PRODUCT PROFILE

**GENERIC DESCRIPTION**
Modified Polyamine Epoxy

**COMMON USAGE**
An advanced generation, 100% solids, high-build epoxy for the protection of steel and concrete. It provides excellent resistance to abrasion and is suitable for immersion service in potable water and wastewater environments. Specialized curing mechanism allows for faster cure response with airless spray application.

**COLORS**
WH11 Off-White, 1218 Light Blue, 1255 Beige

**FINISH**
Semi-Gloss

**SPECIAL QUALIFICATIONS**
Series 22-WH11 Off-White, 22-1218 Light Blue and 22-1255 Beige are certified by NSF International in accordance with NSF/ANSI/CAN Std. 61 and the extraction requirements of NSF/ANSI/CAN 600 and are qualified for use on tanks and reservoirs of 50 gallons (189 L) capacity or greater, pipes 10 inches (25.4 cm) diameter or greater, pumps 1/2 inch (1.3 cm) in diameter or greater, valves 1/2 inch (1.3 cm) diameter or greater and fittings 1/2 inch (1.3 cm) in diameter or greater. Series 91-H₂O, 94-H₂O, N140, N140F, V140 and V140F are the only Std. 61 certified primers for use with Series 22. Reference Tnemec’s certified product listing at www.nsf.org for details on the maximum allowable DFT. Series 22 conforms to AWWA C 210.

COATING SYSTEM

**SURFACE/FILLER/PATCHER PRIMERS**
Series 225, 217, 218

**STEEL**
Self-priming, 66, L69, L69F, N69, N69F, 90-97, H90-97, 90G-1K97, 91-H₂O, 94-H₂O, L140, L140F, N140, N140F, V140, V140F, 161. **Note:** The following maximum recoat time applies: over Series 66, L69, N69, L140, N140, V140 or 161, 60 days; over Series L69F, N69F, V140F, L140F or V140F, 30 days. If the maximum recoat time has been exceeded, the primed surface must be scarified prior to topcoating with Series 22.

**DUCITILE IRON**
All external surfaces of ductile iron pipe and fittings shall be delivered to the application facility without asphalt or any other protective lining 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 NAPF 500-03-04: External Pipe Surface Condition. When viewed without magnification, the exterior surfaces shall be free of all visible dirt, dust, loose armealing 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 3.0 mils (76.2 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 sq ft 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, sealers and other contaminants and too provide a minimum ICRI-CSP 5 surface profile. Large cracks, voids and other surface imperfections should be filled with a recommended filler or surfacer.

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

TECHNICAL DATA

**VOLUME SOLIDS**
100% (mixed) †

**RECOMMENDED DFT**
16 to 40 mils (400 to 1015 microns). **Note:** For multiple coat applications a minimum 12 mils per coat is required. **Note:** Dry film thickness that exceeds published recommendations but is in compliance with SSPC PA-2 and ANSI/NSF/CAN Std. 61 certifications is acceptable.

**CURING TIME**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>To Touch</th>
<th>Dry Through</th>
<th>Minimum to Recoat</th>
<th>Return to Service</th>
<th>Maximum to Recoat</th>
</tr>
</thead>
<tbody>
<tr>
<td>95°F (35°C)</td>
<td>2 1/2 hours</td>
<td>5 1/2 hours</td>
<td>4 hours</td>
<td>5 days</td>
<td>7 days</td>
</tr>
<tr>
<td>75°F (24°C)</td>
<td>7 hours</td>
<td>18 hours</td>
<td>16 hours</td>
<td>5 days</td>
<td>7 days</td>
</tr>
<tr>
<td>50°F (10°C)</td>
<td>24 hours</td>
<td>32 hours</td>
<td>32 hours</td>
<td>7 days</td>
<td>7 days</td>
</tr>
</tbody>
</table>

**Note:** These cure times are based on 20.0 mil (500 micron) dry film thickness. Cure time varies with surface temperature, air movement, humidity, and film thickness. **Ventilation:** When used as a tank lining or in enclosed areas, provide adequate ventilation during application and cure.

**YOLATILE ORGANIC COMPOUNDS**
Unthinned: 0.10 lbs/gallon (12 grams/litre)
Thinned 5%: 0.44 lbs/gallon (52 grams/litre) †

**HAPS**
Unthinned: 0.0 lbs/gal solids
Thinned 5%: 0.37 lbs/gal solids

**THEORETICAL COVERAGE**
1,604 mil sq ft/gal (39.4 m²/L at 25 microns). See APPLICATION for coverage rates. †
Two: Part A (polyamine) and Part B (epoxy)  

By volume: One (Part A) to one (Part B).  

<table>
<thead>
<tr>
<th>NUMBER OF COMPONENTS</th>
<th>MIXING RATIO</th>
<th>PACKAGING</th>
<th>PART A</th>
<th>PART B</th>
<th>When Mixed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Kit</td>
<td>5 gallon pail</td>
<td>5 gallon pail</td>
<td>10 gallons (37.85 L)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium Kit</td>
<td>6 gallons pail (partial fill)</td>
<td>3 gallon can (partial fill)</td>
<td>5 gallons (15.14 L)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Kit</td>
<td>1 gallon can (partial fill)</td>
<td>1 gallon can (partial fill)</td>
<td>1 gallon (3.79 L)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Large kit offered for plural component application.  

