Permite

Engineered Chemical Coatings Since 1921

high performance coatings and linings

PERMOX PCS-9043 TYPE II
GLASS FLAKE EPOXY
PIPE COATING

DESCRIPTION: PCS-9043 TYPE II PIPE COATING is a high-build glass-flake epoxy coating specifically designed for use on concrete, ductile iron, steel pipe and related equipment. It is self priming and epoxy modified to produce thick films up to 60 mils dry film thickness in a single coat, where required. In field work, this product may be applied over damp surfaces and concrete with a moisture content of up to 26% at temperatures as low as 35^0 F, with unaffected chemical resistance and durability upon reaching full cure. When used in shop application, PCS-9043 TYPE II PIPE COATING provides easy application, outstanding adhesion, and recoat times of 2 hours minimum to 6 months maximum.

USE: PCS-9043 TYPE II PIPE COATING is designed for interior and exterior applications to pipe and related equipment. The high performance polyamine epoxy resin and laminar glass flake combine to produce a very tight, compact film with excellent abrasion and chemical resistance. The plate-like formation of glass-flake produces a paint film of 0.0 perms when tested for six(6) weeks per ASTM E 96-66, procedure A. The plate-like structure of glass flake in the cured film also provides superior coverage of irregular surface profile thus producing a holiday-free coating at lower film build when compared to coal-tar epoxies.

PCS-9043 TYPE II PIPE COATING can be used as an interior and exterior coating for pipe in industries such as chemical processing, pulp and paper, marine, water and sewage, offshore drilling, nuclear energy, textile, petroleum, and others.

PCS-9043 TYPE II PIPE COATING meets or exceeds all the requirements of the Corps of Engineers Specification C200; Steel Structures Painting Council Specification SSPC-PT-16; AWWA C-210-84 liquid epoxy system for interior and exterior of steel water pipes; and DOD-P-23236(SH) Type I, Class I, Type III, Class I

PRODUCT DATA:

V.O.C.	.8 lbs per gallon
Color:	White, Black, and Standard Colors
Gloss:	80+ (60^0 Gloss Meter)
Suggested Film Thickness:	12 to 60 mils depending upon service
No. of coats to achieve required film thickness:	One to three coats
Volume Solids:	92 +/- 2%
Theoretical Coverage:	1475 sq. ft. per gallon
No. of Components:	Two

Manufacturing and Executive Offices:
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Bond Strength:	
Sandblasted Steel:	2000 psi (Elcometer test)
Concrete:	Stronger than concrete
Mixing Ratio:	4 to 1 by volume
pH Tolerance	2 to 13
Pot Life:	3 hours @ 77^0 F when reduced for spray 1 hour when not reduced (Shorter at higher temperatures)
Application Temperatures:	20-140^0F dry; 35-120^0 F wet
Dry Time:	
To Touch:	2 hours @ 77^0 F
To Recoat:	2 hours minimum – 6 months maximum
Full Cure:	7 days @ 77^0 F
For Immersion:	5 days @ 77^0 F
Service Temperature:	300^0 F dry; 208^0 F submerged (See "Chemical Resistance" chart for elevated temperature immersion service.)
Reducer and Clean-Up	#76 Reducer
Packaging:	5 gallon kits
Shelf Life:	12 months in unopened containers. **DO NOT STORE ABOVE 90^0 F**

SURFACE PREPARATION:

STEEL:

Non-Immersion: Solvent clean per SSPC-SP1 to remove all oil, grease, and loosely-adhering deposits. Abrasive blast per SSPC-SP6 to remove all rust, mill scale, dust, and other surface contaminants per SSPC-VIS-1-89.

Immersion: Solvent clean per SSPC-SP1 to remove all oil, grease, and loosely-adhering deposits. Abrasive blast per SSPC-SP10 near-white conditions per SSPC-VIS-1-89.

Primer: None required. PCS-9043 TYPE II PIPE COATING has excellent adhesion to steel.

CONCRETE PIPE and MANHOLES: Brush blast to remove surface contaminants and roughen surface. Bug holes opened in the blasting process should be filled before coating.

Primer: None required.

DUCTILE IRON: Abrasive blast to remove all loosely-adherent oxides and foreign materials which would adversely affect the coating adhesion. Since some oxides present after the manufacture of ductile iron pipe are so tightly adhered to the surface that they actually become an integral part of the pipe; the extent of abrasive blasting should be sufficient to remove loosely-adherent oxides but not those that are tightly adhered. The intent is to determine that the entire surface to be coated is struck by the blast media.

Primer: None required.

MIXING: At temperatures higher than 80^0 F, refer to above paragraph on pot life to determine quantity to be mixed. DO NOT MIX MORE THAN CAN BE USED IN A 3 HOUR PERIOD FOR SPRAY APPLICATION, OR IN 1 HOUR FOR BRUSH APPLICATION.

