**PRODUCT PROFILE**

**GENERIC DESCRIPTION**
Hydrophobic Aromatic Polyurethane

**COMMON USAGE**
An advanced technology moisture-cured, hydrocarbon-modified coating providing excellent protection to steel and concrete substrates in wastewater environments. Provides excellent resistance to H₂S gas permeation, protects against MIC and provides chemical resistance to domestic wastewater environments. It is user-friendly and rapid curing.

**COLORS**
Note: Color will yellow and fade when exposed to UV light.

**PERFORMANCE CRITERIA**
Contact your Tnemec representative for specific test results.

**COATING SYSTEM**

**PRIMERS**

**STEEL:** Self-priming or Series 1, 66, N69, N69F, V69, V69F, N140, N140F, V140, V140F, 161.

**CAST/DUCTILE IRON**

**CONCRETE**

**TOPCOATS**

**SHELF LIFE**
Part A: 12 months; Part B: 24 months at recommended storage temperature.

**NUMBER OF COMPONENTS**
Two: Part A & Part B

**PACKAGING**

**YIELD (mixed)**
1.150 mil sq ft/gal (28.2 m²/L at 25 microns). See APPLICATION for coverage rates.

**TEMPERATURE RESISTANCE**

**TO HANDLE**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>To Handle</th>
<th>Recoat</th>
<th>Immersion</th>
</tr>
</thead>
<tbody>
<tr>
<td>90°F (32°C)</td>
<td>3 hours</td>
<td>6 hrs</td>
<td>4 hours</td>
</tr>
<tr>
<td>75°F (24°C)</td>
<td>4.5 hours</td>
<td>8 hrs</td>
<td>4 hours</td>
</tr>
<tr>
<td>55°F (13°C)</td>
<td>8 hours</td>
<td>12 hrs</td>
<td>4 hours</td>
</tr>
<tr>
<td>35°F (2°C)</td>
<td>48 hours</td>
<td>16 hrs</td>
<td>16 hours</td>
</tr>
</tbody>
</table>

Curing time will vary with surface temperature, humidity and film thickness.

**NET WEIGHT PER GALLON**
11.00 ± 0.25 lbs (4.99 ± .11 kg) (mixed)

**STORAGE TEMPERATURE**
Minimum 20°F (-7°C) Maximum 110°F (43°C)
Prior to application, the material temperature should be above 60°F (16°C). It is suggested the material be stored at this temperature at least 48 hours prior to use.

**TEMPERATURE RESISTANCE**

(Dry) Continuous 250°F (121°C) Intermittent 300°F (140°C)

**PART A (Partially filled)**

| Large Kit | 1-5 gallon pail | 1-1 gallon can | 4 gallons |
| Small Kit | 1-1 gallon can | 1-1 quart can | 1 gallon |

**THEORETICAL COVERAGE**

| PART B | Yield (mixed) |

**VOLATILE ORGANIC COMPOUNDS**

Unthinned: 1.98 lbs/gallon (237 grams/litre)
Thinned 10% (No. 49 Thinner): 0.05 lbs/gal solids

**HAPS**

Unthinned: 0.05 lbs/gal solids
Thinned 10% (No. 49 Thinner): 0.05 lbs/gal solids

**THEORETICAL COVERAGE**

1.150 mil sq ft/gal (28.2 m²/L at 25 microns). See APPLICATION for coverage rates.

**NUMBER OF COMPONENTS**

Two: Part A & Part B

**CONTACT**
Contact your Tnemec representative.

Published technical data and instructions are subject to change without notice. The online catalog at www.tnemec.com should be referenced for the most current technical data and instructions or you may contact your Tnemec representative for current technical data and instructions.
PERMA-SHIELD® MCU | SERIES 446

APPLICATION

<table>
<thead>
<tr>
<th>COVERAGE RATES</th>
<th>Dry Mils (Microns)</th>
<th>Wet Mils (Microns)</th>
<th>Sq Ft/Gal (m²/Gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suggested</td>
<td>7.0 (178)</td>
<td>10.0 (250)</td>
<td>163 (15.1)</td>
</tr>
<tr>
<td>Minimum</td>
<td>5.0 (125)</td>
<td>7.0 (178)</td>
<td>227 (21.1)</td>
</tr>
<tr>
<td>Maximum</td>
<td>10.0 (250)</td>
<td>14.0 (350)</td>
<td>114 (10.5)</td>
</tr>
</tbody>
</table>

Allow for overspray and surface irregularities. Wet film thickness is rounded to the nearest 0.5 mil or 5 microns. Application of coating below suggested or above maximum recommended dry film thicknesses may adversely affect coating performance.†

MIXING

Power mix contents of the Part B container, making sure no pigment remains on the bottom. Scrape all of the Part B into the Part A pail by using a flexible spatula. Continue agitation until the two components are thoroughly mixed. Do not use mixed material beyond pot life limits. Note: For optimum application properties, the material temperature should be above 60°F (16°C).

THINNING

Use No. 2 or No. 49 Thinner. Product may be thinned up to 5% per gallon for airless spray or up to 10% per gallon for air spray, brush or roller.

POT LIFE

90 minutes at 75°F (24°C) and 50% R.H. Caution: Application at film thicknesses exceeding 10.0 dry mils per coat or at humidity levels above/below the recommended range of 20% to 90% R.H. may adversely affect the properties of the cured film. When feasible keep containers of material covered during use.

SPRAY LIFE

60 minutes at 75°F (24°C) and 50% R.H.

APPLICATION EQUIPMENT

Air Spray

<table>
<thead>
<tr>
<th>Gun</th>
<th>Fluid Tip</th>
<th>Air Cap</th>
<th>Air Hose ID</th>
<th>Mat'l Hose ID</th>
<th>Atomizing Pressure</th>
<th>Pot Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeVilbiss JGA</td>
<td>.070</td>
<td>765</td>
<td>5/16&quot; or 3/8&quot; (7.9 or 9.5 mm)</td>
<td>3/8&quot; or 1/2&quot; (9.5 or 12.7 mm)</td>
<td>70-90 psi (4.8-6.2 bar)</td>
<td>15-25 psi (1.0-1.7 bar)</td>
</tr>
</tbody>
</table>

Low temperatures or longer hoses will require additional pressure. Use pressure pot equipped with an agitator and keep pressure pot at same level or higher than the spray gun. Compressed air must be dry.

Airless Spray

<table>
<thead>
<tr>
<th>Tip Orifice</th>
<th>Atomizing Pressure</th>
<th>Mat'l Hose ID</th>
<th>Manifold Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.017&quot;-0.021&quot; (432-535 microns)</td>
<td>3400-4700 psi (234-324 bar)</td>
<td>1/4&quot; or 3/8&quot; (6.4 or 9.5 mm)</td>
<td>60 mesh (250 microns)</td>
</tr>
</tbody>
</table>

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions. Roller: Use a 3/8" or 1/2" (9.5 mm or 12.7 mm) synthetic woven nap cover. Multiple applications are required to obtain recommended per coat thickness. Brush: Use high quality natural or synthetic bristle brushes. Multiple applications are required to obtain recommended per coat thickness.

SURFACE TEMPERATURE

Minimum 35°F (2°C) Maximum 120°F (49°C)

The surface should be dry and at least 5°F (3°C) above the dew point.

AMBIENT HUMIDITY

Minimum 20% Maximum 90%

Flush and clean all equipment immediately after use with xylene or MEK.

† Values may vary with color.