has been terminated, apply another layer 301 Epoxy Resin & Hardener at 500 microns WFT and repeat the glass tape wrapping.



## Step 8

After the 2nd wrap of glass tape has been terminated. Apply 301 Epoxy Resin & Hardener at 500 microns WFT and repeat the glass tape wrapping process for a 3rd and final time.



## Step 9

The completed system will range from 2-5mm dry film thickness depending how much 302 Epoxy Repair Cement has been applied.

## Step 10

After 24hours at 20°C (68°F) this repair system will be ready for service.

## About Resimac

A UK based manufacturer of epoxy and polyurethane coatings and repair materials.

From our head office in the heart of rural North Yorkshire, England we supply our range of Epoxy, Polyurethane & Silicone coatings and repair materials to the Oil & Gas, Petrochemical, Marine, Paper & Pulp, Water, Power Generation & Chemical Industries.

## Legal Notice

The data contained within this Product Specification is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the responsibility of the customer to determine the products suitability for use. Resimac accepts no liability arising out of the use of this information or the product described herein.

## Approvals

Approved by BUREAU VERITAS for Surface Protection and Cold Repair Products applied to Marine Vessels. Certificate No: 55268/B0 BV. Expiry: 1<sup>st</sup> June 2029.

## Information & Enquiries

For more information and technical data please visit our website or contact us.

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