

# METAL-TECH XG

## HIGH-BUILD EPOXY REPAIR PASTE WITH EXTENDED USEABLE LIFE



**METAL-TECH XG** is a high-performance, solvent-free epoxy repair compound formulated with an extended working time to allow for precise and controlled application in warmer climates.

Designed for restoring and rebuilding metallic surfaces, it can be applied in high-build layers up to 1 inch without slumping, delivering reliable reinforcement for both emergency repairs and planned maintenance projects.

Once cured, METAL-TECH XG can be machined, drilled, tapped, or sanded, providing a versatile and permanent repair solution for a wide range of industrial equipment and marine structures.

### **KEY FEATURES & BENEFITS**

- **Extended Usable Life** – Specially designed for warmer climates, allowing greater working time and controlled application.
- **High-Build Application** – Applies up to 1 inch in a single layer without sagging or slumping.
- **Exceptional Versatility** – Can be machined, drilled, sanded, or reshaped after cure for precision restoration.
- **Structural Reinforcement** – Strengthens worn or corroded metallic surfaces, restoring integrity and extending service life.
- **Solvent-Free Formulation** – Safe for use in confined or enclosed environments.

### **TYPICAL APPLICATIONS**

METAL-TECH XG is suitable for a wide variety of industrial and marine applications, including:

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

### **APPLICATION GUIDE**

#### **Phase 1: Surface Preparation**

##### **Metallic Substrates: Mechanical Abrasion (Minimum Standard)**

1. Remove all oil and grease using a suitable cleaner such as MEK.
2. Mechanically abrade the surface using handheld grinders to SSPC-SP3 (Power Tool Cleaning) standard.
3. Degrease the abraded surface with MEK or a similar cleaner.
4. Apply METAL-TECH XG immediately after preparation to avoid oxidation.

##### **Metallic Substrates – Abrasive Blast Cleaning (Preferred Method)**

1. Remove all oil and grease using MEK or an equivalent cleaner.
2. Abrasive blast to SSPC-SP10 / NACE No. 2 (Near-White Metal Blast Cleaning) with a minimum angular surface profile of 3 mils.
3. Degrease the blast-cleaned surface with MEK or a similar cleaner.
4. Apply METAL-TECH XG immediately to prevent flash rusting or oxidation.

⚠ **Note:** For salt-contaminated substrates, pressure wash thoroughly with clean water and test for residual salts. Refer to the Surface Preparation and Pre-Application Guide for further details.

#### **Phase 2: Product Preparation**

Before mixing:

- Ensure the base component is stored between 60–77°F.
- Confirm ambient and surface temperatures are above 41°F.

#### **Phase 3: Product Mixing**

##### **Part Unit Mixing**

1. Using the spatula provided, place three equal measures of base material onto the mixing board.
2. Clean the spatula thoroughly.
3. Add two equal measures of activator alongside the base.
4. Mix until a uniform mid-grey, streak-free material is achieved.
5. Ensure no unmixed material remains on the spatula or board.

##### **Full Unit Mixing**

1. Dispense the entire contents of the base and activator onto the mixing board provided.
2. Mix thoroughly until a consistent, streak-free mid-grey material is achieved.
3. Scrape all material from the spatula and board to avoid unmixed sections.

**Pot Life:** Use all mixed material within 60 minutes at 68°F.

**Overcoating:** If the maximum overcoating time is exceeded, allow the material to fully harden, then abrade or flash blast to remove surface contamination and restore profile.

#### **Phase 4: Product Application**

Apply the mixed product to the prepared substrate using a spatula or applicator tool.

Work the material firmly into holes, scars, or cracks to ensure full adhesion.

Smooth the surface and remove excess material. For best results, finish with a gloved hand.

##### **Optimum Performance**

- For areas requiring a machined finish, overbuild the repair by up to 1/16 inch (60 mils).
- Once hardened, machine using a cutting speed of 200 ft/min with a feed rate of 0.050 inch/rev (initial) and 0.010 inch/rev (finishing).
- To achieve maximum mechanical, thermal, and chemical resistance, allow an initial cure of at least 4 hours at 68°F, then post-cure by progressively raising the temperature to 140–212°F for up to 8 hours.

