

# POLYKEN® 905

## Product Information

**Product description:** Polyken® 905 can be used as a Primary Coating or as an Outer Wrap for other Polyken® Coating Systems i.e. Polyken® 930. The Polyken® 905 has a Polyethylene backing with a Butyl rubber-based adhesive to assure high bond to primed steel pipe and other coating materials. It is designed for machine and hand applied applications and delivers excellent conformability when applied over seamed, spiral welded or extruded pipe. Because of the high corrosion protection inherent in the combination of Polyethylene film and Butyl rubber adhesive, Polyken® products have proven in-ground success against both chemical and electrolytic corrosion. It is designed to be used on joints, fittings, and pipes. When the UV version is selected the Polyken® 905 will withstand sunlight under normal conditions for those applications where the pipes are stored above ground.

### Features:

- Firm butyl rubber adhesive avoiding blocking and edge bleed out.
- Worldwide reference lists.
- Impermeable to oxygen and moisture.
- Uniform coating thickness.
- Low cathodic protection-current requirements.
- Compatible with all pipe diameters and generic plant coating systems.

### Benefits:

- Especially suitable in hot and humid conditions.
- Proven long-term 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
Compatible line coatings	FBE, PE, Cold Tape, CT, CTE
Recommended pipe preparation	SSPC-SP6 NACE3 or SA 2 ½ or ST3
Repair material	934-35 or PERP
Performance	AWWA C-209 EN12068 B30

## Product construction

	905-30	905-40
Backing	10 mils (0.254 mm)	10 mils (0.254 mm)
Adhesive	20 mils (0.508 mm)	30 mils (0.762 mm)
Backing color	White UVI, Black	Yellow

## Product properties

Property	Method	Typical values	
		905	Units
Tensile strength	ASTM D 1000	35	pli
		6.1	N/mm
Elongation	ASTM D 1000	225	%
Peel adhesion to primed steel	ASTM D 1000	12.5	Pli
		0.8	N/mm
Cathodic disbondment	ASTM G 8	0.25	in radius
		6.4	mm
Water vapor transmission rate	ASTM F 1249 (100°F, 100% RH)	0.02	g/100 in <sup>2</sup> /24 hr
		0.3	g/m <sup>2</sup> /24 hr
Volume resistivity	ASTM E 257	10 <sup>15</sup>	Ω.cm
Dielectric breakdown	ASTM D 1000	650	V/mil
		25.6	kV/mm
Dielectric strength	ASTM D 149	20-23	kV
Impact resistance	EN12068	≥ 6	J*
Indentation Resistance	EN12068, 1 N/mm <sup>2</sup>	1.2	mm remaining coating thickness*

\* tape applied with 50% overlap

## 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<sup>2</sup> = (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<sup>2</sup> = (diameter in mm / 1000) x 3.1416 x length in meter

**Squares\*\* per roll**  $\frac{(\text{width of roll in inches}) \times (\text{length of roll in feet})}{(12) \quad (100)}$

**Square meters Per roll**  $\frac{(\text{width of roll in mm}) \times (\text{length of roll in m})}{(1000)}$

**Rolls Required**  $\frac{(\text{squares of coating required})}{(\text{squares per roll})}$

**Rolls Required**  $\frac{(\text{square meters of coating required})}{(\text{square meters per roll})}$

## Ordering information

Polyken® 905 Tape Coatings are available in roll form.

Example **905-30 BLK 4"X50 ft 4.1cm**

905	Product type	Standard Ordering options
30	Total tape thickness in mils	30 mils (0.762 mm), 40 mils (1.016 mm)
WHI	Tape backing color	Black (BLK), White UVI (WHI UVI), Yellow (YEL)*
4	Tape width in inches	2" (50 mm), 4" (101 mm), 6" (152 mm), 18(457 mm)
50	Tape roll length in feet	50 ft (15 m),** 400 ft (122 m)*
4.1 cm	Tape inner core diameter	4.1 cm (1.6"), 7.6 cm (3.0")

\* Only for 905-40 18" wide rolls, \*\* not for 18" wide rolls

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

Application instruction: Job preparation	
<b>Tools, equipment and auxiliaries</b>	Temperature gauge, DFT/WFT gauge, Primer application equipment/agitator, Tape application equipment, Coating "hot box"
<b>Additional coating materials</b>	931 or 939 filler material and weld seam coating, and 905, 954, or 955 mechanical protection layers
<b>High humidity</b>	Polyken® 905 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.
<b>Work area and substrate</b>	The substrate surface should be dry, clean and protected against negative weather influences.
<b>Product conditions</b>	The Polyken® 905 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 and roll body temperature for application will be 60°F (16°C).

Application instruction: Surface preparation	
<b>General</b>	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.
<b>Degreasing</b>	Degrease surfaces with Toluene or Heptane and e.g. a lint-free cloth.
<b>Preventing condensation of water</b>	Prior to and during the application, the temperature of the substrate(s) must be at least 5°F (3°C) above the dew point.
<b>Substrate temperature</b>	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	
<b>Step 1</b>	Clean substrate to SSA-ST2, SSPC-SP3 (power wire brush) or SSA-SA 2, SSPC-SP6 (commercial blast). Surface (anchor) profile depth shall be no less than 1.0 mils (25 micron) and no greater than 3 mils (76 micron).
<b>Step 2</b>	Uniform primer application achieving 2 to 3 mil WFT. Primer should be "dry to touch" before application of inner layer.
<b>Step 3</b>	If required, apply weld seam coating or filler material

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

<b>Step 4</b>	Spirally or circumferentially apply the 905 with a 1% to 2% neckdown. A minimum of two layers of the 905 shall be applied.
<b>Step 5</b>	If a single 905 layer is required, then a mechanical protection outerwrap layer (905, 954, 955) shall be applied over the single layer of 905.
<b>Step 6</b>	Perform holiday detection per NACE SP0274

Handling and commissioning	
<b>Exposure to loads</b>	Objects coated with Polyken® 905 should not be exposed to loads e.g. from supports- or lifting equipment.
<b>Backfill</b>	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	
<b>Documentation</b>	Extensive information is available on our web-site. Application instructions and other documentation can be obtained by contacting our offices, from our local distributor or by sending an email to <a href="mailto:info@sealforlife.com">info@sealforlife.com</a>
<b>Certified staff</b>	Application of the described coating system shall be carried out by certified personnel.



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