

PRODUCT INFORMATION

Generic Type	Fast curing ceramic modified epoxy designed for mainline and field pipeline joints in corrosion and abrasion protection applications.
Description	<p>Powercrete[®] R-65/F1 is a solvent free epoxy coating with an extreme fast curing time for handling efficiency in pipe-mills and workshops, it has user friendly application characteristics and rapid backfill properties.</p> <p>Powercrete[®] R-65/F1 provides excellent long-term corrosion protection to abrasive blasted steel and FBE coated pipes. This high-build epoxy coating system can easily achieve a dry film thickness (DFT) up to 40 - 60 mils (1000micron), applied in criss-cross multi-passes.</p> <p>Powercrete R65/F1 is the ideal coating system for new construction and rehabilitation of pipes, pipe bends, fittings, valves, girth welds/field joints, buried tanks and other steel structures in need of protection.</p> <p>Powercrete[®] R-65/F1 Repair Cartridges and Spray Cartridges are available to make this the ideal coating for girth welds, coating repairs and rehabilitation projects.</p>
Features	<ul style="list-style-type: none"> • 100% Solids Epoxy • No VOC • Extreme fast curing time for reducing production costs • User friendly 2:1 mixing ratio (cartridges 1:1) • Excellent adhesion to FBE and abrasive blasted steel ☑ excellent mechanical properties • Suitable for directional drill applications as abrasion resistant coating • Can be used in a broad range of applications. • Suitable for pipeline operating temperatures to 65°C (150°F) • Powercrete[®] R65/F1 meets requirements of EN 10289. • Powercrete[®] R65/F1 meets requirements of CSA Z245.30 systems FC1.
Colour	Green and other colours MTO.
Finish	Gloss
Primer	No primer necessary on FBE, liquid epoxy and direct to metal

Dry Film Thickness	25 – 60 mils (625 - 1500 µm) for most applications in multicoat application For higher dry film thickness consult Seal For Life representative.
Solids by Volume	100 %
Theoretical Coverage Rate	64.2 ft ² per Gallon at 25 mils (625 µm) thickness (DFT) 40.1 ft ² per Gallon at 40 mils (1000 µm) thickness (DFT) 26.7 ft ² per Gallon at 60 mils (1500 µm) thickness (DFT)
VOC Values	0 g/l (No recordable VOC values)
Limitations	Epoxies lose gloss, discolor and eventually chalk in sunlight exposure. If the coating is going to be exposed more than 6 months a polyurethane or acrylic top-coat is recommended. Consult Seal for Life Representative.

SUBSTRATE AND SURFACE PREPARATION

General	The area to be coated must 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	Prior and during the surface preparation, the temperature of the substrate(s) must be at least 5°F (3°C) above the dew point.
Steel	Abrasive blast to SSPC SP 10 (ISO Sa 2½ a minimum cleanliness level. The anchor profile shall be angular with a range of 2.5 – 4.5 mils (67.5 to 112 µm) when measure by ASTM D 4417 Method C (Replica Tape).
FBE	Abrasive blast surface following procedures of SSPC SP 7 (ISO Sa 1) removing all the gloss from the surface and obtaining a dense angular profile. The anchor profile can be evaluated following procedures of ASTM D 4417 Method C (Replica Tape) obtaining a minimum of 2.0 mils (50 µm).

MIXING AND THINNING

Application Safety	Read the Product Data Sheet and follow the caution statements on the Safety Data Sheet (SDS). Personnel exposed to the product shall wear appropriate protection equipment. Follow best painting practices and safety guidelines.
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Mixing Ratio	2:1 (A to B in volume) 100:36 (A to B by weight)
Mix each Component	Pre-mix part A and part B separately until uniform for plural airless spray application and hand application. Do not incorporate air by mixing too fast, warm material will be easier to mix. Hand apply is possible in plant application only for small repair and patch work.
Thinning	No thinning is necessary.
Pot Life	9 minutes at 25 °C (77 °F)

APPLICATION EQUIPMENT GUIDELINES

Spray Application	Consult SEAL FOR LIFE for specific information.
Temperature During Application	For Spray application: 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).
Hand and Cartridge Application	POWERCRETE® R65/F1 can be applied with brush or roller. For small repairs application, follow Hand application or Cartridge application instructions guide for Powercrete® R65/F1. For Hand application the material should be at 65 – 85 °F (18 – 29 °C)
Cartridge application	For cartridge 110 – 120 F

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)*	35°F (2°C)	0%
Maximum	140°F (60°C)	176°F (80°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 93°C (200°F). Prior and during the application, the temperature of the substrate must be at least 3°C above the dew point.
*This temperature does not refer to hand application.

