

Liquid Epoxy Coatings

The Power Behind Corrosion Prevention

Coatings for: Rehabilitation **Directional Drilling** Girth Weld Protection Bends, Fittings & Odd Shapes Offshore Application Patch & Repair Potable Water Flow Efficiency





Setting the Standard

Since 1990 Powercrete[®] epoxies have demonstrated strength and integrity as revolutionary liquid coatings for corrosion prevention in the pipeline industry. Leading scientists and researchers have further developed the Powercrete[®] line in response to application demands. Today, owners and contractors choose Powercrete[®] because they are confident in its dependable and reliable performance.

Choosing Powercrete[®] means you are selecting the leading liquid epoxy that has set the standard for the industry. Powercrete[®] provides superior adhesion and abrasion resistance to protect valuable assets. Powercrete[®] is impervious to soil stress and is compatible with FBE and CTE line coatings.

Powercrete[®] coatings are field friendly, easy to apply and cost effective. All Powercrete[®] formulations can be spray, roller, trowel or brush applied and are available in a variety of colors.

Lifetime Solutions For Corrosion Prevention

Manufactured by Berry Plastics Corrosion Protection Group, a leading global supplier of corrosion prevention solutions, Powercrete® offers a variety of formulae for specific applications. When applied correctly, Powercrete® will outlive the useful life of the pipe or tank structures on which it is applied.



Corrosion Prevention Coatings

- Ideal for coating girth welds, bends, fittings and elbows
- New high-build, fast setting formulations
- ID coatings for flow efficiency
- Cost effective joint coating for FBE coated pipe



Directional Drill Coatings

- Abrasion resistant overlay (ARO) applied over FBE
- Extremely high adhesion to the FBE mainline coatings
- Exceptional abrasion and impact resistance
- Flexible application in the field or in the plant



Rehabilitation Coatings

- Bell hole rehab long or short pipe sections
- Cost effective recoating solution
- Field-friendly and easy to apply
- World class manufacturer's Applicator Certification Program
- Monolithic, Resilient, impervious coating for long-term protection



Offshore Coatings

- Risers and spans for offshore structures
- Pile and splash zone protection against mechanical damage
- Long-life alternative to traditional marine paints
- High speed manual and spray application
- Proven performance in harsh marine environments



Water, Wastewater & Tank Coatings

- NSF/ANSI Standard 61 Certified for potable water
- Meets the requirements of BS: 6920 standard
- Far exceed AWWA C 210 requirements
- High build in a single pass
- Chemical resistant and non leachable



Powercrete is Protection

Powercrete[®] epoxies are designed to meet the requirements of the most demanding pipeline applications. With years of experience in the pipeline industry Powercrete[®] has established its reputation based on the following key material and performance characteristics:

100% solids content with no volatile organic compounds (VOCs) and no isocyanates

Exceptional adhesion to bare steel and fusion bonded epoxy (FBE) mainline coatings (ASTM D-4541)

Excellent cathodic disbondment resistance at ambient and maximum operating temperatures (ASTM G-8 and G-42)

Superior resistance to water immersion including sea water and ground water over a broad pH range

System suitable for pipelines operating at upto 150°C/302°F

Low temperature grades of fast cured epoxy can be applied in sub-zero temperatures onto a preheated pipes

Field friendly and cost saving formulations that are high build in a single pass and quick drying

Outstanding mechanical properties of impact and abrasion resistance on record setting directional drills

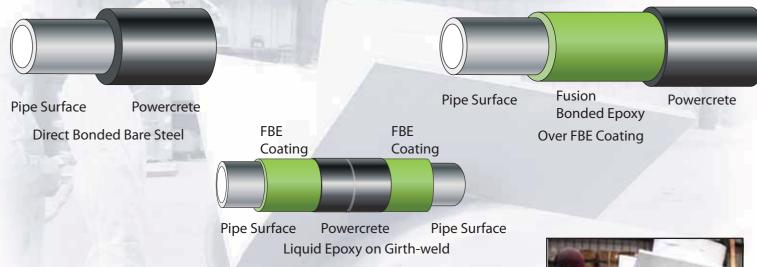
Versatile & Cost Effective



All Powercrete® formulations are developed to be field friendly and cost effective. The ease of application can be achieved either by hand (rollers, brushes or trowels) or with spray equipment which delivers high-build in a single pass, thereby reducing application time. This engineered application flexibility allows the contractor to stock and manage a single product for any application requirement.

