

HBE-HT

Brush or Spray Applied High Build Epoxy - High Temperature Applications

For more than 35 years, Canusa-CPS has been a leading developer and manufacturer of specialty pipeline coatings for the sealing and corrosion protection of pipeline joints and other substrates. Canusa-CPS high performance products are manufactured to the highest quality standards and are available in a number of configurations to accommodate many specific project applications.

Product Description

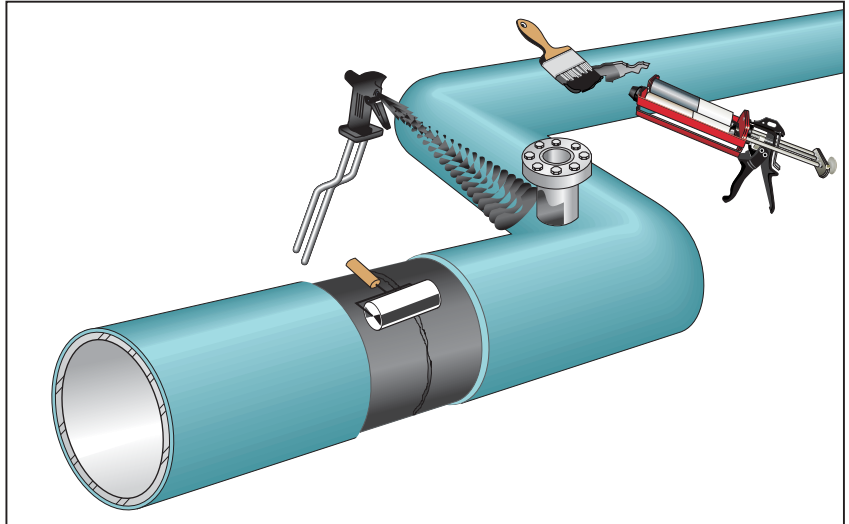
HBE-HT is a state-of-the-art, 100% solids, two component epoxy coating system which has been specifically formulated as a pipeline coating. Applied to bare steel, HBE products are used for protection of pipeline field joint girth welds, valves and fittings, as a holiday repair material on FBE coated pipe or for pipeline coating rehabilitation.

Typical Uses

Protective coating for pipelines in buried or immersed applications. Used as a direct-to-metal corrosion resistant coating and as a rehab coating on steel pipelines and at girth welds. Also used as damage or holiday repair material for epoxy mainline coatings. Excellent coating for pipeline valves, fittings, and bends.

Features & Benefits

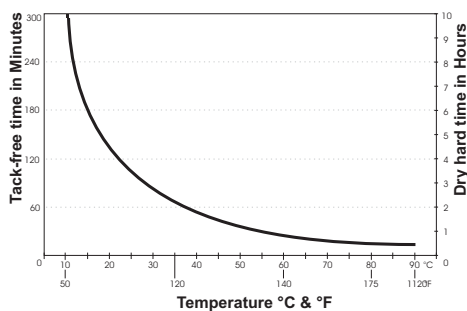
- High build in a single coat
- Sets and cures over a broad temperature range
- Excellent adhesion to grit blasted steel - an ideal mainline corrosion coating for pipelines
- Superior adhesion to Fusion Bonded Epoxy (FBE) coatings - ideal coating for joint protection and repair of FBE coated pipe
- Can be used for mainline FBE coating repair and rehabilitation
- Suitable for girth weld protection during directional drilling
- Excellent chemical resistance
- Outstanding resistance to cathodic disbonding up to 150°C (302°F) operating temperatures
- Easily applied with brush, roller or a heated, airless spray system
- Zero VOC's, 100% solids is environmentally friendly
- Single pass thickness of 20-40mils (500 - 1000 microns)



Technical Data

- **Coating Description**
Phenolic Epoxy
- **Conversion to Solids**
100%
- **Theoretical Coverage**
 - 425 mil-sq. ft./litre
 - 1605 mil-sq. ft./US gallon
 - 1.0 mm-m²/litre
- **Typical Thickness**
>20 mils (500 microns)
- **Flashpoint (T.C.C.)**
>120°C (250°F)
- **Mixing Ratio (By Volume)**
3 Parts Base : 1 Part Cure

Typical Cure Schedule for HBE-HT



*Refer also to Canusa technical bulletin "HBE Cure MTB" for additional information.

Applications

- Oil & Gas
- Repair & Rehab
- Corrosion Coating
- Girth-Weld Joints
- Fittings & Bends
- High Temp

Configurations

- Spray Application
- Brush Application
- Roller Application
- 2-Part Cartridge
- Sleeve Compatible

Temperature Range

- Up to 150°C (302°F)

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Typical Product Properties

	Test Standard	Unit	Typical Values
Cured Coating Performance Properties	Hardness	ASTM D2240	Shore D > 80
	Adhesion to steel*	ASTM D4541	psi > 2500 psi
	Adhesion to FBE (gloss removed)	ASTM D4541	psi > 2000 psi
	Cathodic Disbondment Rating		
	28 days @ 23°C	CSA Z245.20	mm, radius < 5
	28 days @ 120°C	CSA Z245.20	mm, radius < 10
	28 days @ 150°C	CSA Z245.20	mm, radius < 10
	Impact at 25mils (625 microns)		
	@ -30°C	CSA Z245.20	Joules (in-lb) > 1.5 (13.2)
	@ 25°C	CSA Z245.20	Joules (in-lb) > 3.0 (26.5)
	Hot Water Immersion		
	28 days @ 75°C	CSA Z245.20	1 to 5 1, excellent
	28 days @ 120°C	CSA Z245.20	1 to 5 1, excellent
Water Absorption	ASTM D570	% < 0.1	
Dielectric Strength	ASTM D149	Volts/micron (volts/mil) > 16 (400)	
Chemical Resistance	ASTM D543	various solutions excellent	

