PRODUCT INFORMATION

Generic Type	Ceramic Modified Epoxy design for mainline and field pipeline joints corrosion and abrasion protection applications.
Description	Powercrete® J is a solvent free epoxy polymer-concrete, mainline, pipeline coating operating at maximum temperatures up to 60°C(140°F). Powercrete® J can be used as mainline pipeline coating system for new construction and rehabilitation such as girth welds/field joint coating, Water Pipe OD, pipe bends, fittings, valves, directional drilling applications.
Features	• 100% Solids Epoxy • no VOC • Exceeds AWWA C210 requirements • Excellent adhesion on FBE, Liquid Epoxies and CTE • Excellent mechanical properties • Suitable for pipeline operating temperatures to 60°C (140°F) • Exceptional adhesion and soil stress resistance on bare steel • Can be sprayed and hand applied up to 500 micron (20mils) in one multi-pass layer • Powercrete® J meets requirements of EN 10289 • Powercrete® J meets requirements of CSA Z245.30 systems FC1 and FC3.
Colour	Brown and other colours MTO.
Finish	Gloss
Primer	No primer necessary on FBE, liquid epoxy and direct to metal
Dry Film Thickness	20 – 60 mils (500 - 1000 µm) for most applications in multicoat application For higher dry film thickness consult Seal For Life representative.
Solids by Volume	100 %
Max. Temperature of Operation	Intermittent 65 ◦C (150 ◦F) Continuous 60 ◦C (140 ◦F)
Theoretical Coverage Rate	81.5 ft^2 per Gallon at 20 mils (500 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	If the coating is going to be exposed to sunlight exposure for more than 6 months, a polyurethane or acrylic top-coat is recommended. Consult your Seal for Life Representative for more information.

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 2 ½ a minimum cleanliness level. The anchor profile shall be angular with a range of 2.5 – 4.5 mils (67 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). Follow specification instructions for overlap on the mainline coating dimensions.

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.
Mixing Ratio	4.8:1 (A to B in volume) 100:11.2 (A to B by weight)

Mixing Process	Power mix or carefully hand-mix part A and part B separately until uniform for plural airless spray application and/or hand application. Do not incorporate air by mixing too fast, warm material will be easier to mix.
Thinning	No thinning is necessary
Pot Life	30 minutes at 25 ˚C (77 ˚F)

APPLICATION EQUIPMENT GUIDELINES

Brush and Roller Application

POWERCRETE J is applied with brush, trowel or roller. Follow hand application instructions guide from Powercrete J. Warm parts A & B to 20ºC (68ºF) and mix by pouring all of part B into part A. Thoroughly scrape container and lid of B.

Hand mix or power mix the material at a speed that uniformly blends the 2 parts but does not add air to the mixture or spillage. Use trowels, brush, applicator pad or roller to apply required minimum thickness of coating to the surface. Use a Wet Film gauge to measure that the desired minimum thickness has been achieved. Double check around the weld to insure minimum desired thickness.

Spray Application

Spray application of POWERCRETE J requires specialized equipment and training, please contact your Seal for Life representative for more information. Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Use only heated plural component Airless equipment capable to maintain a 4.8:1 ratio in volume and 1.25 Gallon/4,73 Liter per minute output, with heated drums, insulated (heated) hoses and minimum 170bar (2500psi.) fluid pressure for Part A and 124bar (1800psi) for Part B. Use Graco XRT, Binks Airless spray-gun or equal with preferably changeable spray tips. Consult SEAL FOR LIFE for specific information.

- Transfer pumps (Graco 5:1 or 10:1)
- Agitation (expandable blade mixer)
- Heated drums for A and B
- High pressure filter (60 mesh)
- Hose bundle (A hose = ½”, B hose = 1/8”) I.D.
- Static mixers set of 2 – 12" static mixer 3/8” separated by whip hose

- Whip hose and mixer assembly max length at 20 ft
- High pressure fluid heater and temperature control (5400 watts)
- Spray Temperature (Part A 130 – 160 F and Part B 68 - 86 F)
- Pump Ratio: 56:1 (min.)
- Volume Output: 4.73 l or 1.25 Gallons per minute as minimum
- Tip Size: (0.021-0.031")
- Pressure: Part A 2500 - 2800 psi (170 Bar); Part B 2000 - 2300 Psi (124 Bar)
- Airless Spray Gun: Graco XRT, Binks or similar

Temperature During Application | Part A must be heated up and maintained to a temperature of 60 ˚C (140 ˚F) and Part B must be heated up and maintained at 30 ˚C (86˚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)	160 ˚F (70 C)	120˚F (49˚C)	90%***

* 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. Hand application product temperature range is at 20 – 40 ◦C (68 – 104 ◦F) for best results.
*** In high relative humidity is critical to control surface temperature and curing process.

