COR-COTE® VEN
VINYL ESTER NOVOLAC

PART A B88-20
PART B B88R99
PART B B88V99

Red CHP - Cumene Hydrogen Peroxide (Catalyst)
Clear CHP - Cumene Hydrogen Peroxide (Catalyst)

PRODUCT INFORMATION

PRODUCT DESCRIPTION

COR-COTE VEN Vinyl Ester Novolac is a self-leveling, multifunctional epoxy novolac based vinyl ester. It provides resistance to many aromatic and aliphatic solvents, organic and mineral acids, strong oxidizers and excellent resistance to thermal degradation.

• Low viscosity easily wets out aggregate and reinforcing
• Variable pot life with variable catalyst addition
• Ambient cure or heated postcure
• Excellent chemical resistance
• Time tested and proven technology

PRODUCT CHARACTERISTICS

Finish: Matte
Color: Haze Gray, Tile Red, Clear
Volume Solids: 100% Reactive
Note: Cor-Cote Vinyl Ester Novolac is a reactive material, however some shrinkage will occur in application due to styrene evaporation as well as normal spray losses. Resulting practical volume solids will be approximately 80%.

VOC (ASTM D 2369 method E): <100 g/L; 0.83 lbs/gal
Mix Ratio: Use CHP catalyst at the rate of 2.0 - 4.0 fluid oz. per gallon of Part A, depending on environmental conditions.

Recommended Spreading Rate per coat*:
*Varies with system and application. See recommended systems. Not to be used as a stand alone coating.

Drying Schedule @ 20.0 mils wet (500 microns):

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion Resistance (coating)</td>
<td>ASTM D4060</td>
</tr>
<tr>
<td>Adhesion</td>
<td>Concrete - 350 psi; Steel - 1000 psi</td>
</tr>
<tr>
<td>Atlas Cell, DI Water</td>
<td>Pass, 160°F (71°C)</td>
</tr>
<tr>
<td>Coefficient of Linear Thermal Expansion</td>
<td>ASTM C531 (in/in°F)</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>ASTM C579</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>ASTM C580</td>
</tr>
<tr>
<td>Heat Resistance for FGD Systems</td>
<td>ASTM D5499, Test Method A, 350°F (177°C)</td>
</tr>
<tr>
<td>Sulfuric Acid Resistance for FGD Systems</td>
<td>ASTM D6137, 350°F (177°C)</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM C307</td>
</tr>
<tr>
<td>Water Vapor Transmission, Mortar Laminate</td>
<td>ASTM E96</td>
</tr>
</tbody>
</table>

www.sherwin-williams.com/protective

continued on back
## RECOMMENDED SYSTEMS

<table>
<thead>
<tr>
<th>System Description</th>
<th>Dry Film Thickness / ct. Mils (Microns)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete or Steel (lining, containment, flooring):</td>
<td></td>
</tr>
<tr>
<td>Mortar Laminate</td>
<td></td>
</tr>
<tr>
<td>1 ct. Corobond Vinyl Ester Primer</td>
<td>3.5-4.5* (88-112)</td>
</tr>
<tr>
<td>1 ct. Poly-Glass Putty as required for filling pits and transitioning sharp edges, weld seams, etc. or to fill voids and bugholes to provide a continuous substrate.</td>
<td></td>
</tr>
<tr>
<td>1 ct. Corobond VEN (Clear) with 20 lbs Type M Aggregate per 1.0 gallon (3.78L)</td>
<td>60.0-65.0 (1500-1625)</td>
</tr>
<tr>
<td>1 ct. 1.0 oz. glass mat with Cor-Cote VEN (Clear) (with glass mat)</td>
<td>20.0-30.0 (500-750)</td>
</tr>
<tr>
<td>1 ct. Corobond Vinyl Ester FF Flake Filled with Wax Solution</td>
<td>15.0-20.0 (375-500)</td>
</tr>
<tr>
<td>Heavy Duty Mortar Laminate</td>
<td></td>
</tr>
<tr>
<td>1 ct. Corobond Vinyl Ester Primer</td>
<td>3.5-4.5* (88-112)</td>
</tr>
<tr>
<td>1 ct. Poly-Glass Putty as required for filling pits and transitioning sharp edges, weld seams, etc. or to fill voids and bugholes to provide a continuous substrate.</td>
<td></td>
</tr>
<tr>
<td>1 ct. Corobond VEN (Clear) with 20 lbs Type M Aggregate per 1.0 gallon (3.78L)</td>
<td>60.0-65.0 (1500-1625)</td>
</tr>
<tr>
<td>1 ct. 10.0 oz. woven roving fiberglass mat with Corobond VEN (Clear) (with glass mat)</td>
<td>30.0-45.0 (750-1125)</td>
</tr>
<tr>
<td>1 ct. Corobond VEN FF Flake Filled with Wax Solution</td>
<td>60.0-65.0 (1500-1625)</td>
</tr>
<tr>
<td>Concrete (containment and flooring):</td>
<td></td>
</tr>
<tr>
<td>Self-Leveling Mortar (horizontal only):</td>
<td></td>
</tr>
<tr>
<td>1 ct. Corobond Vinyl Ester Primer</td>
<td>3.5-4.5* (88-112)</td>
</tr>
<tr>
<td>1 ct. Corobond VEN with 19 lbs. Type S Aggregate per 1.0 gallon (3.78L)</td>
<td>60.0-70.0 (1500-1750)</td>
</tr>
<tr>
<td>1 ct. Corobond VEN FF Flake Filled with Wax Solution</td>
<td>15.0-20.0 (375-500)</td>
</tr>
<tr>
<td>Self-Leveling Mortar Broadcast (horizontal only):</td>
<td></td>
</tr>
<tr>
<td>1 ct. Corobond Vinyl Ester Primer</td>
<td>3.5-4.5* (88-112)</td>
</tr>
<tr>
<td>1 ct. Corobond VEN with 19 lbs. Type S Aggregate per 1.0 gallon (3.78L)</td>
<td>60.0-70.0 (1500-1750)</td>
</tr>
<tr>
<td>1 ct. Broadcast silica sand @ 0.5 lbs per square foot</td>
<td></td>
</tr>
<tr>
<td>1 ct. Corobond VEN</td>
<td>15.0-20.0 (375-500)</td>
</tr>
<tr>
<td>1 ct. Corobond VEN FF Flake Filled with Wax Solution</td>
<td>15.0-20.0 (375-500)</td>
</tr>
</tbody>
</table>

