METAL-TECH EG
ADVANCED EPOXY FOR DURABLE METAL REPAIRS

METAL-TECH EG is a high-performance synthetic metal repair paste formulated for applications requiring superior mechanical strength and ease of machinability. This versatile compound is ideal for both emergency repairs and scheduled maintenance, offering a reliable and durable solution for a wide range of applications.

With excellent adhesion and impressive mechanical strength, it ensures long-lasting performance even in harsh environments. The product is resistant to chemicals, making it suitable for industrial use. It effectively fills gaps, seals leaks, and restores the structural integrity of metal surfaces.

Key Features

- Two-component, solvent-free epoxy repair paste
- High build capability, up to 1 inch without slumping
- Fully machinable once cured
- Designed for use on a variety of metallic surfaces

PRODUCT FEATURES

- Excellent machinability with robust mechanical properties.
- Utilizes advanced solvent-free epoxy technology.
- Ideal for application by trowel or spatula, allowing thicknesses up to ½ inch (approximately 472 mils).
- No shrinkage during curing.
- Fully machinable within 2 hours of curing.
- Exceptional cold weld capabilities.
- High build capability, up to 1 inch without slumping.
- Excellent adhesion to properly prepared metal surfaces.
- Suitable for all metallic surfaces.
- BV Type Approved product.
- IMPA Code: 81 22 11.
- Solvent-free epoxy.
- 3:1 volume mixing ratio.
- Usable life of 30 minutes at 68°F.
- High tensile shear strength.
- Heat resistance up to 302°F.
- Exceptional compressive strength.
- Touch dry within 1 hour at 68°F.
- Superior corrosion resistance.
- Suitable for various metallic surfaces, including pump
- shafts and valve casings.
- High build capability up to 1 inch.

TYPICAL APPLICATIONS

METAL-TECH EG offers a quick and efficient solution for repairing damaged components in a single, easy application.

It is ideal for both emergency repairs and planned maintenance of worn or damaged equipment and metallic surfaces.

Additionally, this material can be used as a gap-filling adhesive.

Key Applications:

- 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

Typical Repair Applications:

- Plate bonding
- Tank seams
- Hydraulic rams
- Pump housings
- Worn bearing housings
- Damaged or worn flange faces

APPLICATION GUIDE

Phase 1: Surface Preparation

Metallic Substrates: Mechanical Abrasion

1. Remove all oil and grease from the surface using an appropriate cleaner such as MEK.
2. Abrade all surfaces mechanically using handheld grinders to SSPC-SP3 (Power Tool Cleaning) standard.
3. After abrasion, degrease and clean the surface using MEK or a similar cleaner.
4. Ensure all surfaces are coated before any rusting or oxidation occurs.

Metallic Substrates: Abrasive Blast Cleaning (Preferred Method)

1. Remove all oil and grease from the surface using an appropriate cleaner such as MEK.
2. Abrasive blast all surfaces to SSPC-SP10 / NACE No. 2 (Near-White Metal Blast Cleaning) standard, with a minimum blast profile of 3 mils, using an angular abrasive.
3. After blast cleaning, degrease and clean the surface using MEK or a similar cleaner.
4. Ensure all surfaces are coated before any rusting or oxidation occurs.

⚠ PLEASE NOTE: For salt-contaminated surfaces, pressure wash the substrate with clean water and check for salt contamination. For further details, refer to the surface preparation and pre-application guide.

Phase 2: Product Preparation

Before mixing, ensure the following:

- The base component is at a temperature between 60–77°F.
- The ambient and surface temperatures are above 41°F.
- Once these conditions have been met, proceed with mixing the product.

Phase 3: Product Mixing

For Part Mixing the Unit of Material:

- Using the spatula provided, place three equal measures from the base component onto the mixing board.
- Clean the spatula thoroughly.
- Take one equal measure from the activator component and place it alongside the base measures.
- Mix the two components together until a streak-free mix (mid-grey) is achieved on the mixing board.
- Ensure no unmixed material remains on the spatula or mixing board.

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For Mixing a Complete Unit of Material:

- Dispense the base and activator components onto a clean mixing surface.
- Mix the two components together until a streak-free mix (mid-grey) is achieved on the mixing board.
- Ensure no unmixed material remains on the spatula or mixing board.

PLEASE NOTE: From the start of mixing, the material must be used within 30 minutes at 68°F.

Phase 4: Product Application

Step 1 – Using a spatula or applicator tool, apply the material to the prepared surface.

Step 2 – Ensure the product is pressed into any holes, scars, or cracks.

Step 3 – Once the repair is complete, smooth off any imperfections using a gloved hand.

Where a machined finish is required, overfill the repair area by up to 1⁄16 inch (60 mils). Once hardened, machine the surface using a cutting speed of 200 ft/min and an initial feed rate of 0.050 inch/rev, followed by 0.010 inch/rev for finishing.