Curing Schedule

Gel Time	12 minutes at 25 °C (77 °F)
Dry to Touch	37 minutes at 25 °C (77 °F)
65 Shore D Hardness	1 hour at 25 °C (77 °F) – Ready for Holiday Testing
75 Shore D Hardness	1.25 hours at 25 °C (77 °F) – Full Cure ready for handle
Note	<p>Cure time is based on 40 mils (1000micron) DFT. Recoat interval at 21°C (70°F) is 26 – 83 minutes and 7-10 minutes at 65°C (150°F).</p> <p>Consult POWERCRETE R65/F1 Gel, Re-Coat and Curing Time Chart for more specific information.</p> <p>Warning: Under 4 °C (40 °F) coating mixture is frozen, and no chemical reaction will occur.</p>

Temperature	Gel Time	Min. Recoat Time	Max. Recoat Time	Dry to Touch	Time to 65 Shore D	Time to 75 Shore D
50 °F (10 °C)	20 min	12 min	1 hrs	2.1 hrs	7 hrs	10 hrs
60 °F (16 °C)	13 min	10 min	50 min	1.25 hrs	3 hrs	4 hrs
70 °F (21 °C)	11 min	9 min	28 min	38 min	1.5 hrs	1.75 hrs
77 °F (25 °C)	10 min	8 min	17 min	25 min	55 min	1.1 hrs
80 °F (27 °C)	8 min	6 min	13 min	23 min	50 min	1 hrs
90 °F (32 °C)	7 min	5 min	10 min	14 min	22 min	34 min
100°F (38 °C)	6 min	4 min	9 min	11 min	19 min	27 min
110°F (43 °C)	5 min	3 min	6 min	9 min	17 min	20 min

This information refers to spray application, the cure rate accelerates as temperature and dry film thickness increase. Touch-up of holidays can occur then as well or any time the coating is firm enough to resist damage from the procedure. Full cure will take place according to the table above. Over-coating after the maximum recoat time requires that the surface be abraded prior to application. Use a medium grit, 60 to 80 grit paper or sweep blast to roughen the surface. Clean abraded area of dust before re-coat or repair. (For more information consult the Cure-Gel Time chart for Powercrete® R65/F1)

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 generate according to NACE SP0188 High Voltage Modality or specified standard.

Coating Thickness

The coating thickness (DFT) must be within the specified DFT range. Use calibrated equipment and measure according to SSPC-PA 2 or another specified standard.

Cure to Handling

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 Seal For Life for specific information.

Repair

Pinholes/Holidays must be located and repaired with Powercrete® R65/F1, POWERCRETE J or approved material. Consult Powercrete® for specific information. Retest the repaired area. Consult the POWERCRETE® R65/F1 Repair Instructions.

CLEAN UP AND SAFETY

Cleaning	Use MEK, Acetone or Xylene/MEK mixtures. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
Safety	Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands, and all exposed areas.
Ventilation	When use cleaning solvent in enclosed areas, thorough air circulation must be used. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines.

PACKAGING, HANDLING AND STORAGE

Shelf Life	Store indoor, clean and dry, away from direct sunlight in a cool place. Keep from freezing. Shelf life in the original unopened containers: Part A 24 months Part B 12 months Cartridges 6 months
Storage Temperature and Humidity	18-30°C (65-85°F)
Storage	Indoors and keep dry
Shipping Weight	Powercrete® R65/F1 Product dimensions and contents: Drum Part A 39.89 gal/151,0 l (639.11lb/289,9 kg) Part B 39.89 gal/151,0 l (459.43 lb/208,4 kg) Pail Part A 3.83 gal/14,5 l (61.28 lb/27,8 kg)

	Part B	3.83 gal/14,5 l	(44.09 lb/20,0 kg)
	Kits Options		
	1 Lts	0.26 gal/1,0 l	(3.96 lb/1,8kg)
	½ lt	0.13 gal/0,5 l	(1.98 lb/0,9 kg)
	Cartridges	400 ml 1500 ml	
Flash Point	Mixed Material	>446°F (230 °C) mixed product	
	Part A	> 199°F (93°C)	
	Part B	> 199°F (93°C)	

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.

DISCLAIMER

Seal For Life Industries warrants that the product(s) represented within conform(s) to its/their chemical and physical description and is appropriate for the use as stated on the respective technical data sheet when used in compliance with Seal For Life Industries written instructions. Since many installation factors are beyond the control of Seal For Life Industries, the user is obligated to determine the suitability of the products for the intended use and assume all risks and liabilities in connection herewith. Seal For Life Industries liability is stated in the standard terms and conditions of sale. Seal For Life Industries makes no other warranty either expressed or implied. All information contained in the respective technical data sheet(s) should be used as a guide and is subject to change without notice. This document supersedes all previous revisions. Please see revision date on the left. Powercrete[®] is a registered trademark of Seal For Life Industries.