

Powercrete® R-120 Liquid Epoxy



Product Description

Powercrete R-120 is a single coat, 100% solids, high build epoxy novolac that coats, repairs and rehabilitates pipelines operating at maximum temperatures up to 120°C (250°F). As an abrasion resistant overlay (ARO) it is compatible with FBE and CTE mainline 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	14,660 psi	110 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	3,550 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	< 0.6 °	< 0.6 °
Tabor Abrasion	(CS-17 wheel, wear cycles)	ASTM D-4060-95	780 cycles/mil	30 cycles/micron
Cathodic Disbondment	30 days			
23°C (73°F)		ASTM G-8	0.2 inch	4.0 mm
95°C (203°F)		ASTM G-42	0.3 inch	8.0 mm
120°C (250°F)		ASTM G-42	0.4 inch	10 mm

Product Selection Guide

Maximum Operating Temp	120°C (250°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)	
Surface Profile Recommended	2.5 - 4.0 mils	@ 21°C, 70°F	34 - 60 minutes
	63.5 - 101.6 microns	@ 65°C, 150°F	4 - 7 minutes
Surface Preparation	SA 2 1/2	Clean Up	Acetone, MEK
	SSPC-10 - Near-White		
	SSPC-SP5 - White		

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.)													
	Recommended Tip Sizes		10% Kit Application													
	<table border="1"> <thead> <tr> <th>Tip Size</th> <th>Pipe Size (DN)</th> <th>Flow Rates (approx.)</th> </tr> </thead> <tbody> <tr> <td>331</td> <td>to 12" (DN300)</td> <td>19tip = 1.1 L / min.</td> </tr> <tr> <td>419/431</td> <td>12"-16" (DN300-400)</td> <td>31tip = 2.8 L / min.</td> </tr> <tr> <td>519/531</td> <td>16"-24" (DN400-600)</td> <td></td> </tr> <tr> <td>619/631</td> <td>24"-48" (DN600-1200)</td> <td></td> </tr> </tbody> </table> <p>Note: Fluid pressure at tip Approx. 3,500 psi.</p>		Tip Size	Pipe Size (DN)	Flow Rates (approx.)	331	to 12" (DN300)	19tip = 1.1 L / min.	419/431	12"-16" (DN300-400)	31tip = 2.8 L / min.	519/531	16"-24" (DN400-600)		619/631	24"-48" (DN600-1200)
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			25% 14"-18" pipe OD													
			35% 2"-12" pipe OD													

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-120 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 contaminates.

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-120 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)



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

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