**Aromatic Urethane, Zinc-Rich**

A two-component, moisture-cured, zinc-rich primer for the interior and exterior of steel potable water tanks. Provides outstanding long-term corrosion resistance when used as a primer in conjunction with other Tnemec potable water tank coatings. It cures quickly and can be topcoated the same day at surface temperatures down to 35°F (2°C). Series 91-H₂O has no maximum recoat time, making it ideally suited as a primer for both sides of plate steel surfaces in water tank fabrication shops. Application methods include “dry-fall” under certain conditions (see Application). **Note:** When used in conjunction with cathodic protection, anodes or impressed current systems should not provide current demand more negative than –1.05 volts relative to a copper–copper sulfate reference electrode half-cell.

**Colors**

Greenish-gray

83% by weight in dried film

Certified (with or without 44-710 Urethane Accelerator) by NSF International in accordance with NSF/ANSI/CAN Std. 61 and the extraction requirements of NSF/ANSI/CAN Std. 600 and is qualified for use on interior potable water tanks of 1,500 gallons (5,678 L) capacity or greater, pipes 24 inches (61 cm) in diameter or greater, valves 3/4 inch (1.9 cm) in diameter or greater, fittings 1/2 inch (1.3 cm) in diameter or greater, and pumps 3/4 inches (1.9 cm) in diameter or greater. Topcoating with Std. 61 certified Tnemec coatings is required. Contact your Tnemec representative for specific recommendations. Reference Tnemec’s certified product listing at www.nsfd.org for details on the maximum allowable DFT. Meets zinc-rich primer requirements of AWWA D102-17 Standard for Inside System No. 3 & 5 and Outside System No. 3, 4 & 6. Series 91-H₂O uses a zinc pigment which meets the requirements of ASTM D 520 Type III and contains less than .002% lead.

**Surface Preparation**

**Steel**

Wet Interior/Severe Exposure: SSPC-SP10/NACE 2 Near-White Blast Cleaning with a minimum angular anchor profile of 1.5 mils.

Dry Interior/Exterior Exposure: SSPC-SP6/NACE 3 Commercial Blast Cleaning with a minimum angular anchor profile of 1.5 mils.

**Ductile 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 in accordance with NAPF 500-03-01. 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.

**Pipe:** Uniformly abrasive blast using angular abrasive to a NAPF 500-03-04. 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.

**Fittings:** Uniformly abrasive blast using angular abrasive to a NAPF 500-03-04. Fitting Blast Clean #2 condition. When viewed without magnification, no more than 5% staining may remain on the surface and the exterior surfaces shall be free of all visible dirt, dust, annealing oxide, rust, mold coating and other foreign matter.

**Technical Data**

**Volume Solids Recommended DFT Curing Time**

<table>
<thead>
<tr>
<th>Temperature †</th>
<th>To Handle</th>
<th>To Recoat</th>
</tr>
</thead>
<tbody>
<tr>
<td>75°F (24°C)</td>
<td>1 hour</td>
<td>4 hours</td>
</tr>
<tr>
<td>65°F (18°C)</td>
<td>1 1/2 hours</td>
<td>5 hours</td>
</tr>
<tr>
<td>55°F (11°C)</td>
<td>2 hours</td>
<td>6 hours</td>
</tr>
<tr>
<td>45°F (7°C)</td>
<td>2 1/2 hours</td>
<td>7 hours</td>
</tr>
<tr>
<td>35°F (2°C)</td>
<td>3 hours</td>
<td>8 hours</td>
</tr>
</tbody>
</table>

† 50% relative humidity. **Note:** Refer to product listings on www.nsfd.org for specific potable water return to service information. Curing time will vary with surface temperature, humidity and film thickness. **Ventilation:** When used as a tank lining or in enclosed areas, provide adequate ventilation during application and cure. Reference ventilation guidelines contained in the latest edition of AWWA D 102.

**Note:** For faster curing, low humidity and low-temperature applications, add No. 44-710 Urethane Accelerator (see separate product data sheet). **Note:** For cure times to immersion service, reference the specified Tnemec interior topcoat product data sheet.

