**Protect VE-SR 40 Flake**

Novalac Vinyl Ester Flake Lining/Coating

**DESCRIPTION:**

Protect VE-SR 40 Flake is a 40 mil catalyzed, Novalac Vinyl Ester resin for medium duty protection of steel or concrete substrates. It is a highly chemical resistant resin that provides excellent resistance to alkalis, acids, solvents and a broad range of chemicals. It is used for steel or concrete tank linings in immersion service and as a floor topping.

**Typical uses**

- Process Tanks
- Storage Tanks
- Refineries
- Pharmaceutical
- Petrochemical
- Secondary containment
- Light duty flooring

**Advantages**

- Excellent chemical resistance
- Temperature resistance 130°F wet, 250°F dry heat
- Long service life vs. thin film coatings

**Chemical Resistance**

In addition to chemicals, this system is resistant to most acids, alkalis and solvents. Specific information on the chemical resistance properties will be furnished on request.

**Surface Preparation**

Metal - For immersion or intermittent splash and spillage conditions, abrasive blast to "White Metal" in accordance with Steel Structures Painting Council Specifications SP-5 or NACE SP-10 or NACE Specification #2. A minimum surface profile of 3.0 mils is required.

For fumes and dry environments, abrasive blast surface to "Near White" in accordance with SP-10 or NACE #2. A minimum surface profile of 3.0 mils is required.

Concrete:

Abrasive blasting or scarification to remove laitance and surface contaminants is recommended. Concrete must be thoroughly cured, free of oils, curing solutions and mold release agents, dust and must be dry at time of application. Use ASTM D 4263 (plastic sheet test method) to ensure concrete is moisture free. If moisture is detected, re-test until dry.

**Mixing**

Mix using drill motor and Jiffy type or similar paddle. Mechanically mix Protect VE-SR 40 Flake-A and Protect VE-B hardener approximately 3 minutes.

**Thinner**—None required. **DO NOT THIN**

**Mixing Ratio - By Volume**

<table>
<thead>
<tr>
<th>Protect VE-SR 40 Flake-A Resin</th>
<th>1 gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect VE-B Hardener</td>
<td>2.0 – 3.0 oz</td>
</tr>
<tr>
<td>Protect VE-Curing Aid</td>
<td>2-3 fl. Oz. (Final Coat ONLY)</td>
</tr>
</tbody>
</table>

*Color and Pigmenting*

Protect VE-SR 40 Flake is supplied in an off white color. The addition of Protect CPU colorant may be field added to achieve a pigmented coating. Please understand that addition of these colorpacks to this off-white base will result in a lighter color than indicated on the Protective Industrial Polymers Standard Color Chart.

It is imperative to add exactly the same amount of additional colorant to each pail to achieve consistent desired color.

Pre-pigmented custom colors will be considered depending on volume required and color feasibility. Please contact Protective Industrial Polymers for specific details if this is required.

**VE-CURING AID FOR FINAL TOPCOAT**

Depending on cure temperature and atmospheric conditions, the resin surface could remain tacky after final cure. This phenomenon at the very top of the film surface is caused by air inhibition. To eliminate this possibility, on the final wear or topcoat, Protective Industrial Polymers strongly recommends the addition of 2.0 to 3.0 oz./Gal of VE-Curing Aid additive. ADD TO FINAL COAT ONLY.

**Application**

Must be applied over primed surface. Primed surface must be dry and free of foreign matter at time of application.

Apply using brush, short nap 9” roller or spray equipment.

**Handling Properties**

**Working Time**

- 50°F (10°F C) 50 min
- 70°F (21°F C) 30 min
- 90°F (32°F C) 15 min

**Time to Recoat**

- 50°F (10°C) 8 hrs 3 days
- 70°F (21°C) 4 hrs 2 days
- 90°F (32°C) 2 hrs 18 hours

Surfaces should be top-coated within 4 hours when exposed to direct sunlight. For longer exposure confirm recoatability by wiping with Styrene monomer. If surface becomes “tacky” adhesion is acceptable. If not softened by Styrene, surface must be sandblasted or mechanically abraded to provide a non-glossy, abraded surface.

**Coverage**

Theoretical Two - 15-20 mil/coats totaling 30 – 40 wet mils will yield theoretical coverage of approximately 30 – 40 ft²/gallon.

**Color as supplied**

Off-white

**Packaging**

The following standard packages are available

**Protect VE-SR 40 Flake**

4 gal units

**Technical and Physical Data**

<table>
<thead>
<tr>
<th>General Type</th>
<th>Test standard</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>lbs/gal</td>
<td></td>
<td>10.0</td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td></td>
<td>Off-white</td>
</tr>
<tr>
<td>Adhesion (steel)</td>
<td>ASTM D4541</td>
<td>psi</td>
<td>&gt;1200</td>
</tr>
<tr>
<td>Tensile strength</td>
<td>ASTM D-638</td>
<td>psi</td>
<td>2800</td>
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<tr>
<td>Elongation</td>
<td>ASTM C-307</td>
<td>psi</td>
<td>6-9%</td>
</tr>
<tr>
<td>Temperature Resistance</td>
<td>130°F (54°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solids content</td>
<td>Theoretical Calculation</td>
<td>%</td>
<td>100 (reactive)</td>
</tr>
<tr>
<td>VOC</td>
<td>Theoretical Calculation</td>
<td>g/L</td>
<td>83</td>
</tr>
</tbody>
</table>

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**Issue/Rev Date:** 12-1-2016

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Safety
Do not use acetone for cleaning purposes.

Protect VE-SR 40 Flake contains vinyl ester resins and cumene peroxide catalyst. The product's components have been formulated to optimize physical characteristics such as strength and chemical resistance while minimizing hazardous physical and health factors encountered during application. A concerted effort is made to be aware of the latest chemical toxicological information and to apply this knowledge in a responsible manner to ensure product safety.

During application of Protect VE-SR 40 Flake, always wear gloves and appropriate work clothing to minimize contact. Ventilation is required with special consideration for enclosed or confined areas. Air movement must be designed to insure turnover at all locations in work area and adjacent areas to avoid buildup of heavy vapors. Use caution when handling flammable liquids, eliminate sources of ignition from work area and containers with residues. Observe safe storage practices by separating resins from hardeners, by keeping solvents in a cool area, free of sources of ignition.

Product Material Safety Data Sheets are available and should be consulted when handling products. These products are for industrial and professional use only; application directions must be followed.

Maintenance
Periodically inspect the applied material and repair localized areas as needed. Consult your Protective Industrial Polymers representative for additional information.

Environmental conditions during application
Substrate temperature must be between 50°F and 95°F
Surface temperature must be 5°F above dew point and relative humidity below 90%

Storage and Shelf Life
Store material in a cool, dry and covered location (50°-90°F (10° - 32°C)), away from fire hazards and direct sunlight. Shelf life is from date of manufacture (DOM).
- @ 40-60°F (4-16°C) 4 months
- @ 61-85°F (18-29°C) 3 months
- @ 86°F+ (30°C) 2 months

Higher temperature will shorten the shelf life of these products. The packing drums are to be kept tightly sealed and are to be resealed each time materials have been removed. All liquid products are to be stored in a frost-free place.

TECHNICAL SUPPORT: For application questions, please contact your salesman or PIP technical service at 440-243-4560. After business hours, please contact 1-866-361-3331.

READ MATERIAL SAFETY DATA SHEET (MSDS) FOR SAFETY AND PRECAUTIONS. KEEP OUT OF REACH OF CHILDREN.