* (SSPC-SP10; 2-4 mil profile)

Surface Preparation, Clean-up, Storage & Safety

Surface Preparation	Clean-up, Storage & Safety
<p>Direct-to-steel:</p> <ul style="list-style-type: none"> Remove all visible deposits of oil, grease and other contaminants by solvent washing in accordance with SSPC SP1. Abrasive blast surface to Near-White (SSPC-SP10; NACE 2; Sa2½) or better, with a 2-4 mil blast profile. All weld splatter must be removed from the surface and rough welds must be ground smooth prior to coating. <p>On cured pipe coating:</p> <ul style="list-style-type: none"> Remove gloss on surface by light abrasive blasting or power tool. All surfaces to be coated must be completely dry, free of moisture, soil, dust and grit at the time the coating is applied. 	<p>Clean-up</p> <ul style="list-style-type: none"> For clean-up use xylene, MEK or mixture. <p>Storage</p> <ul style="list-style-type: none"> Products must be shipped and stored at temperatures between 5°C (40°F) and 40°C (105°F). DO NOT FREEZE. Shelf life of 3 years when stored as specified. <p>Safety</p> <ul style="list-style-type: none"> Material Safety Data Sheet and product labels contain detailed health, hygiene and safety information. This coating is intended for industrial use by properly trained professional applicators. Do not apply without adequate air exchange and ventilation in enclosed areas. Use fresh air respirator in confined areas. Wear protective clothing when spraying the coating. Breathing fumes or contact with skin can cause respiratory and other allergic reactions in some people.

Mixing & Application Instructions

Application Instructions
<ul style="list-style-type: none"> HBE-HT must be applied to clean dry surface only. Ambient conditions for successful application include: relative humidity less than 85%; and temperature greater than 3°C (5°F) above the dew point. The acceptable substrate temperature range for application is 10°C (50°F) to 100°C (212°F). Applying onto warm substrate greater than 38°C (100°F) enhances coating adhesion. Formulated to mixing ratio of 3 parts Base to one part Cure by volume. If additional coats are required, they shall be applied while the preceding coat is still tacky (no tie coat needed). The maximum over-coating interval shall not exceed two (2) hours at 25°C (77°F) without roughening the surface. If recoating interval has been exceeded, surface must be blast roughened prior to application of topcoat. A minimum of four (4) hours curing above 20°C (68°F) is required prior to handling. Handling time may be longer at lower temperatures. Backfill only after Shore D hardness reaches 70. <p>Brush Grade:</p> <ul style="list-style-type: none"> Apply thoroughly mixed epoxy by brush, roller or trowel. When coating pipe, remove application tools on the upstroke to prevent pulling material down and off the pipe bottom. Refer to HBE-HT Brush Grade Installation Guide for detailed information. <p>Spray Grade:</p> <ul style="list-style-type: none"> HBE-HT Spray Grade shall be applied to the specified Dry Film Thickness (DFT) in a single application using a 3:1 mix-ratio Graco Hydra-Cat two-component spray equipment or approved equal. Pot-life of mixed components in spray hose is less than 1 minute. Detailed application instructions and technical support are available from Canusa.

How to Order:

	Product Designation	Package Contents
Brush Grade	HBE-HT-XX Kit-0.5	375mL of HBE-HT Base, 125mL of HBE-HT-XX Cure
	HBE-HT-XX Kit-1.0	750mL of HBE-HT Base, 250mL of HBE-HT-XX Cure
	HBE-HT-XX Kit-1.5	1125mL of HBE-HT Base, 375mL of HBE-HT-XX Cure
	HBE Cartridge	400ml 3:1 ratio Cartridge
	HBE Application Kit	1 pair of rubber gloves, mixing sticks, application scraper
	XX refers to WG- winter grade, RG- regular grade and XG- mid-grade	
Spray Grade	HBE-HT-SG Base-19	19 L (5 US Gal) of HBE-HT-Spray Grade Base
	HBE-HT-SG Base-200	200 L (52.8 US Gal) of HBE-HT-Spray Grade Base
	HBE-HT-SG Cure-19	19 L (5 US Gal) of HBE-HT-Spray Grade Cure
	HBE-HT-SG Cure-200	200 L (52.8 US Gal) of HBE-HT-Spray Grade Cure



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Canusa warrants that the product conforms to its chemical and physical description and is appropriate for the use stated on the installation guide when used in compliance with Canusa's written instructions. Since many installation factors are beyond our control, the user shall determine the suitability of the products for the intended use and assume all risks and liabilities in connection therewith. Canusa's liability is stated in the standard terms and conditions of sale. Canusa makes no other warranty either expressed or implied. All information contained in this installation guide is to be used as a guide and is subject to change without notice. This installation guide supersedes all previous installation guides on this product. E&OE