

M-METAL 100 - EPOXY METAL REPAIR COMPOUND

M-METAL 100 - Metal Epoxy Putty - Standard Cure

Is a multi-purpose, engineering grade, epoxy metal repair putty? The product is suitable for repairs to metal components suffering material loss due to mechanical damage, erosion, corrosion, or wear.

M-METAL 100 exhibits superior bond strength to grit-blasted surfaces but can also be used on manually prepared repairs areas.

The product can be applied up to 20mm in a single application without shrinking. Once cured M-METAL 100 can be drilled tapped machined or sanded to suit the repair profile.

Typical Uses

- Worn or damaged pump shafts
- Filling pitting corrosion
- Resurfacing pump housings
- Cracked pump or valve casings
- Scored hydraulic rams
- Worn bearing housings
- Damaged flanges
- Leaking tank seams
- Worn keyways
- Cracked engine blocks
- Structural adhesive

Application Guide

Surface Preparation - Grit-Blast

- All oil and grease must be removed from the surface using an appropriate cleaner such MEK or similar type solvent.
- 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.
- Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type solvent.
- All surfaces must be coated before gingering or oxidation.

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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.

Surface Preparation - Manual

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

Environmental Checks

Prior to mixing, please ensure the following:

- The base component is at a temperature between 15-25°C.
- Do not apply the material when the ambient or substrate temperature is below 5°C or less than 3°C above dew point.

Mixing

If part mixing the unit of material, please follow the instructions below:

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

If mixing a complete unit of material (1kg/3kg) please follow the instructions below:

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

Use all mixed material within 30 minutes at 20°C.

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Product Application

- Using a spatula or applicator tool, apply the material to the prepared repair area.
- Ensure the product is pressed into any holes, scars or cracks.
- Once the repair has been completed smooth off any imperfections using a gloved hand with a little water.

Over-coat Times

- Minimum – the applied material can be over-coated as soon as it is touch dry.
- Maximum – the over-coating time should not exceed 6 hours.

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

Technical Information

Appearance	Base	Dark grey paste
	Activator	Light grey paste
	Mixed	Mid grey paste
Mixing Ratio	By Weight	5:1
	By Volume	3:1
Density	Base	2.70
	Activator	1.70
	Mixed	2.46
Volume Capacity		406cc/kg
Solids Content		100%
Slump Resistance	Nil at	20mm
Usable Life	10°C	50-60 minutes
	20°C	25-30 minutes
	30°C	15-20 minutes

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Coverage	1kg at a thickness of 1.0mm	0.4m ²
Cure Times @ 20°C	Movement without load or immersion Machining and light loading Full loading Immersion	1.5 hours 2.0 hours 2 days 3 days
Storage Life	Unopened and stored in dry conditions (15-30°C)	5 years
Adhesion	Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 75-micron profile	188kg/cm ² 2675psi
Compressive Strength	Tested to ASTM D 695	1089kg/ cm ² 15,500psi
Corrosion Resistance	Tested to ASTM B117	Minimum 5000 hours
Flexural Strength	Tested to ASTM D790	703kg/cm ² 10,000psi
Hardness	Rockwell R to ASTM D785	100
Heat Distortion	Tested to ASTM D648 at 264psi fibre stress	20°C Cure 57°C 100°C Cure 98°C
Heat Resistance	Suitable for long-term water immersion at temperatures up to Intermittent contact with pressurised steam up to Resistant to dry heat more than	70°C 120°C 200°C dependant on load.
Chemical Resistance	The product resists attack by a wide variety of inorganic acids, alkalis, salts, and organic media	

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It is the responsibility of the customer to determine the products suitability for use.

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