TECHNICAL DATA

PRODUCT PROFILE

GENERIC DESCRIPTION
Polyamidoamine Epoxy

COMMON USAGE
Innovative potable water coating which offers high-build edge protection and allows for application at a wide range of temperatures (down to 35°F or 2°C). For use on the interior and exterior of steel or concrete tanks, reservoirs, pipes, valves, pumps and equipment in potable water service.

COLORS
1211 Red, 1255 Beige, 00WH Tnemec White, 15BL Tank White, 39BL Delft Blue, 35GR Black. Note: Epoxyes chalk with extended exposure to sunlight. Lack of ventilation, incomplete mixing, miscatalyzation or the use of heaters that emit carbon dioxide and carbon monoxide during application and initial stages of curing may cause yellowing to occur.

SPECIAL QUALIFICATIONS
Certified by NSF International in accordance with ANSI/NSF Std. 61. Series N140F manufactured by Tnemec Company in Kansas City, Missouri or Baltimore, Maryland; ambient air cured (with or without 44-700 Epoxy Accelerator) is qualified for use on tanks and reservoirs of 1,000 gallons (3,785 L) capacity or greater, pipes 18 inches (46 cm) in diameter or greater, valves four (4) inches (10 cm) in diameter or greater and fittings four (4) inches (10 cm) in diameter or greater. Series N140F manufactured by Tnemec Coatings in Shanghai, China; ambient air cured (with or without 44-700 Epoxy Accelerator) is qualified for use on pipes 18 inches (46 cm) in diameter or greater, valves four (4) inches (10 cm) in diameter or greater and fittings four (4) inches (10 cm) in diameter or greater. Reference Tnemec’s certified product listing at www.nsf.org for details on the maximum allowable DFT.

Conforms to AWWA D 102 Inside Systems No. 1 and No. 2 (with or without 44-700). Conforms to AWWA C 210 (without 44-700). Contact your Tnemec representative for systems and additional information.

COATING SYSTEM

SURFACER/FILLER/PATCHER
Series 215, 217, 218

PRIMERS

TOPCOATS


Exterior: Series 22, 27, 27WB, 30, 66, L69, L69F, N69, N69F, V69, V69F, 72, 73, 118, L140, L140F, N140, N140F, V140, V140F, 141, 156, 157, 161, 180, 181, 463, 700, 701, V701, 740, 750, 1026, 1028, 1029, 1074, 1074U, 1075, 1075U, 1077, 1078, 1078V, 1080, 1081, 1094, 1095, 1096, 1224. Note: When topcoating with Series 700, V700, or V701, an intermediate coat of Series 73, 1075, 1075U, 1095 or 1096 is required. Note: The following recoat times apply for Series N140F. Immersion Service—Surface must be scarified by blasting with fine abrasive before 30 days. Atmospheric Services—After 30 days, scarification or an epoxy tie-coat is required. When topcoating with Series 740 or 750, recoat time for Series 406 is 1 day. Note: When topcoating with Series 406, recoat times will vary with temperature. Reference the Series 406 product data sheet for specific recoat times. Contact your Tnemec representative for specific recommendations.

SURFACE PREPARATION

STEEL
Immersion Service: SSPC-SP10/NACE 2 Near-White Blast Cleaning or ISO Sa 2 1/2 Very Thorough Blast Cleaning with a minimum angular anchor profile of 1.5 mils.

Non-Immersion Service: SSPC-SP6/NACE 3 Commercial Blast Cleaning or ISO Sa 2 Thorough Blast Cleaning with a minimum angular anchor profile of 1.5 mils. Note: Commercial Blast Cleaning generally produces the best coating performance for this exposure. If conditions will not permit this, in moderate exposures Series N140F may be applied to SSPC-SP2 or SP3 Hand or Power Tool Cleaned surfaces (SSPC Rust Grade Condition C).

CAST/DUCTILE IRON
All external surfaces of ductile iron pipe and fittings shall be delivered to the application facility without asphalt or any other protective linining on the exterior surface. All oils, small deposits of asphalt paint, grease, and soluble deposits should be removed and uniformly abrasive blasted using angular abrasive in accordance with NAPA 500-05-04: External Pipe Surface condition. When viewed without magnification, the exterior surfaces shall be free of all visible dirt, dust, loose annealing oxide, rust, mold coating and other foreign matter. Any area where rust reappears before application shall be reblasted. The surface shall contain a minimum angular anchor profile of 1.5 mils (581 microns) (Reference NACE RP0287 or ASTM D 4417, Method C).