For Optimum Performance
After an initial curing period of at least 4 hours at 68°F, progressively raise the cure temperature to 140–212°F for up to 8 hours to enhance mechanical, thermal, and chemical resistance properties.

APPLICATION AT A GLANCE

Step 1 – Ensure you have the following:
1 x Base unit
1 x Activator unit
1 x Spatula
1 x Applicator
1 x Clean mixing area

Step 2 – Take three equal measures of the base material, clean the spatula, and then take one measure of the activator.

Step 3 – Mix the two components using the spatula provided, making sure to blend any unmixed material around the edges.

Step 4 – To ensure the product is fully mixed, create a diamond pattern on the surface and check for any areas that are not mid-grey in colour.

Step 5 – Once the material is fully mixed, use the applicator tool provided to apply the METAL-TECH EG repair paste to the surface.

TECHNICAL DATA & PERFORMANCE Characteristics

Appearance

Base	Dark Grey Paste
Activator	Light Grey Paste
Mixed	Mid Grey Paste

Solids Content
100%

Volume Capacity
406cc/KG

Slump Resistance
None at 1 inch

Density

Base	2.70
Activator	1.70
Mixed	2.46

Mixing Ratio

Component	Base	Activator
By Weight	5	1
By Volume	3	1

Shelf Life
5 years if unopened and stored in normal dry conditions (60-86°F)

Coverage Rates

2KG of fully mixed product will give the following coverage rates -
8.6ft² at 40mil
4.4ft² at 80mil
2.9ft² at 1/8”
Please note that the coverage rates provided are theoretical and do not account for the profile or condition of the surface being repaired.

Cure Times

Useable Life

50°F	60 minutes
68°F	30 minutes
86°F	15 minutes
104°F	7.5 minutes

Minimum Machining Times

50°F	4 hours
68°F	2 hours
86°F	1 hour
104°F	30 minutes

Maximum Overcoating Times

50°F	12 hours
68°F	6 hours
86°F	3 hours
104°F	90 minutes

Full Cure

50°F	6 days
68°F	3 days
86°F	1.5 days
104°F	18 hours

Chemical Resistance

The product is resistant to a wide range of inorganic acids, alkalis, salts, and organic media. For more detailed information, please refer to the Thortex Technical Centre for advice.

Pack Sizes

This product is available in the following pack sizes:
2KG

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Mechanical Properties

Abrasion Resistance Taber CS17 Wheels / 1KG Load	22mm³ loss / 1,000 cycles
Compressive Strength ASTM D695	1,075kg/cm² (15,300 psi)
Corrosion Resistance ASTM B117	Minimum 5,000 hours
Flexural Strength ASTM D790	703kg/cm² (10,000 psi)
Hardness Shore A ASTM D2240	84
Tensile Shear Adhesion ASTM D1002 (Abrasive Blasted Mild Steel with 75-micron profile)	185kg/cm² (2,630 psi)
Pull Off Adhesion ASTM D4541 (Abrasive Blasted Mild Steel with 75-micron profile)	244kg/cm² (3,480 psi)
Heat Distortion ASTM D648 at 264psi Fibre Stress	68°F Cure – 136°F 212°F Cure – 208°F
Heat Resistance	Suitable for use in immersed conditions at temperature up to 140°F Resistant to dry heat up to 392°F dependent on load

Approvals

Approved by **BUREAU VERITAS** for Surface Protection and Cold Repair Products applied to Marine Vessels. Certificate No. 58535 / A0 BV.

Food Contact USDA compliant for incidental food contact

Title 21, Food and Drugs, Chapter 1, U.S. Code of Federal Regulations, FDA, Subchapter B – Food for Human Consumption, Section 175.300 (Resinous and Polymeric Coatings).

IMPA Registration Code 81 22 11

Technical Service

Complete technical assistance is available. Please contact Thortex America, INC with your requirements:
1-610-831-0222 I kclarke@thortex.com

The products that we supply are for professional use only, it is your responsibility to read the technical data sheets before you place an order and prior to application of the product

Quality

All THORTEX AMERICA, INC products are manufactured and supplied in accordance with an ISO 9001 registered Quality Management System.

Warranty

All THORTEX AMERICA, INC warrants that the performance of the supplied product will conform to the typical descriptions provided in the Technical Data Sheet.

Health & Safety

Please ensure good practices are followed at all times during the mixing and application of this product. Protective gloves and other recommended personal protective equipment must be worn. Before mixing and applying the material, please ensure you have read and fully understood all relevant information.

Legal Notice

The data provided in this Product Technical Data Sheet is for informational purposes only and is believed to be accurate at the time of issuance. However, we cannot assume responsibility for results obtained by others whose methods are beyond our control. It is the customer's responsibility to assess the suitability of the product for their intended use. THORTEX AMERICA, INC accepts no liability arising from the use of this information or the product described herein.