

POLYKEN® 980 / 955

Product Information

Product description: The Polyken® 980/955 is a multilayer system used for the protection of steel pipelines. Polyken® 1019, 1027, 1033A or 1039 Liquid Adhesives can be used as primers for this system. In addition to serving as primers, these liquid adhesives themselves represent an anticorrosion layer and provide a uniformly smooth contact surface to promote high adhesion of the coating system to the pipe. They are designed for machine or brush application and formulated with stress-corrosion cracking inhibitors. The Anti-Corrosion layer Polyken® 980 is engineered to assure a high bond to the primed surface with excellent conformability characteristics. The mechanical protection layer Polyken® 955, achieves a complete bond to the 980 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. The Polyken® 980/955 can also be used for ductile iron pipes, in this case the use of 1027 primer is recommended.

Features:

- Worldwide reference lists.
- Impermeable to oxygen and moisture.
- Resistant to soil stress.
- Uniform coating thickness.
- Low cathodic protection-current requirements.
- Compatible with all pipe diameters and generic plant coating systems.

Benefits:

- Proven long-term in-ground performance.
- Superior in-ground performance.
- Plant coating quality with in-situ application.
- Saving cost over the life of the pipeline. Minimizes inventory, thus saving money.

Product selection guide

Max. operating temperature	85°C (185°F)
Recommended primer	1019, 1027, 1033A or 1039
Recommended pipe preparation	SSA-SA 2 (SSPC-SP6) 1 – 3 mil anchor profile (25 – 76 micron anchor profile)
Performance	AWWA C-214

Product construction

	Inner Layer			Outer Layer			
	980-20	980-25	980-30	955-15	955-20	955-25	955-30
Backing	9.5 mils (0.241 mm)	10 mils (0.254 mm)	10 mils (0.254 mm)	10 mils (0.254 mm)	15 mils (0.381 mm)	20 mils (0.508 mm)	25 mils (0.635 mm)
Adhesive	11 mils (0.279 mm)	15 mils (0.381 mm)	20 mils (0.508 mm)	5 mils (0.127 mm)	5 mils (0.127 mm)	5 mils (0.127 mm)	5 mils (0.127 mm)
Backing Color	Black			White			

Ordering information

Polyken® 980 & 955 Tape Coatings are available in roll form.		
Example 980-25 BLK 9x800		
980	Product type	<i>Standard Ordering options</i>
25	Total tape thickness in mils	20 mils (0.510 mm), 25 mils (0.635 mm), 30 mils (0.762 mm)
BLK	Tape backing color	Black (BLK)
9	Tape width in inches	4" (101 mm), 6" (152 mm), 9" (228 mm), 12" (305 mm), 18" (457 mm)
800	Tape roll length in feet	100 ft (30 m), 200 ft (61 m), 400 ft (122 m), 600 ft (183 m), 800 ft (244 m)
955-25 WHI 9x800		
955	Product type	<i>Standard Ordering options</i>
25	Total tape thickness in mils	15 mils (0.381 mm), 20 mils (0.510 mm), 25 mils (0.635 mm), 30 mils (0.762 mm)
WHI	Tape backing color	White (WHI)
9	Tape width in inches	4" (101 mm), 6" (152 mm), 9" (228 mm), 12" (305 mm), 18" (457 mm)
800	Tape roll length in feet	100 ft (30 m), 200 ft (61 m), 400 ft (122 m), 600 ft (183 m), 800 ft (244 m)

For other ordering options please contact your Seal For Life representative.

Product properties of Polyken® 980 / 955

Property	Method	Typical values		Units
		980-25	955-25	
Tensile Strength	ASTM D 1000	30	40	Lb/in
Elongation	ASTM D 1000	225	400	%
System properties 50 mil system: 980-25 + 955-25				
Peel adhesion to primed steel	ASTM D1000	300		oz/in
		33		N/cm
Peel adhesion to primed steel	EN12068	0.8		N/mm
Cathodic disbondment	ASTM G8	0.25		in radius
		6.4		mm
Water vapor Transmission Rate	ASTM F1249 (100°F, 100% RH)	0.03		g/100in ² /24hr
Volume resistivity	ASTM E257	2.5 x10 ¹⁵		Ω.cm
Dielectric strength	ASTM D149	650		V/mil
		25.6		kV/mm
Dielectric breakdown	ASTM D1000	20-23		kV
Impact resistance	ASTM G-14	50		in lb
		5.5		Nm
Impact resistance	ASTM G-13, no holidays	1000		lb
		4450		N
Penetration resistance	ASTM G-17	<15		%