Mix 4 gallons of BASE with 1 quart of REDUCER #76 until uniform with power mixer, then add in 1 gallon of HARDENER. Continue mixing for 3 minutes minimum, scraping sides of mixing container occasionally to ensure that all of the BASE component is thoroughly mixed in.

APPLICATION: Brush, roller, or spray. Do not use nylon or plastic equipment.

Spray Equipment:

Conventional Spray	Airless Spray
Pump-Graco Mogul (8:1) or equal	Pump-Graco Bulldog (30:1) or equal
Pressure: Material – 30 to 55 psi	Line Pressure – 70 to 90 psi
Atomization – 50 to 90 psi	Tip – 23 to 31 thousandths, reversible
Fluid Tip – 1/8" to 1/4"	Tip Filter – none
Atomizing tip – 3/16" (external wing)	Manifold filter – none or 30 mesh
Hose – 1/2" i.d to 50 ft.	Hose – 3/8" i.d., high pressure, 50 ft or less
3/4" i.d. for over 50 ft.	1/2" i.d., high pressure, for over 50
Maximum working pressure – 750 psi	ft. with 3/8" H.P. Whip end hose.
Maximum burst pressure – 3000 psi	

HOLIDAY DETECTION: Holiday detection is recommended. Use a high voltage detector such as a Tinker and Rasor AP/W .9 to 3.5 KV Dry Detector.

CATHODIC PROTECTION: PCS-9043 TYPE II PIPE COATING is compatible with conventional cathodic protection.

CHEMICAL RESISTANCE: PCS-9043 TYPE II PIPE COATING is hydrophobic and this accounts for the ability of the coating to displace moisture from the surface being coated. Most ambient temperature curing agents for epoxy coatings are either partially soluble in water or are easily emulsified so that effective cure in the presence of water is not possible. Except for a minor reduction in rate of cure, PCS-9043-TYPE II PIPE COATING is unaffected under the same circumstances.

The most common cause of coating failure is not the lack of chemical resistance. Usually failures can be traced to inadequate surface preparation or to application under less than ideal conditions. PCS-9043 TYPE II PIPE COATING has been designed to minimize the importance of surface preparation and ideal application conditions for all types of service, except immersion. The stresses of immersion service are so great that the best surface preparation possible must be specified; however, even with less than ideal preparation, the excellent wetting properties and inertness to water of PCS-9043 TYPE II PIPE COATING will result in better performance than is possible with other coatings.

PCS-9043 TYPE II PIPE COATING is suitable for immersion service at 77^0 F in the following:

Acetic Acid, 5%	Hydrogen Peroxide, 5%
Aliphatic Hydrocarbons	Phosphoric Acid, 10%
Calcium Chloride	Potassium Alum
Citric Acid, 20%	Sodium Carbonate
Distilled Water	Sour Crude Oil
Gasoline	Sulfuric Acid, 50%

PCS-9043 TYPE II PIPE COATING is suitable for elevated temperature immersion service in the following:

Black Liquor	160^0 F	Sea Water	180^0 F
Deionized Water	160^0 F	50% Sodium Hydroxide	120^0 F
Distilled Water	180^0 F	Tap Water	208^0 F
Green Liquor	160^0 F	White Liquor	160^0 F
Hydraulic Fluid	110^0 F		

PCS-9043 TYPE II PIPE COATING is suitable for spillage conditions at room temperature for the following:

Ammonium Hydroxide, 20%	Hydrochloric Acid, 20%
Butyl Alcohol	Nitric Acid, 20%
Calcium Hypochlorite, 10%	Phosphoric Acid, 30%
Carbon Tetrachloride	Sodium Hypochlorite, 10%
Citric Acid, 25%	Sulfuric Acid, 85%
Ethyl Acetate	Toluene
Ethyl Alcohol	Xylene

WARRANTY: **Permite** warrants that the BASE and HARDNER for PCS-9043 TYPE II PIPE COATING will be identical in chemical and physical properties from batch to batch within the specification limits of the raw materials used in their manufacturer.

CAUTIONS: PCS-9043 TYPE II PIPE COATING **hardener** is corrosive. Components of this product, when combined, may be skin irritants and/or skin sensitizers.

Rubber gloves should be warn to minimize skin contact. Practice caution and good personal cleanliness to avoid skin and eye contact. Avoid breathing vapors of heated material.

See material safety data sheet for full precautions prior to use.

If swallowed, do not induce vomiting. Call a physician immediately. For eye contact, flush with water, if irritation persists seek medical attention. In case of skin contact, wash thoroughly with soap and water.

PCS-9043 TYPE II PIPE COATING is intended for **INDUSTRIAL USE ONLY.**

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