



## POLYKEN<sup>®</sup> Synergy<sup>™</sup> Plant Coating System

### System Description

Synergy<sup>™</sup> is a multilayer plant coating system consisting of a thermally activated primer, a cross-linked, thermoplastic elastomer layer, and a tough polyolefin top layer. During application the three layers are fused, resulting in strong mechanical and chemical bonds that maximize performance. Thermal fusion generates mechanical toughness and superior anticorrosion properties that insure long-term pipeline protection.

### Product Advantages

- Thermally fused polymeric system
- Impermeable to oxygen and moisture
- High shear resistance
- Low cathodic protection costs
- Durable and reliable
- Flexible system design

### Synergy<sup>™</sup> Plant Coating System Components

| Primer Layer<br>(Polyken 3019)                                    | Elastomer Layer<br>(Polyken 3000 Adhesive) | Polyolefin Layer<br>(Fused Polyken 3000 and 3056) |
|---|--|---|
| Percent solids: 20<br>Wt/gal: 7.4 lbs/gal<br>Flash point: + 45° F | Thickness: 10 mils; 0.25 mm                | Thickness: 40-90 mil; 1.0-2.3 mm                  |

### Fused-System Properties - 50 mil System

|                                       | English                  | Metric                       |
|---------------------------------------|--------------------------|------------------------------|
| <b>Peel Adhesion to Pipe:</b>         |                          |                              |
| • ASTM D-1000                         | 38 lbs/in width          | 6.6 kg/cm width              |
| <b>Cathodic Disbondment:</b>          |                          |                              |
| • ASTM G-8                            | 0.3 in radius            | 7.6 mm radius                |
| <b>Water Vapor Transmission Rate:</b> |                          |                              |
| • ASTM F-1249                         | < 0.03 g/100 sq in/24 hr | <0.5 g/m <sup>2</sup> /24 hr |
| <b>Impact Resistance:</b>             |                          |                              |
| • ASTM G-14                           | 50 in-lb                 | 5.6 Joules                   |
| • ASTM G-13                           | 1000 lbs, no holidays    | 450 kg, no holidays          |
| <b>Penetration Resistance:</b>        |                          |                              |
| • ASTM G-17                           | < 15%                    | < 15%                        |
| <b>Bend Flexibility:</b>              |                          |                              |
| • CSA Z245.21                         | Pass at 2.5°             | Pass at 2.5°                 |
| • API-5L at 70°                       | 6° PDL                   | 6° PDL                       |
| <b>Volume Resistivity:</b>            |                          |                              |
| • ASTM D-257                          | 10 <sup>15</sup> ohm-cm  | 10 <sup>15</sup> ohm-cm      |
| <b>Dielectric Strength:</b>           |                          |                              |
| • ASTM D-1000                         | 20-23 kv                 | 20-23 kv                     |
| <b>Temperature Range:</b>             |                          |                              |
| • Normal in-ground service            | -30° F to 185° F *       | -34° C to 85° C*             |

\* Contact a Berry Plastics representative for specific project recommendations

## Ordering Information

Polyken 3000-25 and 3056-25 are available in roll form

| Example: 3000-25 BLK 4X800FT |                         | Standard Ordering options  |
|------------------------------|-------------------------|--|
| 3000                         | Product type            | 3000, 3056   |
| 25                           | Total Product Thickness | 25 mils/0.635mm  |
| BLK                          | Tape backing color      | Black (3000, 3056); White, Blue, Yellow (3056 only)              |
| 4                            | Tape Width Thickness    | 3", 4", 6", 9", 12", 18"   |
| 800                          | Tape roll length        | 600ft (3" wide), 800ft (4", 6", 9", 12", 18"), 1000ft (12" wide) |

For ordering options please contact your Berry Plastics representative.

### Equation for Pipe Coating Requirements

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

\* 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)



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