**PRODUCT PROFILE**

**GENERIC DESCRIPTION**
Novolac Vinyl Ester

**COMMON USAGE**
A high-build, novolac vinyl ester, glass-flake filled lining with an enhanced elevated temperature resistance in dry and wet corrosive environments. Series 1438 is ideal for use in flue gas desulfurization (FGD) units, hot duct work, and wet and dry absorbers. Also an outstanding primary lining for many challenging chemical immersion services. Formerly ProPolymer 4844S.

**COLORS**
901 White and 908 Lavender

**FINISH**
Semi-gloss

**SURFACE PREPARATION**

**STEEL**
Immersion Service/Severe Exposure/Elevated Temperatures: SSPC SP5/ NACE No 1 White Metal Blast Cleaning or ISO Sa3 Blast Cleaning to Visually Clean with a minimum angular anchor profile of 3.0 mils (75 microns) is required.

Non-Immersion Service: SSPC SP10/NACE No 2 Near White Metal Blast Cleaning or ISO Sa 2½ Very Thorough Blast Cleaning with a minimum angular anchor profile of 3.0 mils (75 microns) is required.

**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, sealers and other contaminants and to provide a minimum ICRI-CS 3 surface profile. Large cracks, voids and other surface imperfections should be filled with a recommended filler or surfacer. **Note:** This product is most commonly used on metallic substrates, contact Tnemec Technical Services to confirm an appropriate lining selection or for an alternate lining.

**TECHNICAL DATA**

**VOLUME SOLIDS**
85% (mixed). Series 1438 contains a reactive monomer and some loss will occur during application and cure. Actual solids by volume will vary depending upon temperature and air movement.

**RECOMMENDED DFT**
12.0 to 60.0 mils (305 to 1524 microns)

**CURING TIME**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>To Recoat</th>
<th>Immersion</th>
<th>Maximum Reccoat</th>
</tr>
</thead>
<tbody>
<tr>
<td>90°F (32°C)</td>
<td>3 hours</td>
<td>20 hours</td>
<td>3 days</td>
</tr>
<tr>
<td>75°F (24°C)</td>
<td>4 hours</td>
<td>24 hours</td>
<td>4 days</td>
</tr>
<tr>
<td>50 °F (10°C)</td>
<td>12 hours</td>
<td>4 days</td>
<td>5 days</td>
</tr>
</tbody>
</table>

**VOLATILE ORGANIC COMPOUNDS**
EPA Method 24

**NUMBER OF COMPONENTS**
Two: Part A (base) and Part B (catalyst)

**PACKAGING**

<table>
<thead>
<tr>
<th></th>
<th>Part A (Partially filled)</th>
<th>Part B (Partially filled)</th>
<th>Yield (mixed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium Kit</td>
<td>5 gallon pail</td>
<td>Pint bottle</td>
<td>5.0 gallons (18.9 L)</td>
</tr>
<tr>
<td>Small Kit</td>
<td>1 gallon can</td>
<td>4 oz bottle</td>
<td>1.0 gallons (3.7 L)</td>
</tr>
</tbody>
</table>

**STORAGE TEMPERATURE**
Minimum 50°F (10°C)  Maximum 75°F (24°C)

**TEMPERATURE RESISTANCE**

<table>
<thead>
<tr>
<th>(Dry) Continuous 360°F (182°C)</th>
<th>Intermittent 400°F (204°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part A: 3 months at 35°F to 49°F (2°C to 9°C), 2 months at 50°F to 79°F (10°C to 26°C), 1 month at 80°F to 90°F (27°C to 32°C). Do not store at temperature below 35°F (2°C) or above 90°F (32°C).</td>
<td></td>
</tr>
</tbody>
</table>

**SHELF LIFE**
DUE TO THE REACTIVE NATURE OF THE VINYL ESTER RESINS AND THE CORRESPONDING LIMITED SHELF LIFE, EXPEDITIOUS USE OF THIS PRODUCT IS SUGGESTED, SINCE JOB SITE STORAGE CONDITIONS ARE BEYOND TNEMEC'S CONTROL, THIS PRODUCT IS NON-RETURNABLE.

Part B: 12 months at recommended storage temperature.

**FLASH POINT - SETA**
Part A: 93°F (33°C)  Part B: 133°F (56°C)

**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 Microns</th>
<th>Sq Ft/Gal (M²/Gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>12.0 (305)</td>
<td>14.0 (356)</td>
<td>114 (10.6)</td>
</tr>
<tr>
<td>Maximum</td>
<td>60.0 (1524)</td>
<td>71.0 (1803)</td>
<td>23 (2.1)</td>
</tr>
</tbody>
</table>

Actual spreading rates will vary with surface profile, amount of overspray and surface irregularities. Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance. THIS PRODUCT SHOULD NOT BE APPLIED BELOW 60°F (16°C) MATERIAL TEMPERATURE.

**MIXING**

Power mix contents of Part A (base) thoroughly, making sure no pigment remains on the bottom of the can. Add the Part B (catalyst) slowly to the Part A while under agitation. Ensure that all Part B is blended with Part A by scraping the pail walls with a flexible spatula. Continue to agitate until thoroughly mixed. **Note:** Do not over mix, caution should be taken to avoid shearing the glass flake. Do not use mixed material beyond pot life limits.

**THINNING**

Do not thin.

**POT LIFE**

45 minutes at 75°F (24°C)

**APPLICATION EQUIPMENT**

**Airless Spray**

<table>
<thead>
<tr>
<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, XTR-7</td>
<td>70:1 or 68:1</td>
<td>0.025”-0.039” (635-990 microns)</td>
<td>3000-4000 psi (206-275 bar)</td>
<td>See below</td>
<td>n/a</td>
</tr>
</tbody>
</table>

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

**Note:** Do not over mix, caution should be taken to avoid shearing the glass flake. Do not use mixed material beyond pot life limits.

**Surface Temperature**

Minimum 60°F (16°C), optimum 70°F (21°C), maximum 90°F (32°C). The surface should be dry and at least 5°F (3°C) above the dew point. At surface temperatures below 60°F (16°C), Series 1438 will not cure properly or obtain maximum chemical resistance. At relative humidities above 75%, the cure of this coating may be retarded. It is also recommended that all precautions be taken to insure that adequate forced-air ventilation exists.

**Material Temperature**

For optimum application, handling and performance, the material temperature during application should be between 60°F and 90°F (16°C and 32°C). Temperature will affect the workability. Cool temperatures increase viscosity and lengthen pot life. Warm temperatures will decrease viscosity and shorten pot life.

**Cleanup**

Clean and purge lines immediately after use with MEK.

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