

POWERCRETE® R-150

Product Information

Product description: Powercrete® R-150 is a high-build solvent free novolac epoxy coating designed for protecting new line pipes and pipeline rehabilitation projects that operates at high temperatures up to 150°C (302°F). Powercrete® R-150 can be used for extra protection on top of FBE mainline coatings or as a DTM (direct to metal) coating when high operating temperature-and chemical resistance is required.

Features:

- 100% Solids Novolac Epoxy
- no VOC
- high temperature and chemical resistance
- DIN EN 10289 compliant "Steel Tubes and Fittings for Onshore and Offshore Pipelines"
- Excellent adhesion to FBE and abrasive blasted steel
- Excellent cathodic disbondment characteristics
- Excellent wastewater and sulphuric acid resistance
- Can be used in directional drill and thrust bore applications.
- Suitable for pipeline operating temperatures to 150°C (302°F)
- Can be sprayed and hand applied up to 1000micron (40mils) in one multi-pass layer

Application examples

Application: coating system for pipe bends, fittings, valves, girth welds/field joints, directional drilling, buried tanks and vessels, Offshore risers, piles, waste water pipes and other steel structures in need of a high performance protection at operating temperatures up to 150°C (302°F).

Product Performance (processing under laboratory conditions)

	Test Method	Typical Value
Cathodic Disbondment	ASTM G8 (23°C) (73°F) 30 days.	4mm
	DIN EN 10289	0mm
	2 days (60°C)(140°F)	8mm
	ASTM G42 (95°C) (203°F) 30 days.	<12mm
	ASTM G42 (150°C) (302°F) 30 days.	
Flexibility	NACE RP-0394	0.27"/PD at 23°C/73°F
Impact Resistance	ASTM-G14	70 in/lb/7.9Nm/7.9J at 40mils/1000micron
Adhesion to FBE	ASTM D4541	3000psi/20MPa
Adhesion to Steel	ASTM D4541 After 90 days HWI at 150°C (302°F)	3550psi/24MPa 2830psi/19.5MPa
Abrasion Resistance	ASTM D4060	885 cycles a mil (35 cycles/micron)
Resistance to Acids and Alkalies	ASTM C581	Excellent
Dielectric Strength	ASTM D149	730V/mil (29.0V/micron)
Thin Film Water Absorption	ASTM D570	0.15% (24 hours)
Hardness	ASTM D2240	85 Shore D
	After 90 days HWI at 150°C (302°F)	85 Shore D
Penetration	ASTM G17 after 90 days HWI at 150°C (302°F)	0.021 in (0.53mm)

General Product Information

Colour	Grey
Finish	Gloss
Primer	Self-priming on FBE and DTM
Dry Film Thickness	40mils (1000micron) for most applications
Coverage Rate (theoretical)	40.8 sq.ft/USG at 40mils (1000micron)DFT. 1,00m ² /l at 40mils (1000micron)DFT.
Volume Solids	100%
VOC Content	0 g/l
Flash Point	154°C (309°F) mixed product
Mixing Ratio	3.6:1 (A to B in volume) 100:16 (A to B by weight)
Potlife	14 minutes at 25°C (77°F)

Application Instruction: Surface Preparation Steel

General	The area to be coated has to be clean, dry and free from oil, grease and dust. All contamination that could interfere with the adhesion of the coating has to be removed according to SSPC-SP1.
Preventing condensation on the substrate	Prior and during the surface preparation, the temperature of the substrate(s) must be at least 5°F (3°C) above the dew point.
Abrasive Blasting	Minimum Sa2½ (SSPC-SP10/ NACE2) .
Recommended Surface Profile	3-4mils (75-100micron) angular profile.

Application Instruction: Surface Preparation FBE

General	The area to be coated has to be clean, dry and free from oil, grease and dust. All contamination that could interfere with the adhesion of the coating has to be removed according to SSPC-SP1.
Preventing condensation on the substrate	Prior and during the surface preparation, the temperature of the substrate(s) must be at least 5°F (3°C) above the dew point.
Abrasive Blasting	Sa1 (SSPC-SP7/NACE4, sweep-blasting for optimum performance.
Recommended Surface Profile	Minimum 2mils (50micron) angular profile.

