



POLYKEN® # 942 & 955 EN

3-Ply Coating System for New Pipelines and Existing Pipeline Rehabilitation

System Description

The Polyken 942/955 EN System is a multilayer coating system designed for the corrosion protection of pipelines operating in highly corrosive environments and exposed to high mechanical stresses that may be present particularly on large diameter pipes. The system consists of **#1027** liquid adhesive, **#942** three ply anti-corrosion inner layer and **#955-EN** mechanical outer layer and is fully certified to the DIN 30672 and EN12068 Class C50 standards. The three ply adhesive system produces a strong cohesive bond to the primed steel surface, at the spiral overlap and to the mechanical outer layer. The tough mechanical properties of the outer layer provide protection to the pipes during handling and installation.

Product Features/Benefits

- Fully amalgamating overlapping areas
Forming a sleeve-type coating
- Worldwide reference lists
Proven long-term in-ground performance
- Impermeable to oxygen and moisture
- Resistant to soil stress
Superior in-ground performance
- Uniform coating thickness
Plant coating quality with in-situ application
- Low cathodic protection-current requirements
Saving cost over the life of the pipeline
- Compatible with all pipe diameters and generic plant coating systems
Minimizes inventory, thus saving money

Product Selection Guide

| | |
|---------------------------------------|--|
| Max operating temperature | 65°C (150°F) |
| Recommended primer | 1027 |
| Recommended pipe preparation | ST2 1/2 - ST3 or SA 2 1/2 |
| Compatible line coatings | PE, FBE, CTE, Tape and Coal Tar |
| Performance | DIN 30672 class C50, EN12068 class C50 |
| Total installed tape system thickness | min 2.5 mm (100 mils) |

| Product Properties | Test method | Typical Value | |
|----------------------|-------------|-------------------|--------------------|
| | | 942 | 955EN |
| Tensile Strength | EN12068 | 35lbs/in (61N/cm) | > 45pli (7.9 N/mm) |
| Elongation | EN12068 | > 300% | > 300% |
| Saponification value | DIN30672 | < 3 | < 1 |

System Properties Two layers 942 and two layers 955-EN

| | Test method | Requirement | Typical Value |
|----------------------------------|--------------------|--------------------------------------|---|
| Shear Resistance to Primed Steel | EN12068 | > 0.05 N/mm ² | 0.07 N/mm ² |
| Peel Adhesion to Primed Steel | EN12068 | > 1.0 N/mm (5.7 pli) | 1.2 N/mm (6.9 pli) |
| Peel Adhesion Inner to Inner | EN12068 | > 1.5 N/mm (8.5 pli) | 2.2 N/mm (12.6 pli) |
| Peel Adhesion Outer to Inner | EN12068 | > 1.5 N/mm (8.5 pli) | 2.4 N/mm (13.7 pli) |
| Peel Adhesion Outer to Outer | EN12068 | > 0.2 N/mm (1.1 pli) | 1.3 N/mm (7.4 pli) |
| Cathodic Disbondment: | EN12068 | < 20 mm radius | 5 mm radius |
| Specific Electrical Resistance | EN12068 | > 10 ⁸ ohm•m ² | 2 X 10 ¹¹ ohm•m ² |
| Dielectric Strength | ASTM D149 | | 50 kV |
| Impact resistance | EN12068, class C50 | > 15 J | >15 J |
| Penetration resistance | EN12068, class C50 | > 0.6 mm remaining thickness | 1mm remaining thickness |

Ordering Information

Polyken 942 and 955-EN Tape Coatings are available in roll form

Example : **942 4X50FT 4.1CM**

| 942 | Product type | Standard Ordering options |
|------------|--------------------------|---|
| 4 | Tape width in inches | 2" (50.8 mm), 4" (101.6 mm), 6" (152.4 mm) |
| 50 | Tape roll length in feet | 50 ft (15.2M), 100 ft (30.5 M), 200 ft (61 M) |
| 4.1CM | Core inside diameter | 1.6" (41mm), 3" (76mm) |

Example : **955 EN BLK 4X50FT 4.1CM**

| 955 EN | Product type | Standard Ordering options |
|---------------|--------------------------|---|
| BLK | Tape backing color | Black (BLK) |
| 4 | Tape width in inches | 2" (50.8 mm), 4" (101.6 mm), 6" (152.4 mm) |
| 50 | Tape roll length in feet | 50 ft (15.2M), 100 ft (30.5 M), 200 ft (61 M) |
| 4.1CM | Core inside diameter | 1.6" (41mm), 3" (76mm) |

Note : 942/955 EN tapes are installed with 1027 liquid adhesive, see latest datasheet for 1027, DS-1027

For other ordering options please contact your Berry Plastics representative.

Equation for Pipe Coating Requirements

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

$$(\text{Width of Coating in inches} - \text{Overlap in inches}) \times 100$$

* 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

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

$$(\text{Width of Coating in mm} - \text{Overlap in mm})$$

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

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