<table>
<thead>
<tr>
<th>NET WEIGHT PER GALLON</th>
<th>STORAGE TEMPERATURE</th>
<th>SHELF LIFE</th>
<th>FLASH POINT - Seta</th>
<th>HEALTH &amp; SAFETY</th>
</tr>
</thead>
</table>
| 12.70 ± 0.25 lbs (5.76 ± 0.11 kg) (mixed)† | Minimum 20°F (-6°C) | Part A: 12 months and Part B: 12 months at recommended storage temperature. | Temperature increase viscosity and decrease workability. Warm temperatures will decrease viscosity and shorten pot life. | Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product.  
Keep out of the reach of children. |

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>Minimum</td>
<td>16.0 (400)</td>
<td>16.0 (400)</td>
<td>100 (0.93)</td>
</tr>
<tr>
<td>Suggested</td>
<td>30.0 (760)</td>
<td>30.0 (760)</td>
<td>53 (5.0)</td>
</tr>
<tr>
<td>Maximum</td>
<td>40.0 (1015)</td>
<td>40.0 (1015)</td>
<td>40 (3.7)</td>
</tr>
</tbody>
</table>

Allow for overspray and surface irregularities. 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.

MIXING  
Mix the entire contents of Part A and Part B separately. Scrape all of the Part A and Part B into a suitable container by using a flexible spatula. Use a variable speed drill with a PS Jiffy blade and mix the blended components for a minimum of two minutes. Apply the mixed material within the spray or pot life limits after agitation. For optimum application characteristics, maternal temperature should be between 70°F (21°C) and 80°F (27°C). Note: A large volume of material will gel quickly if not applied or reduced in volume.  

**Caution: Do not reseal mixed material. An explosion hazard may be created.**

THINNING  
May thinn to 5% or 6 fluid ounces per gallon with No. 2 Thinner. DO NOT thin in areas with strict extractable regulations for potable water.

SPRAY LIFE  
**Unthinned:** 25 minutes at 75°F (24°C)  
**Thinned 5%:** 1 hour at 75°F (24°C)  
30 minutes at 90°F (32°C)

APPLICATION EQUIPMENT  

<table>
<thead>
<tr>
<th>AIRLESS SPRAY</th>
<th>Spray Gun</th>
<th>Pump Size</th>
<th>Tip Orifice</th>
<th>Atomizing Pressure</th>
<th>Mat'l Hose ID</th>
<th>Manifold Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graco XHF, XTR7 or WIWA 500F</td>
<td>X60 or X70</td>
<td>0.019&quot;-0.023&quot; (485-585 microns)</td>
<td>5500-6000 psi (379-413 bar)</td>
<td>See Below</td>
<td>N/R</td>
<td></td>
</tr>
</tbody>
</table>

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.  
**Note:** Remove all filters. Material needs to be gravity fed through a material hopper. Material will not feed through a suction tube.  
**Note:** If mixed material temperature in mass exceeds 150°F (66°C), immediately purge all spray equipment and flush and clean with solvent.  

**In areas with strict extractable limitations in potable water and thinning is not permitted:**  
Material Hose ID (Nominal): 300 psi. Attach a 150’ x 1/2” ID material hose to the pump. Attach a 50’ x 1/2” ID material hose to the 3/4” ID material hose. Attach 6’ x 3/8” ID whip hose to the 50’ x ½” ID material hose.

**In areas where thinning is allowed:**  
Material Hose ID (Nominal): 200 psi. Attach up to 200’ x 3/8” hose to the pump. Attach a 3” x 1/4” whip hose to the 3/8” hose.  

Plural Component Application: Contact Tnemec Technical Service for detailed equipment requirements. Brush: Recommended for small areas only. Use high quality natural or synthetic bristle brushes. Roller: Recommended only for heavily-pitted steel substrates, applications over concrete or as part of the Series 215ML system.

SURFACE TEMPERATURE  
Minimum 50°F (10°C)  
Maximum 130°F (54°C)  
The surface temperature should be at least 5°F (3°C) above the dew point. Coating will not cure below minimum surface temperature. To avoid outgassing, concrete temperature should be stable or in a descending temperature mode.

MATERIAL TEMPERATURE  
Prior to application, the material temperature should be between 70°F and 80°F (21°C and 27°C). It is suggested the material be stored at these temperatures at least 48 hours prior to use. Temperature will affect the workability. Cool temperatures increase viscosity and decrease workability. Warm temperatures will decrease viscosity and shorten pot life.

HOLIDAY TESTING  
If required by the project specifications, holiday testing should be performed in accordance with NACE SP0188. Contact Tnemec Technical Service for voltage recommendations and curing parameters prior to testing.

CLEANUP  
Flush and clean all equipment immediately after use with Tnemec No. 4 Thinner. Use Tnemec No. 68 Thinner when needed to comply with VOC regulations.

† Values may vary with color.

**WARRANTY & LIMITATION OF SELLER’S LIABILITY:** Tnemec Company, Inc. warrants only that its coatings represented herein meet the formulation standards of Tnemec Company, Inc.  
**THE WARRANTY DESCRIBED IN THE ABOVE PARAGRAPH SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.**

**The warranty described in the above paragraph shall be in lieu of any other warranty, expressed or implied, including but not limited to, any implied warranty of merchantability or fitness for a particular purpose. There are no warranties that extend beyond the description on the face hereof.**

No other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, environmental injuries or any other incidental or consequential loss) shall be available to the buyer. Technical and application information herein is provided for the purpose of establishing a general profile of the coating and proper coating application procedures. Test performance results were obtained in a controlled environment and Tnemec Company makes no claim that these tests or any other tests, accurately represent all environments. As application, environmental and design factors can vary significantly, due care should be exercised in the selection and use of the coating.