**Volatile Organic Compounds**

Unthinned: 2.65 lbs/gallon (318 grams/litre)

Thinned 2.5%: 2.76 lbs/gallon (351 grams/litre)

Thinned 10%: 3.07 lbs/gallon (368 grams/litre)

**HAPS**

Unthinned: 5.05 lbs/gal solids

Thinned 2.5%: 5.33 lbs/gal solids (No. 2 Thinner); 5.06 lbs/gal solids (No. 3 Thinner)

Thinned 10%: 6.19 lbs/gal solids (No. 2 Thinner); 5.09 lbs/gal solids (No. 3 Thinner)
THEORETICAL COVERAGE

1,011 mil sq ft/gal (24.8 m²/L at 25 microns). See APPLICATION for coverage rates.

NUMBER OF COMPONENTS

Two: Part A and Part B

PACKAGING

Four-Gallon and One-Gallon Kits: Consist of one premeasured container of liquid (Part A) and one premeasured container of powder (Part B). When mixed, yields four gallons (15.1L) or one gallon (3.79L).

NET WEIGHT PER GALLON

23.94 ± 0.60 lbs (10.86 ± 2.7 kg)

STORAGE TEMPERATURE

Minimum 20°F (-7°C)  Maximum 110°F (43°C)

TEMPERATURE RESISTANCE

Dry (Continuous) 250°F (121°C) Intermittent 300°F (149°C)

NET WEIGHT PER GALLON

Flash Point - Seta

AMBIENT HUMIDITY

COVERAGE RATES

PACKAGING

SHELF LIFE

Part A: 12 months at recommended storage temperature.
Part B: 24 months at recommended storage temperature.

FLASH POINT - SETA

Part A: 78°F (26°C) Part B: NA

Health & Safety

Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Safety Data Sheet for important health and safety information prior to the use of this product.

Keep out of the reach of children.

APPLICATION

Coverage Rates

<table>
<thead>
<tr>
<th></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>3.0 (75)</td>
<td>5.0 (125)</td>
<td>337 (3.1 m²/L)</td>
</tr>
<tr>
<td>Minimum</td>
<td>2.5 (65)</td>
<td>4.0 (100)</td>
<td>404 (3.7 m²/L)</td>
</tr>
<tr>
<td>Maximum</td>
<td>3.5 (90)</td>
<td>5.5 (140)</td>
<td>289 (2.6 m²/L)</td>
</tr>
</tbody>
</table>

Mixing

Note: It is important to always use the entire contents of A and B components. Use a mechanical mixer and keep material under constant agitation while mixing. Slowly sift the entire contents of Part B zinc powder into liquid (Part A).

Air Spray

 DeVilbiss JGA †

Fluid Tip E

Air Cap 765 or 704

Air Hose ID 5/16" or 3/8" (7.9 or 9.5 mm)

Mat'l Hose ID 3/8" or 1/2" (9.5 or 12.7 mm)

Atomizing Pressure 50-70 psi (3.5-4.8 bar)

Pot Pressure 10-20 psi (0.7-1.4 bar)

† (with heavy mastic spring) 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

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

Roller: Use a 1/4" or 3/8" (6.4 mm or 9.5 mm) high quality synthetic woven nap cover. Stir material frequently or keep under agitation to prevent settling.

Brush: Use high quality natural or synthetic bristle brushes. Stir material frequently or keep under agitation to prevent settling.

Surface Temperature

Minimum 35°F (2°C) Maximum 140°F (60°C)

Ambient Humidity

Minimum 20% Maximum 90%

Clean-up

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

Caution

Dry overspray can be wiped or washed from most surfaces. Satisfactory dry-fall performance depends upon height of work, weather conditions and equipment adjustment. Low temperature is of particular concern to test for each application as follows: Spray from 15 to 25 feet towards paint container. The material then should readily wipe off. Note: Heat can fuse-dry overspray to surfaces. Always clean dry overspray from hot surfaces before fusing occurs. Be aware that exterior surface temperatures can be higher than air temperature.

© June 18, 2020 by Tnemec Company, Inc. PDS91H2O Page 2 of 3
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 buyer’s sole and exclusive remedy against Tnemec Company, Inc. shall be for replacement of the product in the event a defective condition of the product should be found to exist and the exclusive remedy shall not have failed its essential purpose as long as Tnemec is willing to provide comparable replacement product to the buyer. 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.