*Corobond Vinyl Ester Primer is applied at 2.0-3.0 mils (50-75 microns) on steel and 3.5-4.5 mils (88-112 microns) on concrete.

The systems listed above are representative of the product's use, other systems may be appropriate.

## DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.
**Surface Preparations**

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

**Iron & Steel (immersion service)**

Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2-3 mils / 50-75 microns). Remove all weld spatter and round all sharp edges. Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

**Iron & Steel (atmospheric service)**

Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6/NACE 3. For better performance, use Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 mils / 50 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

**Concrete and Masonry**

For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2, CSP 3-5. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air holes and other voids with Steel-Seam FT910. Primer required.

If surface deterioration presents an unacceptably rough surface, prime with Corobond Vinyl Ester Primer. Poly-Glass Polyester Putty is recommended to patch and resurface damaged concrete. Fill all cracks, voids and bugholes with Poly-Glass Polyester Putty.

Follow the standard methods listed below when applicable:

- ASTM D4258 Standard Practice for Cleaning Concrete
- ASTM D4259 Standard Practice for Abrading Concrete
- ASTM D4260 Standard Practice for Etching Concrete
- ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete
- SSPC-SP 13/Nace 6 Surface Preparation of Concrete
- ICRI No. 310.2 Concrete Surface Preparation

**Concrete, Immersion Service:**

For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2, CSP 3-5. Follow the standard methods listed below when applicable:

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8501-1</th>
<th>Swedish Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Metal</td>
<td>Sa 3</td>
<td>Sa 3</td>
</tr>
<tr>
<td>Near White Metal</td>
<td>Sa 2.5</td>
<td>Sa 2.5</td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2</td>
<td>Sa 2</td>
</tr>
<tr>
<td>Brush-Off Blast</td>
<td>Sa 1</td>
<td>Sa 1</td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
<td>Rusted</td>
<td>Rusted</td>
</tr>
<tr>
<td>Power Tool Cleaning</td>
<td>Rusted</td>
<td>Rusted</td>
</tr>
</tbody>
</table>

**Surface Preparation Standards**

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

**Reduction**

- Not recommended

**Cleanup**

- MEK, R6K10

**Catalyst Injection Spray**

- Pump: Catalyst injection (external mixing)
- Pump Ratio: 30:1 with catalyst pump
- Gun: Polycraft or equivalent
- Fluid Hose: 3/8" - 1/2" I.D.
- Tip Orifice: 0.25" - 0.29"
- Fan Width: 40 degrees
- Fluid Pressure: 2000 - 3000 psi
- Filter Screen: 30 mesh

**Brush:**

- Natural bristle for applications in small areas

**Roller:**

- Cover: 3/8" nap for coatings
- Ribbed roller: For mortar laminate applications
- Use 1/4" mohair for saturant coat with laminates.

