

CERAMI-FLEX FG

EXTREME IMPACT PROTECTION POLYURETHANE COATING



CERAMI-FLEX FG is a high-performance, solvent-free polyurethane coating designed to deliver exceptional impact, wear, and abrasion resistance for both metallic and concrete surfaces. It's tough yet flexible formulation absorbs impact forces while resisting cavitation, high-flow erosion, and abrasion caused by slurries, aggregates, and other abrasive media.

This high-build coating provides a seamless, long-lasting protective barrier, ensuring extended service life in the harshest industrial environments. Its solvent-free chemistry makes it suitable for application in enclosed spaces without strong odours or VOC emissions.

PRODUCT FEATURES

- **Extreme Impact Resistance** – Engineered to absorb and dissipate high-energy impacts, preventing substrate damage.
- **Abrasion & Wear Protection** – Withstands long-term wear from slurries, aggregates, and high-velocity particles.
- **Cavitation & Erosion Resistant** – Protects against high-flow fluid erosion and cavitation damage in pumps and valves.
- **Flexible High-Build Coating** – Maintains structural integrity while allowing controlled movement under stress.
- **Solvent-Free Application** – Low odour and VOC-free for safe use in confined spaces.

TYPICAL APPLICATIONS

CERAMI-FLEX FG is ideal for heavy-duty, high-wear industrial environments where both impact and abrasion resistance are critical, including:

- Chutes and hoppers handling aggregates and ores
- Pump and valve internals in abrasive slurry service
- Pipework exposed to high-velocity particulate flow
- Material transfer points in mining, quarrying, and processing plants
- Erosion-prone components in hydraulic and slurry systems

APPLICATION GUIDE

Phase 1: Surface Preparation

Metallic Substrates: Abrasive Blast Cleaning

1. Remove all oil, grease, and other contaminants using an appropriate cleaner such as MEK.
2. Abrasive blast to SSPC-SP10 / NACE No. 2 (Near-White Metal Blast Cleaning) with a minimum angular surface profile of 3 mils.
3. After blasting, degrease and clean the surface with MEK or a similar solvent.
4. Apply coating immediately after preparation to avoid flash rusting or oxidation.

Existing Concrete

1. If contaminated, pressure wash thoroughly using clean water.
2. Once dry, lightly abrasive blast or mechanically scarify, taking care not to expose the aggregate.
3. Remove all dust and debris before priming.

4. Prime with THORTEX SP PRIMER (low viscosity epoxy primer) applied at 6 mil wet film thickness.
5. Allow primer to cure for 3 hours at 68°F before overcoating.

New Concrete

1. Allow a minimum cure of 21 days before coating and remove any surface laitance.
2. Verify moisture content is 8% or below prior to coating.
3. Lightly scarify the surface without exposing aggregate.
4. Clean thoroughly to remove all dust and debris.
5. Prime with THORTEX SP PRIMER at 6 mil wet film thickness.
6. Allow primer to cure for 3 hours at 68°F before overcoating.

Phase 2: Product Preparation

- Ensure the Base component is at a temperature between 60–77°F.
- Ambient and surface temperature must be above 50°F and at least 6°F above dew point.

Phase 3: Mixing

Mix the complete 2-litre unit as follows:

1. Pour the entire Activator contents into the Base container.
2. Using an electric paddle mixer (or spatula), blend until a uniform, streak-free mix is achieved.
3. Use all mixed material within 20 minutes at 68°F.

Phase 4: Application

Brush or Roller Application

1. Transfer mixed material into a paint kettle or roller tray to maximise pot life.
2. Using a 2-inch synthetic brush, stripe coat edges, joints, corners, and fittings at 12 mil wet film thickness, approximately 4 inch wide.
3. Once the stripe coat has reached a suitable overcoating stage, apply the first coat at 12–16 mil wet film thickness.
4. Allow to cure for 6–8 hours at 68°F before applying the second coat at 12–16 mil.
5. Repeat curing process and apply a third coat at 12–16 mil for full impact and abrasion protection.

APPLICATION AT A GLANCE

Step 1 – Gather Equipment

Ensure you have:

- 1 x Base unit
- 1 x Activator unit
- 1 x Spatula
- 1 x 1–2" synthetic brush

Step 2 – Combine Components

- Open the Activator tin and pour the entire contents into the Base unit. Begin mixing with the spatula.

Step 3 – Thorough Mixing

- Scrape the sides and bottom of the container while mixing. Continue until a consistent light grey colour is achieved.

Step 4 – Check for Uniformity

- Inspect the material to ensure it is streak free and evenly blended before application.

CERAMI-FLEX FG

EXTREME IMPACT PROTECTION POLYURETHANE COATING

Step 5 – Apply Coating

- Using the synthetic brush, apply the mixed product to the prepared surface at 12–16 mil wet film thickness. This product must be applied as a three-coat system for full protection.

TECHNICAL DATA & PERFORMANCE

Characteristics

Appearance

Base	Light Grey or Blue
Activator	Amber Liquid
Mixed	Light Grey or Blue

Solids Content

100%

Volume Capacity

775cc/Kg

Sag Resistance

Nil at 16 mil

Density

Base	1.31
Activator	1.22
Mixed	1.29

Mixing Ratio

Component	Base	Activator
By Weight	3.25	1
By Volume	3	1

Shelf Life

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

Coverage Rates

2LTR of fully mixed product will give the following coverage rates -

26.88ft² at 16 mil

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	40 minutes
68°F	20 minutes
86°F	10 minutes
104°F	5 minutes

Minimum Overcoating Times

50°F	12 hours
68°F	8 hours
86°F	3 hours
104°F	1.5 hours

Maximum Overcoating Times

50°F	72 hours
68°F	36 hours
86°F	18 hours
104°F	9 hours

Full Cure

50°F	14 days
68°F	7 days
86°F	3.5 days
104°F	1.75 days

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 Unique Polymer Systems Technical Centre for advice.

Immersion Conditions at 68°F

Acetic Acid	10%
Benzoic Acid	15%
Ethyl Alcohol	50%
Formic Acid	10%
Hydrochloric Acid	20%
Lactic Acid	20%
Nitric Acid	10%
Potassium Hydroxide	10%
Sodium Carbonate	10%
Sodium Hydroxide	10%
Sulphuric Acid	50%
White Spirt	50%

Pack Sizes

This product is available in the following pack sizes:

2LTR (0.5 US Gallon)

Mechanical Properties

Corrosion Resistance ASTM B117	Minimum 5,000 hours
Flexural Strength ASTM D790	614kg/cm ² (8,710 psi)
Hardness Shore D ASTM D2240	68°F - 80
Elongation BS EN 10290	14.5%
Tensile Shear Adhesion ASTM D1002 (Abrasive Blasted Mild Steel with 75-micron profile)	200kg/cm ² (2,850 psi)
Pull Off Adhesion BS EN 10290 (Abrasive Blasted Mild Steel with 75-micron profile)	175kg/cm ² (2,480 psi)
Impact Resistance ASTM D256	32 J/m
Compressive Strength ASTM D695	960kg/cm ² (13,650 psi)
Heat Distortion ASTM D648 at 264psi Fibre Stress	68°F Cure – 118°F 212°F Cure – 203°F
Heat Resistance	Suitable for use in immersed conditions at temperature up to 158°F Resistant to dry heat down to -4°F and up to 248°F dependent on load

CERAMI-FLEX FG

EXTREME IMPACT PROTECTION POLYURETHANE COATING

Approvals

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).

Technical Service

Complete technical assistance is available. Please contact Thortex America, INC with your requirements:
1-610-831-0222 | 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.