Curing Schedule

Gel Time | 30 minutes at 25 ˚C (77 ˚F)

Dry to Touch | 1.7 Hours at 25 ˚C (77 ˚F)

65 Shore D Hardness | 4.2 Hours at 25 ˚C (77 ˚F) – Ready for Holiday Testing

75 Shore D Hardness | 5.2 Hours at 25 ˚C (77 ˚F) – Full Cure Ready to handle

Hardness after 7 days	Full Cure Minimum Hardness 80 Shore D at 77 F
Note	Cure time is based on 20 mils (500micron) DFT. Recoat interval at 21˚C (70˚F) is 26 – 83 minutes and 7-10 minutes at 65˚C (150˚F). Consult POWERCRETE J Gel, Re-Coat and Curing Time Chart for more specific information. **Warning: Under 4 ◦C (40 ◦F) coating mixture is frozen, and no chemical reaction will occur**.

Spray Curing Chart						
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)	50 min	40 min	3 hrs	5 hrs	60 hrs	72 hrs
60 ˚F (16 ˚C)	39 min	34 min	2 hrs	3.3 hrs	16 hrs	19 hrs
70 ˚F (21 ˚C)	31 min	26 min	1.5 hrs	2.15 hrs	6 hrs	7 hrs
80 ˚F (27 ˚C)	29 min	24 min	1 hr	1.5 hrs	4 hrs	5 hrs
90 ˚F (32 ˚C)	21 min	16 min	41 min	1 hr	2 hrs	3.15 hrs
100˚F (38 ˚C)	17 min	14 min	31 min	45 min	1.5 hrs	2 hrs
110˚F (43 ˚C)	16 min	13 min	28 min	40 min	1.15 hrs	1.5 hrs
120˚F (49 ˚C)	13 min	10 min	24 min	35 min	1 hr	1.1 hrs

Hand Apply Curing Chart						
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)	110 min	100 min	4 hrs	6 hrs	75 hrs	95 hrs
60 ˚F (16 ˚C)	62 min	57 min	2.5 hrs	4 hrs	20 hrs	28 hrs
70 ˚F (21 ˚C)	52 min	47 min	2.0 hrs	3 hrs	8 hrs	10 hrs
80 ˚F (27 ˚C)	30 min	25 min	1.5 hrs	2 hrs	5 hrs	5.5 hrs
90 ˚F (32 ˚C)	25 min	20 min	58 min	1.3 hrs	2.5 hrs	3 hrs
100˚F (38 ˚C)	18 min	15 min	37 min	55 min	2 hrs	2.5 hrs
110˚F (43 ˚C)	16 min	13 min	31 min	45 min	1.5 hrs	2 hrs
120˚F (49 ˚C)	15 min	12 min	28 min	40 min	1 hr	1.5 hrs

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® J)

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. **Consult the performance data summary document for Powercrete J for information on inspection parameters.**
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.
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 Powercrete® for specific information.
Repair	Pinholes/Holidays must be located and repaired with Powercrete® J, POWERCRETE R65F1, POWERCRETE R95 or approved material. Consult Powercrete® for specific information. Retest the repaired area. Consult the POWERCRETE® J 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 in sure 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 24 months in the original unopened containers.
Storage Temperature and Humidity	15-30°C (65-85˚F)
Storage	Indoors and keep dry
Shipping Weight	Powercrete® J. Product dimensions and contents:

Drum		
Part A	40.68 gal/154.0 l	(629.41 lb/285.5 kg)
Part B	50.73 gal/192.0 l	(431.66 lb/195.8 kg)
Pail		
Part A	4.22 gal/16.0 l	(65.25lb /29.6 kg)
Part B	4.06 gal/15.4 l	(37.03 lb/16.8 kg)
Kits Options		
10 Pounds	0.65 gal/2,5 l	(10.15 lb/4.62 kg)
4 pounds	0.26 gal/1,0 l	(4.07 lb/1,85 kg)
3 pounds	0.19 gal/1.5 l	(3.05 lb/1.37 kg)
2 pounds	0.13 gal/0,5 l	(2.02 lb/0,92 kg)
1 pound	0.06 gal/0.2 l	(1.01 lb/0.46 kg)

Flash Point	Mixed Material >199˚F (93˚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 trained personnel. Consult with SFL Representative for our training and technical service support.

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.