CERAMI-TECH HD-HT
HIGH-TEMPERATURE, ABRASION-RESISTANCE CERAMIC REPAIR SOLUTION

THORTEX CERAMI-TECH HD-HT is a high-performance, solvent-free epoxy novolac repair compound engineered for extreme wear environments. Formulated with ceramic beads, it provides superior resistance to abrasion, particle flow, and wet slurry conditions, ensuring long-lasting protection in demanding industrial applications.

Key Features

- Withstands high operating temperatures, up to 464°F dry and 266°F in immersion
- Exceptional resistance to medium to large particle aggregate flow
- Superior protection against extreme sliding abrasion
- High mechanical adhesion to metal substrates

Ideal for applications requiring robust durability in harsh operating conditions, THORTEX CERAMI-TECH HD-HT extends equipment life and minimizes downtime in high-wear environments.

PRODUCT FEATURES

- **Surface Preparation & Application** - Designed for application on abrasive blast-cleaned surfaces, ensuring optimal adhesion and long-term performance. The surface preparation process enhances bonding strength, maximizing the durability of the repair.
- **Superior Wear & Abrasion Resistance** - Engineered to withstand wet slurry abrasion and extreme sliding wear caused by fine particles in high-impact environments. This makes it ideal for use in industries where equipment is subjected to continuous particle flow, reducing material loss and extending service life.
- **Exceptional Adhesion to Metal Substrates** - The advanced epoxy novolac formulation provides high mechanical adhesion to various metal surfaces, ensuring a secure and resilient bond that resists delamination and mechanical stress, even under harsh operating conditions.
- **High-Temperature Performance** - Capable of withstanding full immersion temperatures of up to 266°F, making it suitable for demanding applications in extreme thermal and chemical environments. Its ability to perform under elevated temperatures ensures long-term protection in aggressive operational settings.

TYPICAL APPLICATIONS

THORTEX CERAMI-TECH HD-HT is a high-performance, two-component, solvent-free epoxy novolac repair compound designed for extreme abrasion resistance in environments where wet slurries and particle flow cause excessive wear. Reinforced with ceramic beads, it provides long-lasting protection, extending the operational life of critical equipment.

The solvent-free formulation ensures safer handling, minimal environmental impact, and reliable performance in high-temperature and high-wear conditions.

Ideal for Protecting & Repairing:

- **Slurry Pumps** – Shields against erosion and abrasion from high-velocity slurry flow.
- **Bins & Hoppers** – Prevents wear from constant impact and material movement.
- **Fan Blades & Housings** – Protects surfaces exposed to particle-laden airflow.
- **Internal Pipe Surfaces** – Enhances durability in pipelines carrying abrasive slurries.
- **Wear Plates** – Reinforces and extends the lifespan of high-impact areas.
- **Pipe Elbows** – Resists localized erosion from directional flow changes.
- **Chutes** – Reduces wear in high-friction material transfer zones.
- **Transport Screws** – Prevents degradation in material handling equipment.

THORTEX CERAMI-TECH HD-HT is ideal for mining, power generation, chemical processing, and heavy industry, where extreme wear conditions demand durable and high-performance repair solutions.

APPLICATION GUIDE

Phase 1: Surface Preparation

Metallic Substrates: Abrasive Blast Cleaning

To achieve optimal adhesion and long-term performance, all metallic surfaces must be thoroughly prepared as follows:

1. Degreasing & Cleaning
    a. Remove all oil, grease, and contaminants using a suitable solvent-based cleaner such as Methyl Ethyl Ketone (MEK) or an equivalent degreasing agent.
2. Abrasive Blasting
    a. Blast clean all surfaces to a minimum standard of SSPC-SP10 / NACE No. 2 (Near-White Metal Blast Cleaning**)** using an angular abrasive.
    Ensure a minimum surface profile of 3 mils is achieved for optimal mechanical adhesion.
3. Post-Blasting Cleaning
    a. After blasting, degrease and clean the surface again using MEK or a similar solvent to remove any residual dust or contaminants.
4. Preventing Oxidation
    a. Apply the product immediately after surface preparation to prevent oxidation or “gingering.” If oxidation occurs, the surface must be re-blasted before application.

Phase 2: Product Preparation

Before mixing, ensure the following conditions are met for optimal application and performance:

1. Base Component Temperature
    a. Ensure the base component is at a temperature between 60-77°F for proper mixing and application.
2. Ambient & Surface Temperature
    a. Ensure both ambient and surface temperatures are above 50°F.
    b. The substrate temperature must be at least 6°F above the dew point to prevent condensation-related adhesion issues.

⚠ Note: For salt-contaminated surfaces, pressure wash thoroughly with clean water and check for salt contamination.