**Trowel:**

- Notched trowel: For self-leveling applications
- Flat trowel: For mortar applications

**Squeegee:**

- Notched squeegee: For self-leveling applications
- Flat squeegee: For coating applications

If specific application equipment is not listed above, equivalent equipment may be substituted.
**APPLICATION PROCEDURES**

For detailed installation instructions, refer to the Installation Procedures for the respective system type in the ControlTech Technical Resource Manual.

Surface preparation must be completed as indicated.

**Mixing Instructions:**

- Store in a temperature controlled environment, 50°F (10°C) to 80°F (26°C), and out of direct sunlight. Keep resins, catalysts, and solvents separated from each other and away from sources of ignition.

- Use CHP catalyst at the rate of 2.0 - 4.0 fluid oz. per gallon of Part A, depending on environmental conditions. Mix with low speed drill and Jiffy Blade model ES mixer for three minutes and until uniform.

- For self-leveling applications:
  - Mix catalyst and Part A as instructed above. Slowly add Type S aggregate at 19 pounds per gallon of mixed resin in a mortar mixer. Blend materials until no lumps remain and the aggregate is uniformly mixed with the resin. Apply via notched trowel and/or squeegee to desired thickness. Apply topcoats as indicated, following application procedures of the products listed in recommended systems.

- For self-leveling broadcast applications:
  - Mix catalyst and Part A as instructed above. Slowly add Type S aggregate at 19 pounds per gallon of mixed resin in a mortar mixer. Blend materials until no lumps remain and the aggregate is uniformly mixed with the resin. Apply via notched trowel and/or squeegee to desired thickness. Broadcast 40-60 mesh silica sand to rejection. Apply topcoats as indicated, following application procedures of the products listed in recommended systems.

- For mortar laminate applications:
  - Mix catalyst and Part A as instructed above. Slowly add Type M aggregate at 20 pounds per gallon to the mixed resin in a mortar mixer. Blend materials until no lumps remain and the aggregate is uniformly mixed with the resin. Apply via hand trowel to desired thickness. Apply topcoats as indicated, following application procedures of the products listed in recommended systems. Always trowel from the bottom upwards.

- For resin coat and fiberglass saturant applications:
  - Mix catalyst and Part A as instructed above. Apply at the recommended film thickness and spreading rate as indicated under the Recommended Systems. Use ribbed roller to remove folds and air pockets and to firmly embed the fiberglass into the base coat.

**CLEAN UP INSTRUCTIONS**

Clean spills and spatters immediately with MEK, R6K10. Clean tools immediately after use with MEK, R6K10. Follow manufacturer's safety recommendations when using any solvent.

**DISCLAIMER**

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

**WARRANTY**

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**APPLICATION GUIDELINES**

Apply paint at the recommended film thickness and spreading rate as indicated below:

**Recommended Spreading Rate per coat**:  
*Varies with system and application. See recommended systems. Not to be used as a stand alone coating.*

**Drying Schedule @ 20.0 mils wet (500 microns):**  
- @ 60°F/16°C  
- @ 73°F/23°C  
- @ 90°F/32°C  
- 50% RH

To recoat:

- minimum: 12 hours  
- maximum*: 4 days  
- 2 hours  
- 72 hours  
- 48 hours  
- To handle: 16 hours  
- 6 hours  
- 3 hours  
- To cure: 48 hours  
- 24 hours  
- 16 hours  
- *If uncertain, test by rubbing surface with styrene. If surface does not become tacky, surface must be lightly blasted or sanded prior to recoating. If maximum recoat time is exceeded, abrade surface before recoating. Drying time is temperature, humidity, and film thickness dependent. Pot Life:  
- 20-25 minutes  
- Sweat-in-Time: None required

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

**PERFORMANCE TIPS**

For concrete, always perform Calcium Chloride test as per ASTM F1869. Do not proceed with MVE >3 lbs.

For steel, stripe coat all chine, welds, bolted connections, and sharp angles to prevent early failure in these areas.

Pot life of this material is moderately short. Working time can be extended by mixing small batches and by getting material out of mixing containers and on to the working surface in desired film thickness as quickly as possible.

Spreading rates are calculated on volume solids and do not include an allowance for loss of material during mixing, spillage, overthinning, wetting up, and other loss of material. Spreading rates may adversely affect coating performance.

**For Immersion Service:** (if required) Holiday test in accordance with ASTM D5162 for steel, or ASTM D4787 for concrete.

Use of Corobond Conductive Epoxy Primer on concrete is recommended in order to provide a uniform conductive underlayment. Repair holidays found prior to application of final coat.

Do not apply material beyond recommended pot life.

Do not mix previously catalyzed material with new.

Consult your Sherwin-Williams representative for specific application and performance recommendations.

Refer to Product Information sheet for additional performance characteristics and properties.

**SAFETY PRECAUTIONS**

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.