



# EnerCote HX

high performance lining for heat exchangers

## DESCRIPTION

EnerCote HX is a polymer ceramic composite chemistry incorporating an advanced proprietary blend of ceramic additives modified in a novolac epoxy resin system. The matrix is designed to achieve wear and chemical resistance characteristics for the restoration and protection of metallic surfaces subjected to erosion, corrosion and chemical attack. It provides outstanding chemical resistance allowing it to be used in a wide variety of chemicals including caustic and acid service. This 100% solids, zero VOC technology offers fast return to service and edge retentive properties. The coating system is designed for application versatility, it can be applied by brush, by 2:1 cartridge dispensing gun or through heated 2:1 ratio plural component pump for maximum production throughput.

## PERFORMANCE PROPERTIES

Performance Property	Test Method	Result
Hardness	ASTM D 2240	Greater than 85 Shore D
X-cut Adhesion	ASTM D 6677	Rating 10
Pull off Adhesion	ASTM D 4541	Greater than 3,800 psi
Abrasion	ASTM D 4060	Less than 20 mg loss
Compressive Strength	ASTM D 695	10,000 psi
Cathodic Disbondment	ASTM G95 1.5 volts for 28 days	Less than 8 mm at 75 °F
Flexural Strength	ASTM D 790	13,500 psi
Chemical Resistance	ASTM D 543	Excellent
Temperature Resistance	Bake cycle	Up to 250 °F (will darken)
Solids Content	ASTM D 1259	100%
Volatile Organic Compounds	ASTM D 2369	0 grams/liter

## PHYSICAL PROPERTIES

Color	Red, Blue
Pot life (75 °F)	35 minutes (volume dependent)
Mix ratio (Resin:Hardener)	2:1 by volume
Dry to Touch at 75 °F	6 hours
Cure to service at 75 °F	24 hours
Theoretical coverage	1604 sqft/gallon/mil
Low temperature application	Minimum 50 °F
Minimum recoat time at 75 °F	4 hours
Maximum recoat time at 75 °F	16 hours
Sag resistance (single pass)	40 mils (1000 microns)

## MIXING INSTRUCTIONS

Pre mix Resin Part A and Hardener Part B individually, be sure that any settled material at the bottom of the can is dispersed. Mix for 2 to 3 minutes until a uniform colour and consistency is achieved.

### MIX AND APPLY (brush and roll)

This is a two-component system. COMPLETE UNIT MUST BE MIXED AND APPLIED AT ONE TIME. DO NOT MIX PARTIAL QUANTITIES FROM CONTAINERS OR PROPER RATIOS MAY NOT BE OBTAINED. Pour premixed Part B Hardener into premixed Part A Resin. Mix for 2 to 3 minutes using a Jiffy mixer head and a mechanical drill. To ensure complete mixing, scrape sides and bottom of container and continue mixing for an additional 1 or 2 minutes. DO NOT HAND MIX. Begin application immediately - no induction time. Contents of the container may be portioned off into smaller containers to maintain pot life.

Once mixed, the product may be applied by trowel, putty knife or brush. Work the material into the surface profile to completely wet out the substrate surface to ensure proper adhesion.

No reducing or thinning of the material is permitted.

### HEATED PLURAL COMPONENT AIRLESS SPRAY

Requires experienced personnel with a working knowledge of plural component spray equipment. Constant attention to the spray machine temperature, mixing and pressure is required.

Minimum pump requirement is 5000 psi, 2:1 ratio heated plural component pump. Remove all filters from the leg inlet, spray pump and gun. Install two (2) 1/2" X 8 inch elemental in-line static mixers between the remote mix manifold and 25 foot long 3/8" integration hose. Place a third static mixer 1/2" X 8 inch static mixer between the 3/8" integration hose and the 10 foot 1/4" whip hose connected to the gun.

Both A and B side containers must be preheated to 115°F. The inline pump heaters and heated hose bundle are to be set to 130°F. DO NOT HEAT ABOVE 140°F.

Recommended reverse clean tips, size 0.021 to 0.030. Suggested spray pressure is 3,000 psi.

Purge all hoses, static mixers and remote manifold within 5 minutes of stopping the spray application.

### PREFILLED CARTRIDGE TUBES

Preheat the cartridge tubes to 125°F - 130°F, do not exceed 140°F. Shake the cartridge tube to ensure that if any settling occurs that it is redispersed into the product. Use the high flow (white) static mixer without the check ball valve. Purge the product through the static mixer to ensure that both A and B components are properly dispensed and that the cartridge plunger depth is equal between both components. Before spraying on target, always trigger the gun off target until well mixed material is achieved.

### SPRAY APPLICATION

Prior to full coating application, stripe all continuous welds and edges by brush. Apply the coating at no more than 8 to 10 mils per pass. Apply the coating to the specified thickness in a crisscross multi pass technique.

### SURFACE PREPARATION

1) Ensure that surface is clean, dry and uncontaminated. Always check for ionic salt contamination (chlorides and sulfates). Proceed only if the substrate temperature is 5°F above the dew point temperature and that the relative humidity is below 85% during surface preparation and coating application.

2) Abrasive blast clean with garnet or aluminum oxide (G40 or coarser). DO NOT USE steel shot or non-angular media.

For steel surfaces, blast to a White Metal Blast (SSPC-SP5; NACE 1; SA 3):

- minimum 3.0 mil profile for immersion and elevated temperature service.

### CLEAN-UP AND STORAGE

- 1) Use commercial solvents (Xylene, Methyl Ethyl Ketone) to clean tools immediately after use.
- 2) Once the coating is dry, the material must be abraded off.
- 3) Keep containers tightly sealed and store upside down. For cleanup, M.E.K. or a 50:50 blend of M.E.K. and Xylol.
- 4) Store between 10°C(50°F) and 27°C(80°F). DO NOT FREEZE. Use product within 6 months of receiving.

### SAFETY

Before using any products, please refer to the Material Safety Data Sheet (MSDS). Follow standard confined space entry and work procedures, if appropriate.

Wear eye safety protection, chemical resistant gloves. Use NIOSH approved respirator where mist occurs.

The information contained in this document may change at any time. Please contact us for the most up to date version. Technical data results reflects laboratory tests and is intended to indicate general characteristics only. Furnace Mineral Products Inc., disclaims all warranties expressed, or implied, including warranties of merchantability and fitness for a particular purposes or use. Liability, if any, is limited to product replacement only.