Refer to the Surface Preparation & Pre-Application Guide for further details.

Phase 3: Product Mixing

For Partial Mixing:

1. Measure Components
    a. Using the spatula provided, place two equal measures from the base unit onto the mixing board.
2. Clean Spatula
    a. Thoroughly clean the spatula before handling the activator to prevent contamination.
3. Measure Activator
    a. Take one equal measure from the activator unit and place it alongside the base measures.
4. Mix Thoroughly
    a. Blend the two components together until a streak-free, uniform mix (mid-grey color) is achieved.
    b. Ensure no unmixed material remains on the spatula or mixing board.

For Full Unit Mixing:

1. Dispense Components
    a. Empty the entire base and activator units onto a clean mixing board.
2. Mix Thoroughly
    a. Blend the two components together until a streak-free, uniform mix (dark blue color) is achieved.
    b. Ensure no unmixed material remains on the spatula or mixing board.

⚠ Important: Once mixing begins, the material must be applied within 30 minutes at 68°F to ensure optimal workability and performance.

Phase 4: Product Application

Step 1: Apply the Material

- Using a spatula or applicator tool, spread the material evenly onto the prepared surface, ensuring full coverage and proper adhesion.

Step 2: Work the Material Into the Surface

- Firmly press the product into any holes, scars, or cracks to ensure a strong bond and eliminate voids.
- Smooth out the repair area to create a seamless, uniform finish, optimizing performance and durability.

Step 3: Achieve Proper Thickness

- Apply the material in a single coat to a wet film thickness of 120 – 240 mils for optimal protection and longevity.
- Avoid excessive build-up, ensuring a consistent and even application across the surface.

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 – Measure Components Accurately

- Take two equal measures of the base material using the provided spatula.
- Clean the spatula thoroughly, then take one measure of the activator.

Step 3 – Thoroughly Mix the Components

- Use the provided spatula to blend both components together.
- Ensure all material is fully incorporated, including any material on the edges of the mixing area.

Step 4 – Verify Complete Mixing

- To confirm thorough mixing, spread the material into a diamond pattern on the surface.
- Check for any areas that are not fully blue—these indicate incomplete mixing and require further blending.

Step 5 – Apply the Repair Paste

- Once fully mixed, use the provided applicator to apply the beaded ceramic repair paste evenly onto the prepared surface.
- Ensure the product is pressed firmly into all voids, cracks, or imperfections for optimal adhesion and durability.

TECHNICAL DATA & PERFORMANCE Characteristics

Appearance

Base Component Colour	Dark Grey Paste
Activator Component	Blue Paste
Mixed Material Colour	Dark Blue Paste

Solids Content

100%

Volume Capacity

458cc/Kg

Sag Resistance

Nill at 394 mils

Density

Base	2.21
Activator	2.26
Mixed	2.23

Mixing Ratio

Component	Base	Activator
By Weight	2	1
By Volume	2	1

Shelf Life

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

Coverage Rates

5KG of fully mixed product will give the following coverage rates -
8.03ft² at120mil
4.01ft² at ¼”
Please note that the coverage rates provided are theoretical and do not account for the profile or condition of the surface being repaired.

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Cure Times

Useable Life

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

Maximum Overcoating Times

50°F	24 hours
68°F	12 hours
86°F	6 hours
104°F	3 hours

Full Cure

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

Chemical Resistance

The product offers **exceptional chemical resistance**, effectively withstanding exposure to a wide range of **inorganic acids, alkalis, salts, and organic media**. **For detailed compatibility information** or specific chemical resistance inquiries, please refer to the THORTEX AMERICA, INC **Technical Centre** for expert guidance and recommendations.

Pack Sizes

This product is available in the following pack sizes:

5KG

Mechanical Properties

Abrasion Resistance Taber H10 Wheels / 1KG Load	42mm³ loss / 1000 cycles
Compressive Strength ASTM D695	1,046kg/cm² (14,880 psi)
Corrosion Resistance ASTM B117	Minimum 1,000 hours
Flexural Strength ASTM D790	475kg/cm² (6,710 psi)
Hardness Shore D ASTM D2240	85
Tensile Shear Adhesion ASTM D1002 (Abrasive Blasted Mild Steel with 75-micron profile)	272kg/cm² (3,840 psi)
Pull Off Adhesion ASTM D4541 (Abrasive Blasted Mild Steel with 75-micron profile)	272kg/cm² (3,840 psi)
Immersed Heat Resistance Full immersed resistance: Tested water / hydrocarbon immersion	Tested water / hydrocarbon immersion to 266°F Pass (No blisters)
Dry Heat Resistance ASTM D2485	Pass 240°C (464°F)

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.