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### APPLICATION AT A GLANCE

#### Step 1 – Gather Equipment

Ensure you have:

- 1 × Base unit
- 1 × Activator unit
- 1 × Spatula
- 1 × Applicator tool
- 1 × Clean mixing board or area

#### Step 2 – Measure Components

Using the spatula, take 3 equal measures of Base material and place onto the mixing board. Clean the spatula, then add 2 equal measures of Activator alongside the Base.

#### Step 3 – Mix Thoroughly

Blend the two components together using the spatula, ensuring any material from the edges is fully incorporated.

#### Step 4 – Check Consistency

Spread the mixed paste into a diamond pattern on the mixing board. Confirm the colour is uniform mid-grey with no streaks or unmixed sections.

#### Step 5 – Apply to Substrate

Once fully mixed, apply the material immediately using the applicator tool. Work firmly into the prepared surface and smooth to the desired profile.

### TECHNICAL DATA & PERFORMANCE

#### Characteristics

##### Appearance

<b>Base</b>	Dark Grey Paste
<b>Activator</b>	Light Grey Paste
<b>Mixed</b>	Mid Grey Paste

##### Solids Content

100%

##### Volume Capacity

388cc/KG

##### Sag Resistance

None at 1 inch

##### Density

<b>Base</b>	2.70
<b>Activator</b>	2.40
<b>Mixed</b>	2.58

##### Mixing Ratio

Component	Base	Activator
<b>By Weight</b>	1.67	1
<b>By Volume</b>	3	2

##### Shelf Life

5 years if unopened and stored in normal dry conditions 60-86°F

#### Coverage Rates

**4KG of fully mixed product will give the following coverage rates -**

17.2ft<sup>2</sup> at 40mil

8.8ft<sup>2</sup> at 80mil

5.8ft<sup>2</sup> 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

<b>50°F</b>	120 minutes
<b>68°F</b>	60 minutes
<b>86°F</b>	30 minutes
<b>104°F</b>	15 minutes

#### Minimum Machining Times

<b>50°F</b>	8 hours
<b>68°F</b>	4 hours
<b>86°F</b>	2 hour
<b>104°F</b>	1 hour

#### Maximum Overcoating Times

<b>50°F</b>	24 hours
<b>68°F</b>	12 hours
<b>86°F</b>	6 hours
<b>104°F</b>	3 hours

#### Full Cure

<b>50°F</b>	12 days
<b>68°F</b>	6 days
<b>86°F</b>	3 days
<b>104°F</b>	1.5 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:

4KG

### Mechanical Properties

<b>Abrasion Resistance</b> Taber CS17 Wheels / 1KG Load	22mm <sup>3</sup> loss / 1,000 cycles
<b>Compressive Strength</b> ASTM D695	1,075kg/cm <sup>2</sup> (15,300 psi)
<b>Corrosion Resistance</b> ASTM B117	Minimum 5,000 hours
<b>Flexural Strength</b> ASTM D790	703kg/cm <sup>2</sup> (10,000 psi)
<b>Hardness Shore A</b> ASTM D2240	85
<b>Tensile Shear Adhesion</b> ASTM D1002 (Abrasive Blasted Mild Steel with 75-micron profile)	185kg/cm <sup>2</sup> (2,630 psi)
<b>Pull Off Adhesion</b> ASTM D4541 (Abrasive Blasted Mild Steel with 75-micron profile)	244kg/cm <sup>2</sup> (3,480 psi)
<b>Heat Distortion</b> ASTM D648 at 264psi Fibre Stress	68°F Cure – 136°F  212°F Cure – 208°F
<b>Heat Resistance</b>	Suitable for use in immersed conditions at temperature up to 140°F  Resistant to dry heat up to 392°F dependent on load

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### **Technical Service**

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