TNEME-ZINC SERIES 90-98

PRODUCT PROFILE

GENERIC DESCRIPTION
Ethyl Silicate Inorganic Zinc-Rich

COMMON USAGE
Self-curing, corrosion-resistant steel or ductile iron primer with tenacious bonding and abrasion resistance qualities. Its galvanic action resists undercutting. Excellent stand alone performance in high temperature or long-term atmospheric exposure. Finish with specialized topcoats to improve aesthetics, increase long-term performance or protect the primer from attack in aggressive exposures.

COLORS
Greenish-Gray

ZINC PIGMENT
88% by weight in dried film

SPECIAL QUALIFICATIONS
Zinc content surpasses requirements of SSPC-PS 12.00 and ISO 8179-Part 2.

PERFORMANCE CRITERIA
Test data available. Contact your Tnemec representative for specific test results.

COATING SYSTEM

TOPCOATS

REPAIR/TOUCH-UP
Series 91-H2O

SURFACE PREPARATION

STEEL
Severe Exposure: SSPC-SP10 Near-White Blast Cleaning
Mild Exposure: SSPC-SP6 Commercial Blast Cleaning

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 500-03-04: 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 (38.1 microns) (Reference NACE RP0287 or ASTM D 4417, Method C).

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. Any area where rust reappears before application shall be reblasted. The surface shall contain a minimum angular anchor profile of 1.5 mils (38.1 microns) (Reference NACE RP0287 or ASTM D 4417, Method C).

Fittings: Uniformly abrasive blast using angular abrasive to a NAPF 500-03-05: 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. Any area where rust reappears before application shall be reblasted. The surface shall contain a minimum angular anchor profile of 1.5 mils (38.1 microns) (Reference NACE RP0287 or ASTM D 4417, Method C).

TECHNICAL DATA

VOLUME SOLIDS
65.0 ± 2.0% (mixed) void content method.

RECOMMENDED DFT
2.0 to 3.5 mils (50 to 90 microns) per coat.

CURING TIME

<table>
<thead>
<tr>
<th>Temperature (50% Relative Humidity)</th>
<th>To Handle</th>
<th>To Recoat</th>
</tr>
</thead>
<tbody>
<tr>
<td>75°F (24°C)</td>
<td>1 hour</td>
<td>16 hours</td>
</tr>
<tr>
<td>0°F (-18°C)</td>
<td>---</td>
<td>7 days minimum</td>
</tr>
</tbody>
</table>

Moisture is required to achieve proper cure. Curing time will vary with temperature and humidity. At relative humidities below 50%, it may be necessary to gently spray the coated surface with water to achieve proper cure and to minimize recoat time. Consult your Tnemec representative for specific recommendations.

VOLATILE ORGANIC COMPOUNDS

Unthinned: 3.48 lbs/gallon (417 grams/litre)

Thinned 9% (No. 15 Thinner): 3.75 lbs/gallon (449 grams/litre)

Thinned 6% (No. 18 Thinner): 3.75 lbs/gallon (449 grams/litre)

HAPS
Unthinned: 0.41 lbs/gal-solids

Thinned 9% (No. 15 Thinner): 0.49 lbs/gal-solids

Thinned 6% (No. 18 Thinner): 0.41 lbs/gal-solids

THEORETICAL COVERAGE
1,042 mil sq ft/gal (25.6 m²/L at 25 microns). See APPLICATION for coverage rates.

NUMBER OF COMPONENTS
Two: Part A and Part B

PACKAGING
Five-Gallon & One-Gallon Kits: Consist of one premixed container of liquid (Part A) and one premixed container of powder (Part B). When mixed, yields five gallons (18.9L) or one gallon (3.79L).

NET WEIGHT PER GALLON
20.6 ± 0.5 lbs (9.34 ± .27 kg) (mixed)

STORAGE TEMPERATURE
Minimum 20°F (-7°C) Maximum 100°F (38°C)

TEMPERATURE RESISTANCE
Dry (Continuous) 750°F (399°C) Intermittent 950°F (510°C)

SHELF LIFE
12 months at recommended storage temperature.

FLASH POINT - SETA
Part A: 53°F (12°C) Part B: N/A

HEALTH & SAFETY
Paints 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>Suggested</td>
<td>2.5 (65)</td>
<td>4.0 (100)</td>
<td>417 (38.7)</td>
</tr>
<tr>
<td>Minimum</td>
<td>2.0 (50)</td>
<td>3.0 (75)</td>
<td>521 (48.4)</td>
</tr>
<tr>
<td>Maximum</td>
<td>3.5 (90)</td>
<td>5.5 (140)</td>
<td>298 (27.7)</td>
</tr>
</tbody>
</table>

Allow for over spray and surface irregularities. Film thickness is based upon closest 0.5 mil (5 microns). Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance.

**MIXING**

Always use the entire contents of A and B components. Use an air-driven power mixer and keep material under constant agitation while mixing. Slowly sift powder (Part B) into liquid (Part A). Do Not Reverse This Procedure. Adjust mixer speed to break up lumps and mix until the two components are thoroughly blended. Strain through a 35 to 50 mesh (300 to 600 microns) screen before using. Keep under agitation to prevent settling. Do not use mixed material beyond pot life limits.

**THINNING**

Use No. 15 Thinner below 80°F (27°C); No. 18 Thinner above 80°F (27°C). For air spray, thin up to 9% or 3/4 pint (380 mL) per gallon. For airless spray, thin up to 5% or 1/4 pint (190 mL) per gallon.

**POT LIFE**

16 hours at 60°F (16°C) 12 hours at 77°F (25°C) 7 hours at 100°F (38°C)

**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 MBC E</td>
<td>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>30-40 psi (2.1-2.8 bar)</td>
<td>15-25 psi (1.0-1.7 bar)</td>
<td></td>
</tr>
</tbody>
</table>

(1) For 25 ft (7.6 m) length of material hose. 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. If work is stopped for 10 to 15 minutes, do not allow material to remain in hose. Shut off pot pressure at the fluid regulator and open pressure relief valve. Loosen spray gun cap ring three turns, hold cloth over air cap and pull trigger to force the material in the hose back into the pot. Keep material under agitation during shut-down, but do not repressurize pot until ready to resume work.

**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>0.021&quot;-0.023&quot; (55-585 microns) Reversible Tip</td>
<td>2000-3000 psi (135-207 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. Keep material agitated to prevent settling. If work is stopped for 15 minutes or more, recirculate material to assure that only well-agitated material is in fluid lines before spraying is resumed.

**Note:** When applying Tnemec epoxies over this primer, apply a wet mist coat and allow tiny bubbles to form. When bubbles disappear in 1 to 2 minutes, apply a full wet coat at specified mil thickness.

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

**Surface Temperature**

Minimum 60°F (-15°C) Maximum 120°F (49°C) The surface must be dry and at least 5°F (5°C) above the dew point. At temperatures below 32°F (0°C), the surface must be free of ice and/or frost.

**Cleanup**

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

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