resimac Ltd.

101 Metal Repair Paste

A high build, solvent free epoxy repair paste designed for restoring and protecting metallic surfaces. Easily machinable once cured, with excellent adhesion and strong structural integrity.

- Easily machinable after curing for precise adjustments
- Excellent adhesion to metallic surfaces for strong, lasting repairs
- High build application up to 25mm thick

2025 Product Sheet

Typical Applications

101 Metal Repair Paste is a two component, solvent free epoxy repair compound designed for restoring and rebuilding worn or damaged metallic surfaces. Engineered for structural repairs, it is ideal for filling pitted areas and gaps, with a deep fill capability of up to 25mm while maintaining its shape during application.

- Worn or damaged pump shafts
- Cracked pump or valve casings
- Scored hydraulic rams
- Worn bearing housings
- Damaged flanges
- Leaking tank seams
- Worn keyways
- Cracked engine blocks
- Damaged hulls on vessels
- Eroded rudder surfaces
- Corroded bow thruster tunnels
- Cold bonding steel plate

Characteristics

Appearance

Base	Dark grey paste
Activator	Light grey paste
Mixed	Mid grey paste

Solids Content

100%

Volume Capacity

406cc/kg

Sag Resistance

Nil at 25mm

Density

Base	2.70
Activator	1.70
Mixed	2.46

Mixing Ratio

By weight	5:1
By volume	3:1

Storage Life

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

Cure times

Usable Life		Min Machining Time		Max Overcoating Time		Full Cure	
10°C/50°F	60 mins	10°C/50°F	4 hours	10°C/50°F	12 hours	10°C/50°F	6 days
20°C/68°F	30 mins	20°C/68°F	2 hours	20°C/68°F	6 hours	20°C/68°F	3 days
30°C/86°F	15 mins	30°C/86°F	1 hour	30°C/86°F	3 hours	30°C/86°F	1.5 days
40°C/104°F	7.5 mins	40°C/104°F	30 mins	40°C/104°F	90 mins	40°C/104°F	18 hours

Coverage

1kg (2.2lb) of fully mixed product will give the following coverage rates:

0.406m² at 1mm	4.3ft² at 40mil
0.203m² at 2mm	2.2ft² at 80mil
0.135m² at 3mm	1.45ft² at 1/8"

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

Abrasion Resistance
Taber CS17 Wheels/1kg load
22mm³ loss/1000 cycles

Compressive Strength
Tested to ASTM D695
1075kg/cm² (15300psi)

Corrosion Resistance
Tested to ASTM B117
Minimum 5000 hours

Flexural Strength
Tested to ASTM D790
703kg/cm² (10,000psi)

Heat Resistance
Suitable for use in immersed conditions at temperatures up to 60°C (140°F)
Resistant to dry heat up to 200°C (392°F) dependent on load

Adhesion
Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75 micron profile 185 kg/cm² (2630 psi)

Pull off Adhesion to ASTM D4541 on abrasive blasted mild steel with 75 micron profile 244 kg/cm² (3480 psi)

Heat Distortion
Tested to ASTM D648 at 264psi fibre stress:

20°C (68°F) Cure	58°C (136°F)
100°C (212°F) Cure	98°C (208°F)

Hardness
Tested to ASTM D2240
Shore A: 84

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.

Food Contact
USDA compliant for incidental food contact.

Title 21, Food and Drugs, Chapter I, U.S. Code of Federal Regulations, FDA, Subchapter B – Food for Human Consumption, Section 175.300 (Resinous and Polymeric Coatings).

MIL-PRF-24176C Qualification
This Resimac product has been approved under MIL-PRF-24176C for Type I and II applications in cement, epoxy, metal repair, and hull smoothing.

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.

Pack Sizes
This product is available in the following pack sizes:

500gm (1lb)
1kg (2.2lb)
3kg (6.6lb)
30kg (66lb)

Application Guide

A. Surface Preparation

Metallic Substrates: Mechanical abrasion

1. All oil and grease must be removed from the surface using an appropriate cleaner such as MEK.
2. All surfaces must be mechanically abraded using handheld grinders to ISO 8501/4 ST3 (SSPC SP3 ST3).
3. Once abraded, the surface must be degreased and cleaned using MEK or similar type material.
4. All surfaces must be coated before gingering or oxidation occurs.

When using a lathe and where a machined finish is required, the repair area should be overfilled by up to 1.5mm (60mil) and once hardened machined using a surface cutting speed of 200ft/minute and a feed rate of 50 thou/rev initially and 10 thou/rev for finishing.

Metallic Substrates: Abrasive blast cleaning (Preferred method)

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 (3mil) using an angular abrasive.
3. Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type material.
4. All surfaces must be coated before gingering or oxidation occurs.

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). Once these 2 checks have been met, please proceed with mixing the product.

PLEASE NOTE: For salt contaminated surfaces the substrate must be pressure washed with clean water and checked for salt contamination, please refer to the surface preparation and pre-application guide for further information.

C. Mixing

If part mixing the unit of material:

1. Using the spatula provided place 3 equal measures from the base unit onto the mixing board provided.
2. Clean the spatula thoroughly.
3. Then take 1 equal measure from the activator unit and place alongside the base measures.
4. Mix the 2 components together until you have a streak free mix (mid grey) on the mixing board.
5. Ensure there is no unmixed material on the spatula or mixing board.

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.

If mixing a complete unit of material (500gm/1kg/3kg):

1. Dispense as much of the base and activator units onto a clean mixing surface.
2. Mix the 2 components together until you have a streak free mix (mid grey) on the mixing board.
3. Ensure there is no unmixed material on the spatula or mixing board.

PLEASE NOTE: From the commencement of mixing, the material should be used within 30 minutes at 20°C (68°F).

D. Application

1. Using a spatula or applicator tool, apply the material to the prepared surface.
2. Ensure the product is pressed into any holes, scars or cracks.
3. Once the repair has been completed smooth off any imperfections using a gloved hand.

For Optimum Performance: *After an initial curing period of at least 4 hours at 20°C (68°F), raising the cure temperature progressively to 60-100°C (140-212°F) for up to 8 hours will result in improved mechanical, thermal and chemical resistance properties.*

Quick Application Guide

Step 1

Ensure you have:
1 x base unit
1 x activator unit
1 x spatula
1 x applicator
1 x clean mixing area

Step 2

Take equal 3 equal measures of base material, clean the spatula, then take 1 measure of the activator.

Step 3

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

Step 4

To ensure the product is fully mixed create a diamond pattern on the surface and look for any areas which are not mid grey in colour.

Step 5

Once the material is fully mixed use the applicator tool provided to apply the 101 metal repair paste to the surface.

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

Approvals

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

Information & Enquiries

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

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