CONCRETE
Allow new cast-in-place concrete to cure a minimum of 28 days at 75°F (24°C). Verify concrete dryness in accordance with ASTM F 1869 “Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride” (moisture vapor transmission should not exceed three pounds per 1,000 square feet in a 24 hour period), F 2170 “Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes” (relative humidity should not exceed 80%), or D 4263 “Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method” (no moisture present). Prepare concrete surfaces in accordance with NACE No. 6/SSPC-SP13 Joint Surface Preparation Standards and ICRI Technical Guidelines. Abrasive blast, shot-blast, water jet or mechanically abrade concrete surfaces to remove laitance, curing compounds, hardeners, scale, and other contaminants and to provide an ICRI-GSP 2-3 surface profile. Large cracks, voids and other surface imperfections should be filled with a recommended filler or surfacer.

PRIMED SURFACES
Immersion Service: Scarify the Series N140F prime coat surface by abrasive-blasting with fine abrasive before topcoating if the Series N140F prime coat has been in exterior exposure for 30 days or longer and Series 66, L69, L69F, N69F, V69, V69F, L140, L140F, N140F, V140, V140F or 161 is the specified topcoat.

ALL SURFACES
Must be clean, dry and free of oil, grease and other contaminants.

TECHNICAL DATA

VOLUME SOLIDS
68.0 ± 2.0% (mixed) 

RECOMMENDED DFT
2.0 to 10.0 mils (50 to 225 microns) per coat. Note: Dry film thickness that exceeds published recommendations but is in compliance with SSPC PA-2 and ANSI/NSF Std. 61 certifications, is acceptable. Note: The number of coats and thickness requirements will vary with substrate, application method and exposure. Contact your Tnemec representative.
Curing time varies with surface temperature, air movement, humidity and film thickness. **Note:** For valve applications allow 14 days cure at 75°F (24°C) prior to immersion. Ventilation: When used in enclosed areas, provide adequate ventilation during application and cure. **Note:** Refer to product listings on www.nsf.org for specific potable water return to service information.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>To Handle</th>
<th>To Recoat</th>
<th>Immersion</th>
</tr>
</thead>
<tbody>
<tr>
<td>75°F (24°C)</td>
<td>4 hours</td>
<td>5 hours</td>
<td>7 days</td>
</tr>
<tr>
<td>65°F (18°C)</td>
<td>7-8 hours</td>
<td>9-11 hours</td>
<td>8 days</td>
</tr>
<tr>
<td>55°F (13°C)</td>
<td>12-14 hours</td>
<td>16-20 hours</td>
<td>9-10 days</td>
</tr>
<tr>
<td>45°F (7°C)</td>
<td>18-22 hours</td>
<td>28-32 hours</td>
<td>12-15 days</td>
</tr>
<tr>
<td>35°F (2°C)</td>
<td>26-32 hours</td>
<td>46-50 hours</td>
<td>16-18 days</td>
</tr>
</tbody>
</table>

Curing time varies with surface temperature, air movement, humidity and film thickness. **Note:** For valve applications allow 14 days cure at 75°F (24°C) prior to immersion. Ventilation: When used in enclosed areas, provide adequate ventilation during application and cure. **Note:** Refer to product listings on www.nsf.org for specific potable water return to service information.

**VOLATILE ORGANIC COMPOUNDS**

Unthinned: 2.3 lbs/gallon (273 grams/litre)

Thinned 5% (*#60): 2.5 lbs/gallon (299 grams/litre)

**HAPS**

Unthinned: 2.3 lbs/gal solids

Thinned 5% (*#60): 2.5 lbs/gal solids

**THEORETICAL COVERAGE**

0.994 sq ft/gal (26.8 m²/L at 25 microns). See APPLICATION for coverage rates. **†**

**NUMBER OF COMPONENTS**

Two: Part A (amine) and Part B (epoxy) — One (Part A) to one (Part B) by volume.