Application Safety

General	Read the Product Data Sheet and follow the caution statements on the Material Safety Data Sheet . Personnel who will come into contact with the product should be using appropriate protection equipment. Follow national safety guidelines.
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Application Conditions

	Product	Surface	Ambient	Humidity
Optimum	130°F (55°C)	70-90°F (21-32°C)	70-90°F (21-32°C)	25-50%
Minimum	122°F (50°C)	50°F (10°C)*	-20°F (-30°C)	0%
Maximum	140°F (60°C)	212°F (100°C)	120°F (49°C)	85%

* If the surface to be coated is below 10°C (50°F), preheating of the substrate is recommended. Preheat temperatures should not exceed 100°C (200°F). Prior and during the application, the temperature of the substrate must be at least 3°C above the dew point.

Application Instruction: Plural Component Spray	
Step 1	Mix the Part A and B until uniform in consistency.
Step 2	Use only heated plural component Airless equipment capable to maintain a 3.6:1 ratio in volume and 1.25 Gallon/4,73 Liter per minute output, with heated drums, insulated (heated) hoses and minimum 193bar (2800psi.) fluid pressure for Part A and 207bar (3000psi) for Part B. Use Binks 1M Airless spray-gun or equal with preferably changeable spray tips. Consult Powercrete [®] for specific information.
Step 3	Part A must be heated up and maintained to a temperature of 60-65°C (140-150°F) and Part B must be heated up and maintained at 38-49°C (100-120°F).
Step 4	Apply Powercrete [®] R-150 in the recommended DFT. Use a WFT gauge to check. Do not dilute the product.

Curing Times at 25°C (77°F)	
Gel Time:	31 minutes
Dry time:	1.3 hours
65 shore D:	2.2 hours (ready for Holiday test)
75 shore D:	5.0 hours (full cure)
Cure time is based on 40 mils (1000micron) DFT. Recoat interval at 21°C (70°F) is 34-60minutes and 4-7 minutes at 65°C (150°F).	

Inspection and Repair	
Inspection	The finished coating must be visually inspected for any defects, such as runs and sags, fisheyes, blistering, pinholes, missed spots and possible contaminants. Pinhole/Holiday detection must generated according to NACE SP0188.
Coating Thickness	The coating thickness (DFT) must be within the specified DFT range. Use calibrated equipment and measure according to SSPC-PA 2 or other specified standard.
Repair	Pinholes/Holidays must be located and repaired with approved material. Consult Powercrete [®] for specific information. Retest the repaired area.

Cleaning	
Cleanup	Use Acetone or MEK.

Handling	
General	Transport and stacking is possible after full cure of the coating and generating a Holiday test (NACE SP0188). This time can be reduced by increasing the curing temperature. Consult Powercrete [®] for specific information.

General Order Information	
Product	Powercrete[®] R-150. Product dimensions and contents:
Drum	
Part A	40 gal/151.4 l (625 lb/283.5 kg)
Part B	46 gal/174.1 l (400 lb/181.4 kg)
Pail	
Part A	4 gal/15.1 l (61.7 lb/28 kg)
Part B	4.6 gal/17.4 l (39.5 lb/17.9 kg)
Kit Options	1.44 gal/5.45 l (20 lb/9.1 kg) 0.72 gal/2.72 l (10 lb/4.5 kg) 0.29 gal/1.09 l (4 lb/1.8 kg) 0.14 gal/0.53 l (2 lb/0.9 kg)
Cartridges	On request.
Handling	Handle with care. Keep containers upright.
Storage	Store indoor, clean and dry, away from direct sunlight in a cool place below 18-30°C (65-85°F). Keep from freezing. Shelf life 24 months in the original unopened containers.

Additional Information	
Documentation	Application instructions and other documentation can be obtained by contacting our head office, from our local distributor or by sending email to info@sealforlife.com
Certified staff	Application of the described coating system should be carried out and inspected by certified personnel.