Equation for Pipe Coating Requirements

Squares** of coating required	$\frac{(\text{width of coating in inches}) \times (\text{area of pipe in square feet})}{(\text{width of coating in inches} - \text{overlap in inches}) \times 100}$
* Area of pipe in ft ² = (diameter in inches / 12) x 3.1416 x length in feet	
** One Square = one hundred square feet = 9.29 square meters	
Square meters of coating required	$\frac{(\text{width of coating in mm}) \times (\text{area of pipe in square meter})}{(\text{width of coating in mm} - \text{overlap in mm})}$
* Area of pipe in m ² = (diameter in mm / 1000) x 3.1416 x length in meter	
Squares** per roll	$\frac{(\text{width of roll in inches}) \times (\text{length of roll in feet})}{(12) \times (100)}$
Square meters Per roll	$\frac{(\text{width of roll in inches}) \times (\text{length of roll in feet}) \times 0.0929}{(12)}$
Rolls Required	$\frac{(\text{squares of coating required})}{(\text{squares per roll})}$
Rolls Required	$\frac{(\text{square meters of coating required})}{(\text{square meters per roll})}$

Application instruction: Job preparation	
Tools, equipment and auxiliaries	Temperature gauge, DFT/WFT gauge, Primer application equipment/agitator, Tape application equipment, Coating "hot box"
Additional coating materials	931 or 939 filler material, 934-35 and PERP repair materials, Specified Polyken primer.
High humidity	Polyken® 980 / 955 can be applied in a humid atmosphere. The substrate should be free from condensing water which can be reached by keeping the temperature at least 5°F (3°C) above dew point.
Work area and substrate	The substrate surface should be dry, clean and protected against negative weather influences.
Product conditions	The Polyken® 980 / 955 shall be stored and/or transported in a dry, ventilated location. Storage temperature shall be a minimum of 60°F (16°C) and a maximum of 120°F (49°C). The minimum primer temperature for application will be 60°F (16°C).

Application instruction: Surface preparation	
General	The area to be coated has to be clean, dry, and free from oil, grease and dust. All contamination including mill-scale has to be removed.
Degreasing	Degrease surfaces with Toluene or Heptane and e.g. a lint-free cloth.
Preventing condensation of water	Prior to and during the application, the temperature of the substrate(s) must be at least 5°F (3°C) above the dew point.
Substrate temperature	Temperature of the substrate should preferably be between 68°F and 104°F (20°C / 40°C). Preheating may be required.

Application instruction: Brief version	
Step 1	Clean substrate to SSPC-SP6 /NACE3 or SA 2 (commercial blast) with a 1 – 3 mil anchor profile (25 – 76 micron anchor profile)
Step 2	Uniform primer application achieving 2 to 3 mil WFT. Primer should be "dry to touch" before application of inner layer.
Step 3	If required, apply weld seam filler material

* For further detailed information, please view the corresponding Application Guideline *

Step 4	Spirally apply the 980 inner layer (anti corrosion) with a 1% to 2% neckdown and no less than a 1" overlap
Step 5	Spirally apply the 955 outer layer (mechanical protection) with a 1% to 2% neckdown and no less than a 1" overlap
Step 6	Perform holiday detection per NACE SP0274

Handling and commissioning	
Exposure to loads	Objects coated with Polyken® 980 / 955 should not be exposed to loads e.g. from supports- or lifting equipment.
Backfill	Backfill is possible immediately after completion of the coating application. Consult application guidelines for specific instructions. Backfill should be clean and not contain any foreign items that can cause damage to the coating system.

Information	
Documentation	Extensive information is available on our website. Application instructions and other documentation can be obtained by contacting our offices, from our local distributor or by sending an email to info@sealforlife.com
Certified staff	Application of the described coating system shall be carried out by certified personnel.



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