**PACKAGING**

<table>
<thead>
<tr>
<th>Yield (mixed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Kit</td>
</tr>
<tr>
<td>Small Kit</td>
</tr>
<tr>
<td>Part A</td>
</tr>
<tr>
<td>5 gallon pail</td>
</tr>
<tr>
<td>1 gallon can</td>
</tr>
<tr>
<td>10 gallons (37.9 L)</td>
</tr>
</tbody>
</table>

**THEORY COVERAGE**

1,094 mil sq ft/gal (26.8 m²/L at 25 microns). See APPLICATION for coverage rates. **†**

**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>6.0 (150)</td>
<td>9.0 (250)</td>
<td>182 (16.9)</td>
</tr>
<tr>
<td>Minimum</td>
<td>2.0 (50)</td>
<td>3.0 (75)</td>
<td>545 (50.7)</td>
</tr>
<tr>
<td>Maximum</td>
<td>10.0 (225)</td>
<td>15.0 (375)</td>
<td>109 (10.1)</td>
</tr>
</tbody>
</table>

**Note:** Roller or brush application requires two or more coats to obtain recommended film thickness. Allow for overspray and surface irregularities. Wet film thickness is rounded to the nearest 0.5 mil or 5 microns. Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance. Reference the NSF website at www.nsf.org for details on the maximum allowable DFT. **†**

**MIXING**

Start with equal amounts of Series N140F Parts A and B. Power mix contents of each container separately, making sure no pigment remains on the bottom. Pour a measured amount of Part B into a clean container large enough to hold both components. Add an equal volume of Part A to Part B while under agitation. Continue agitation until the two components are thoroughly mixed. **Note:** Both components must be above 50°F (10°C) prior to mixing. For optimum mixing and application properties, the material should be above 60°F (16°C).

**THINNING**

Use No. 4 or No. 60 Thinner. For air spray, thin up to 10% or 3/4 pint (380 mL) per gallon with No. 4 Thinner or thin up to 5% or 1/4 pint (190 mL) per gallon with No. 60 Thinner. For airless spray, roller or brush, thin up to 5% or 1/4 pint (190 mL) per gallon. **Caution:** Series N140F NSF certification is based on thinning with No. 4 or No. 60 Thinner for tanks and only No. 60 Thinner for pipe and valves. Use of any other thinner voids NSF/ANSI Std. 61 certification.

**POT LIFE**

2 hours at 50°F (10°C) 1 hour at 75°F (24°C) 30 minutes at 100°F (38°C)

**SPRAY LIFE**

30 minutes at 75°F (24°C)

**Note:** Spray application after listed times will adversely affect ability to achieve recommended dry film thickness.
### Application Equipment

<table>
<thead>
<tr>
<th>Air Spray</th>
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<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gun</td>
<td>Fluid Tip</td>
<td>Air Cap</td>
<td>Air Hose ID</td>
<td>Mat'l Hose ID</td>
<td>Atomizing Pressure</td>
<td>Pot Pressure</td>
</tr>
<tr>
<td>DeVilbiss JGA</td>
<td>E</td>
<td>765 or 704</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>50-80 psi (3.4-5.5 bar)</td>
<td>10-20 psi (0.7-1.4 bar)</td>
</tr>
</tbody>
</table>

Low temperatures or longer hoses require higher pot pressure.

<table>
<thead>
<tr>
<th>Airless Spray</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tip Orifice</td>
<td>Atomizing Pressure</td>
<td>Mat'l Hose ID</td>
<td>Manifold Filter</td>
<td></td>
</tr>
<tr>
<td>0.015&quot;-0.019&quot; (380-485 microns)</td>
<td>3000-4800 psi (207-350 bar)</td>
<td>1/4&quot; or 3/8&quot; (6.4 or 9.5 mm)</td>
<td>60 mesh (250 microns)</td>
<td></td>
</tr>
</tbody>
</table>

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.

**Roller:** Use 3/8" or 1/2" (9.5 mm to 12.7 mm) synthetic woven nap roller cover. Use longer nap to obtain penetration on rough or porous surfaces.

**Brush:** Recommended for small areas only. Use high quality natural or synthetic bristle brushes.

### Surface Temperature

Minimum 35°F (2°C)  Maximum 135°F (57°C)

The surface should be dry and at least 5°F (3°C) above the dew point. Coating won't cure below minimum surface temperature.

### Cleanup

Flush and clean all equipment immediately after use with the recommended thinner or MEK.

† Values may vary with color.