As with all coatings, the performance of Powercrete[®] is governed by the care and attention to detail that is exhibited by the applicator. In general, all prevailing standards call for a metal surface to be clean, free of grease, salts and other residue. Additionally, an "anchor pattern" is to be achieved so as to increase the bondable surface area to which the coating is applied.

The versatility of Powercrete[®] allows it to be used as an abrasion resistant overlay to FBE and direct bonded to bare steel. The final coating thickness for either use should be specified by the end user. Below ground soil conditions, the wall thickness of the pipe and the application must be considered in determining the final thickness.



Technical Services

Berry Plastics CPG demonstrates a commitment to projects and end users by assisting with the application of corrosion protection products through the technical service program. The goal of the program is to work with the end user and all affiliated companies to obtain the best applied coating on the substrate to be protected. This value-added program, coupled with our proven high performance coatings serves as the basis for long-term protection of metal structures against corrosion and mechanical damage in a wide range of different environments.



Training & Certification

On a global basis, Berry Plastics Corrosion Protection Group trains and certifies applicators and end users. Balancing classroom and hands-on practical training, the course includes:

- · Presentations by leading industry experts
- · History and types of epoxies
- Chemistry of liquid epoxies
- Proper product selection
- Training on specific standards and test methodologies
- Field health and safety guidelines
- · Coatings case study reviews
- Application specifics
- Trouble shooting and maintenance of equipment
- Equipment setup and tear down procedures



The Powercrete® Applicator Certification Program recognizes successful completion of the course and issues a certificate to each qualified participant. Certification is renewable on an annual basis.



Equipment

Powercrete[®] application specifications provide guidance for equipment selection and appropriate configurations. Air/hydraulic, plural component and hot airless machines can be purchased, leased or contracted from a variety of suppliers.

Packaging

Powercrete[®] is available in various packaging options to meet the application and volume requirements of each specific project. Standard packaging includes 55 gal (200 L) drums and 5 gal (20 L) pails. Kits are packaged standard in 2 lb (0.9 kg), 4 lb (1.8 kg), 10 lb (4.5 kg) and 20 lb (9.0 kg) weights. All kits include the base and cure components.

Small Cartridge Packs are also available for certain products.



Berry Plastics CPG

Powercrete® is a product of the Berry Plastics Corrosion Protection Group which has more than 50 years of solid performance in protecting oil, gas, water and district heating pipelines as well as metal structures around the world. Increasingly, Berry Plastics Corrosion Protection Group has adopted an all from one source philosophy and is capable of manufacturing and delivering the most complete line of products for pipeline corrosion available today.



