

Polyken Pipeline Coatings



POLYKEN® YGIII Plant Coating System for the Water Industry

System Description

The Polyken YGIII System is a multilayer coating system used primarily for the protection of steel and ductile iron water pipelines. Low VOC Polyken #1033A Liquid Adhesive or Zero VOC Polyken #1039 Liquid Adhesive provide a uniformly smooth contact surface to promote high adhesion of the coating system to the pipe. Liquid Adhesives are formulated with corrosion inhibitors and adhesion promoters. The unique formulation flows and fills surface profiles and irregularities. The Anti-Corrosion layer Polyken #989 is engineered to assure a high bond to the primed surface with excellent conformability characteristics. The Middle and Outer mechanical protection layers Polyken#955 and #956 achieve a complete bond to the #989 inner layer, providing maximum handling and in-service protection for the coating system. The adhesives in these and all Polyken tape systems contain proven anti-microbial additives.

Product Features/Benefits

- Worldwide reference lists
Proven long-term performance
- Impermeable to oxygen and moisture
Low cathodic protection costs
Saving cost over the life of the pipeline
- Resistant to soil stress
Superior in-ground performance
- Zero VOC coating system available
Environmentally friendly
- Uniform coating thickness
Easy to apply
- Low cathodic protection-current requirements
Saving cost over the life of the pipeline
- Exceeds AWWA standards
Reliable, high performance corrosion protection
- Compatible with large pipe diameters
Minimizes inventory, thus saving money

Product Selection Guide

Max operating temperature	85°C (185°F)
Recommended primer	1019, 1033A or 1039
Recommended pipe preparation	SSPC-SP6/NACE3 or SA 2 1/2
Performance	AWWA C-214

Product Construction	Inner Layer 989-20	Middle Layer 955-30	Outer Layer 956-30
Backing	9 mils (0.229 mm)	25 mils (0.635 mm)	25 mils (0.635 mm)
Adhesive	11 mils (0.279 mm)	5 mils (0.127 mm)	5 mils (0.127 mm)
Backing color	Black	Gray	White, Blue

Properties	Test method	Typical Value	
Product Properties		989-20	955-30 & 956-30
Tensile Strength	ASTM D1000	30 lbs/in (52.5 N/cm)	50-65 lbs/in (87.5-13.75 N/cm)
Elongation	ASTM D1000	300 %	300-400 %

System Properties 80 mils system: 989-20 + 955-30 + 956-30

Peel Adhesion to Primed Steel	ASTM D1000	300 oz/in (25 N/cm)
Cathodic Disbondment	ASTM G8	0.25 in radius (6.4 mm)
Water Vapor transmission	ASTM E96B	0.07 perm
Water Vapor Transmission Rate	ASTM F1249	0.03g/100in ² /24hr (0.5g/m ²) (100°F, 100% RH)
Volume Resistivity	ASTM E257	10 ¹⁵ ohm•cm
Dielectric Breakdown	ASTM D1000	650 volts/mil (25.6 kV/mm)
Dielectric Strength	ASTM D149	20-23 kV
Impact resistance	ASTM G-14	90 in-lbs (10.2 Nm)
Impact resistance	ASTM G-13	1000 lbs, no holidays (4450 N, no holidays)
Penetration resistance	ASTM G-17	11-15%

Ordering Information

Polyken 989,955 and 956 Tape Coatings are available in roll form
 Example : **989-20 BLK 12X1000**

989	Product type	Standard Ordering options
20	Total tape thickness in mils	20 mils (0.51 mm)
BLK	Tape backing color	Black (BLK)
12	Tape width in inches	4" (101 mm), 6"(152 mm), 9"(228 mm), 12"(305 mm), 18"(457 mm)
1000	Tape roll length in feet	800 ft (244M), 1000 ft (305M)

Example : **955-30 GRA 12X1000**

955	Product type	Standard Ordering options
30	Total tape thickness in mils	30 mils (0.762 mm)
BLK	Tape backing color	Gray (GRA)
12	Tape width in inches	4" (101 mm), 6"(152 mm), 9"(228 mm), 12"(305 mm), 18"(457 mm)
1000	Tape roll length in feet	800 ft (244M), 1000 ft (305M)

Example : **956-30 WHI UVI 12X1000**

956	Product type	Standard Ordering options
30	Total tape thickness in mils	30 mils (0.762 mm)
WHI	Tape backing color	White (WHI), Blue (BLU)
12	Tape width in inches	4" (101 mm), 6" (152 mm), 9" (228 mm), 12" (305 mm), 18" (457 mm)
1000	Tape roll length in feet	800 ft (244 M), 1000 ft (305M)
UVI	Designates Ultraviolet protection	Standard

Equation for Pipe Coating Requirements

$$\frac{(\text{Width of Coating in inches}) \times (\text{Area of pipe in square feet})^*}{(\text{Width of Coating in inches} - \text{Overlap in inches}) \times 100} = \text{Squares}^{**} \text{ of Coating Required}$$

* Area of pipe in square feet = (Diameter in inches) / 12 x 3.1416 x (Length in ft)
 ** One Square = One hundred square feet = 9.29 square meters

$$\frac{(\text{Width of Coating in mm}) \times (\text{Area of pipe in square meter})^*}{(\text{Width of Coating in mm} - \text{Overlap in mm})} = \text{Square meters of Coating Required}$$

*Area of pipe in square meter = (Diameter in mm) /1000 x 3.1416 x (Length in meter)

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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