



# EnerCote™ 200

## High Performance Immersion Grade Lining System

### DESCRIPTION

EnerCote™ 200 is a polymer ceramic composite chemistry incorporating an advanced proprietary blend of ceramic additives modified in a Bisphenol A/Novolac epoxy resin system featuring low temperature cure and extremely low water absorption properties. The polymer matrix is designed to achieve maximum wear and chemical resistance characteristics for pipe lining, heat exchangers, water boxes and channel boxes for immersion temperatures up to 180 °F. EnerCote 200 is applied to a thickness of 30 to 40 mils providing both restoration and protection of metallic surfaces subjected to erosion, corrosion and chemical attack. 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 and roller, hot potted through a single component airless pump or applied through a heated 1:1 ratio plural component pump for maximum production throughput.

### SUGGESTED USES :

Raw water pipe lining	Recirculation pipe lining	Water boxes	Channel boxes
Waste water pipe lining	Tube sheets	Cooling tower piping	Liquid storage tank

### PERFORMANCE PROPERTIES

Performance Property	Test Method	Result
Hardness	ASTM D 2240	80 Shore D
X-cut Adhesion	ASTM D 6677	Rating 10
Pull off Adhesion	ASTM D 4541	Greater than 3,000 psi
Abrasion	ASTM D 4060	Less than 60 mg loss
Cathodic Disbondment	ASTM G95 1.5 volts for 28 days	Less than 10 mm at 75 °F
Chemical Resistance	ASTM D 543	Excellent
Solids Content	ASTM D 1259	100%
Volatile Organic Compounds	ASTM D 2369	0 grams/liter

### PHYSICAL PROPERTIES

Color	Available in two colors - blue and green (color will change with exposure to certain chemicals)
Pot life (75 °F)	40 minutes
Mix ratio (Resin:Hardener)	1:1 by volume
Dry to Touch at 75 °F	8 hours
Cure to service at 75 °F	48 hours
Theoretical coverage	1604 sqft/gallon/mil
Low temperature application	Minimum 35 °F
Minimum recoat time at 75 °F	6 hours
Maximum recoat time at 75 °F	24 hours

## 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.

To improve the appearance of the material a low nap roller may be used to back roll the material. No reducing or thinning of the material is permitted.

## SINGLE LEG AIRLESS SPRAY

Requires two experienced personnel to mix and operate the pump. Constant attention to the product reaction temperature and viscosity is required. 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.

Minimum recommended airless pump is a 56:1. Preheating the coating will improve flow but will reduce the pot life. Remove all filters from inlet leg, spray unit and airless gun. Coating hose lines should be 1/2 inch diameter, a maximum length of 100 feet, with a 3/8 inch diameter 10 foot whip hose. If the product temperature reaches (130 °F) at any time during the spray application, the application must stop. The pump, gun and hose lines must be flushed out immediately with the recommended cleaning solvent to prevent hardening and seizing of the equipment.

## 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 3500 psi, 1:1 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 (46 °C). The inline pump heaters and heated hose bundle are to be set to 130 °F (54°C). DO NOT HEAT ABOVE 140 °F (60 °C).

Recommended reverse clean tips, size 0.021 to 0.027.

Suggested spray pressure is 2, 500 psi.

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

## 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. Proceed only if the substrate temperature is more than 5°F (3 °C) above the dew point temperature and 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 3.5 mil (88 micron) profile for immersion and elevated temperature service.

## CLEAN-UP AND STORAGE

- 1) Use commercial solvents (Acetone, 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.

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