

Powercrete® R-150 Liquid Epoxy



Product Description

Powercrete R-150 is a single coat, 100% solids, high build epoxy novolac. Powercrete R-150 is specifically designed to coat, repair and rehabilitate pipeline operating at ultra high temperatures - up to 150°C (302°F). As an abrasion resistant overlay (ARO) it is compatible with FBE and CTE main-line coatings and is used on any other metal structure. This 2-component, solvent-free epoxy can easily achieve a dry film thickness of 40+ mils in a single application and can be hand or spray applied.

Product Applications

- Pipeline Repair & Rehabilitation
- Girth Welds / Field Joints
- Pipe Bends, Fittings, Valves & Odd Shapes
- Any bare steel structure in need of protection

Product Features & Benefits

- 100% Solids Epoxy, no V.O.C.s and no isocyanates
Safe to use
- Novolac Chemistry
Greater surface tolerance and chemical resistance
- Excellent Wetting Properties to Bare Steel
Exceptional adhesion and cathodic disbondment resistance
- Same Formula for Hand or Spray Application
Reduce inventory • Easy selection to avoid errors
- High Build in a Single Application
Save time by applying 40+ mils in a single pass
- Excellent Mechanical Properties
Used in directional drill and thrust bore applications

Physical Properties

Property	Condition	Test Method	Typical Value	
			US Imperial	Metric
Specific Gravity	(Mixed)	ASTM D-3289-03	1.64	1.64
Compressive Strength		ASTM C-109	14,300 psi	99 MPa
Hardness	(Shore D)	ASTM D-2240	85	85
Thin Film Water Absorption	24 Hrs	ASTM D-570	0.15 %	0.15 %
Dielectric Strength	(Oil)	ASTM D-149	690 volts/mil	27 volts/micron
Resistance to Acids & Alkalies		ASTM C-581	Excellent	Excellent
Adhesion to				
FBE		ASTM D-4541	3,400 psi	23.44 MPa
Bare Steel		ASTM D-4541	3,700 psi	24.48 MPa
Impact Resistance	(40 mils thickness)	ASTM G-14-88	57 inch lbs	6.4 Nm/6.4 Joules
Flexibility	(Degrees per pipe diameter)	NACE RP-0394	0.15° to 0.19°	0.15° to 0.19°
Tabor Abrasion	(CS-17 wheel, wear cycles)	ASTM D-4060-95	885 cycles/mil	33 cycles/micron
Cathodic Disbondment	30 days			
23°C (73°F)		ASTM G-8	0.2 inch	4.0 mm
150°C (302°F)		ASTM G-42	<0.5 inch	<12 mm
Holiday Detection	Holiday free	ISO :21809-3 & CSA Z245.20	125 Volts per mil	5 Volts per micron
		ASTM G 62 Method B	84 Volts per mil	3.3 Volts per micron



Selected Product Properties at Maximum Operating Temperature (150°C/302°F)

Cathodic Disbondment	after 30 days at 150°C	ASTM G-42	< 0.5 inch	< 12 mm
Pull of Adhesion	after 90 days HWI at 150°C	ASTM D 4541	2830 psi	19.5 MPa
Penetration	starting thickness 40 mils at 135°C for 24 hours and after 90 days HWI at 150°C	ASTM G17	.021 inch	.53 mm
Hardness	after 90 days HWI at 145°C	ASTM D-2240	Shore D 85	Shore D 85

Product Selection Guide

Maximum Operating Temp	150°C (302°F)	Color	Gray
Compatible Line Coatings	FBE, CTE	Typical Single Coat Thickness	
Mixing Ratio		Manually Applied	40 mils (1.0 mm)
By Volume	3.6:1 Part A to B	Spray Applied	40 mils (1.0 mm)
By Weight	100:16 Part A to B	Recoat Interval (Spray)	
	63.5 - 101.6 microns	@ 21°C, 70°F	34 - 60 minutes
	SA 2 1/2	@ 65°C, 150°F	4 - 7 minutes
Surface Profile Recommended	SSPC-10 - Near-White SSPC-SP5 - White	Clean Up	Acetone, MEK

Typical Application

Hand Apply		Spray Apply	Waste Factor														
	Theoretical Coverage Rates 425 mil-sq. ft./litre 1605 mil-sq. ft./US gallon 1.0 mm-m ² /litre		(approx.) <table border="1"> <tr> <td>10%</td> <td>Kit Application</td> </tr> <tr> <td>15%</td> <td>20" + pipe OD</td> </tr> <tr> <td>25%</td> <td>14"-18" pipe OD</td> </tr> <tr> <td>35%</td> <td>2"-12" pipe OD</td> </tr> </table>	10%	Kit Application	15%	20" + pipe OD	25%	14"-18" pipe OD	35%	2"-12" pipe OD						
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Temperature Considerations

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 (212°F) prior to the application.

Note: The application should only be done when the temperature of the steel is at least 3°C (5°F) higher than the dew point, as recommended by NACE.

Storage & Handling

For optimum performance, store Powercrete® R-150 epoxy products in a dry, well-ventilated area. Maintain products in original packaging and sealed until just before use. Avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental conditions or contaminants.

NOTE:
Avoid prolonged storage at temperatures above 40°C (104°F) or below 5°C (40°F).

Cure Times

Pot Life: 4 Lbs Kit (1.82 Kg), @ 25°C (77°F)	14 minutes
Spray Application	
Gel Time: 40 mils, @ 27°C (80°F)	31 minutes
Dry Time: 40 mils, @ 27°C (80°F)	77 minutes
65 Shore "D" Reading: 40 mils, @ 27°C (80°F)	2.2 hours
75 Shore "D" Reading: 40 mils, @ 27°C (80°F)	5 hours
Application Temp Range:	-30 to 100°C -20 to 212°F
Shelf Life (stored in specified conditions):	2 years

Ordering Information

Powercrete R-150 is available in three (3) packaging options:

Drum

- Part A: 40 Gal / 153 L (625 Lbs / 283.5 Kg)
- Part B: 46 Gal / 176 L (400 Lbs / 181.4 Kg)

Pail

- Part A: 4 Gal / 15.1 L (61.7 Lbs / 28 Kg)
- Part B: 4.6 Gal / 17.4 L (39.5 Lbs / 18 Kg)

Kit Options (Part A and B in proper mix ratio by weight)

- 20 Lbs / 9 Kg (1.44 Gal / 5.44 L)
- 10 Lbs / 4.5 Kg (0.72 Gal / 2.7 L)
- 4 Lbs / 1.8 Kg (0.29 Gal / 1.09 L)
- 2 Lbs / 0.9 Kg (0.14 Gal / 0.54 L)



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