Product Selection Guide

Applications												
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•			•		•			Powercrete DD	100% solids liquid epoxy polymer concrete for directional drills and thrust bore applications applied over FBE	1) Taber Abrasion CS-17; 1,563 cycles/mil (63 cycles/micron) 2) adhesion to FBE > 2,500 psi/17 MPa	55	130
	•	•	•		•			Powercrete J	100% solids liquid epoxy designed as a primary corrosion coating to bare steel and over FBE coatings	1) high wet out 2) low build, multi-coat system 3) adhesion to bare steel >3,850 psi/26 MPa 4) exceeds AWWA C-210	60	140
		•	•	•	•			Powercrete R-60 Burgundy	100% soilds liquid epoxy designed as a primary corrosion coating to bare steel and over FBE coatings	 20 mils (0.5 mm) build-up in single coat adhesion to bare steel: 4000 psi / 27 MPa High performance coating for medium operating temp. 	60	140
	•	•	•	•	•			Powercrete R-65/F1	Very fast setting, 100% solids liquid epoxy designed as a primary corrosion protection to bare steel and over FBE coatings	1) easy 2:1 mix ratio 2) 75 Shore "D" reading: 40 mils (1mm) in 75 mins @ 25°C (77°F) 3) cathodic disbondment at 60°C (140°F) is < 0.4 inch (<10 mm) 4) cures fast in cold environment	65	149
•	•	•	•	•	•			Powercrete R-95 O	100% soilds liquid epoxy novolac designed to direct bond to bare steel and over FBE coatings	1) 40 mils (1.0 mm) build in single coat 2) adhesion to bare steel; 3,550 psi/26 MPa 3) cathodic disbondment; 0.3 inch/8.0 mm at 95°C (203°F)	95	203
	•	•	•					Powercrete R-150 O	100% solids liquid epoxy novolac designed to direct bond to bare steel and over FBE coatings (for high operating temperature conditions)	1) 40 mils (1.0 mm) build in single coat 2) adhesion to bare steel; 3,700 psi/26 MPa 3) cathodic disbondment; <0.5 inch/ <12mm at 150°C (302°F)	150	302
•			•		•	•		Powercrete PW Ousf Certified	100% solids liquid epoxy designed for coating ID of pipelines and tanks in potable water applications	NSF/ANSI Standard 61 Certified exceeds AWWA C210 meets BS6920 a) 20 mils (0.5 mm) build in single pass	60	140
•			•		•	•		Powercrete W O	100% solids liquid epoxy designed for coating ID and OD of Pipelines carrying sea/river/process/fire water, storage tanks and sewage pipes	1) 20 mils (0.5 mm) build in single pass 2) Adhesion to bare steel; 3000 psi (20 MPa) 3) Tough & Abrasion resistance 4) Cathodic disbondment; <8mm/<0.31 inch at 43°C (110°F)	55	131
			•		•	•		Powercrete PW-A O	100% solids liquid epoxy coating as an internal lining for potable/drinking water carrying pipelines and storage tanks	1) exceed AWWA C-210 2) meets BS:6920 3) 20 mils (0.5 mm) build in single pass	60	140
							•	Powercrete Superflow	A two-component flow efficiency epoxy coating (FEC) for ID of natural gas transmission through steel pipe	1) meets API RP 5L2 2) meets ISO 15741 3) savings in energy cost during gas transmission	100	212









Select Worldwide Customer References

ADCO - Abu Dhabi AGL - Australia Air Liquide - TX, USA Algonquin Gas - MA, USA ANR Pipeline - NY, USA ARCO - TX, USA ARKLA - LA, USA Bejing Gas - China British Gas - England CIG - UT, USA Colombia Gulf - Colombia Colonial Pipeline - NC, USA Colorado Interstate - CA, USA

ConocoPhillips - TX, USA

ExxonMobil - Barbados GASCO - Abu Dhabi GATX Florida Central - FL, USA Kuwait Oil Co. (KOC) - Oman Lasmo Oil - Colombia Mid American Pipeline - TX, USA Natural Gas of America - OK, USA Niagara Mohawk - NY, USA NIPSCO - IN, USA Northwest Pipeline - WA, OR, USA Oman Gas Co. - Oman Pacific Gas & Electric - CA, USA

PetroChina - China

El Paso - TX, LA, MS, FL, USA

Petroleum Authority PTT - Thailand Petro. Development of Oman - Oman Philadelphia Electric - PA, USA Plantation Pipeline - GA, USA Saudi ARAMCO - Saudi Arabia SCOP - Iraq Texas Gas Transmission - KY, USA Total Petroleum - TX, USA Trans. de Gas del Norte (TGN) - Argentina Unocal - CA, USA Union Pacific Resources - WY, USA US Noram Energy - AR, USA Valero Energy - TX, USA WillaimsTransco - LA, USA

Local Distributor / Representative:

For contact details of local Distributors / Representatives

Please visit www.berrycpg.com.

when used in compliance with Berry Plastics written instructions. Since many installation factors are beyond the control of Berry Plastics, the user is obligated to 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 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 right.

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The leading global partner in protecting the integrity of critical infrastructure. Berry Plastics 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

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