SEAGUARD® 5000 HS EPOXY

PRODUCT INFORMATION

PRODUCT DESCRIPTION

SEAGUARD 5000 HS EPOXY is a high performance and high solids, polyamine cured epoxy that is designed to be used as a part of an anticorrosive system for marine applications, or as a lining system for fuel, brine, ballast and non-potable water tanks.

- Complies with IMO Performance Standard for Protective Coatings SOLAS REGULATIONS II-1/3-2 and XII/6.3
- Corrosion resistant
- Outstanding adhesion
- Qualified to MIL-PRF-24647 for underwater hull
- Qualified to MIL-PRF-23236 for ballast tanks and fuel tanks

PRODUCT CHARACTERISTICS

Finish: Low Sheen
Color: Black, Off White, Red Deck, Green, Gray, Buff
Volume Solids: 73% ± 2% mixed
Weight Solids: 79% ± 2% mixed
VOC (EPA Method 24): <250 g/L; 2.08 lb/gal
Mix Ratio: 1:1 by volume (2 components)

Recommended Spreading Rate per coat:

<table>
<thead>
<tr>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet mils (microns)</td>
<td>7.0 (175)</td>
</tr>
<tr>
<td>Dry mils (microns)</td>
<td>5.0 (125)</td>
</tr>
<tr>
<td>Coverage sq ft/gal (m²/L)</td>
<td>167 (4.1)</td>
</tr>
<tr>
<td>Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft</td>
<td>1168 (28.6)</td>
</tr>
</tbody>
</table>

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 7.0 mils wet (175 microns):

- To touch: 8 hours @ 35°F/1.7°C, 5 hours @ 50°F/10°C, 4 hours @ 77°F/25°C, 2 hours @ 110°F/43°C
- To recoat: minimum: 24 hours @ 35°F/1.7°C, 12 hours @ 50°F/10°C, 6 hours @ 77°F/25°C, 3 hours @ 110°F/43°C
- Maximum*: 90 days @ 35°F/1.7°C, 90 days @ 50°F/10°C, 90 days @ 77°F/25°C, 90 days @ 110°F/43°C
- To cure: 20 days @ 35°F/1.7°C, 14 days @ 50°F/10°C, 7 days @ 77°F/25°C, 7 days @ 110°F/43°C

*Two weeks maximum for alkyd and urethane topcoats.

If maximum recoat time is exceeded, abrade surface before recoating.

Drying time is temperature, humidity, and film thickness dependent.

Pot Life: 8 hours @ 80°F (27°C), 6 hours @ 95°F (35°C), 2 hours @ 110°F (43°C), 1 hour @ 125°F (52°C)

Sweat-in-Time: None

Application of the antifouling coating shall occur while the epoxy coat is still tacky. Refer to the Application Bulletin for the definition of "TACKY".

Shelf Life: 36 months, unopened

Store indoors at 40°F (4.5°C) to 100°F (38°C)

Flash Point (ADMIX): 110°F (43°C) PMCC

Reducer/Clean Up: R7K130 (all temperatures), R7K100, R2K5

Revised: March 27, 2013

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### RECOMMENDED SYSTEMS

<table>
<thead>
<tr>
<th>Steel or Aluminum, immersion:</th>
<th>2 cts. SeaGuard 5000 HS Epoxy</th>
<th>5.0-7.0 (125-175)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel or Aluminum, underwater hull:</td>
<td>2 cts. SeaGuard 5000 HS Epoxy</td>
<td>5.0-7.0 (125-175)</td>
</tr>
<tr>
<td>1-2 cts. SeaGuard antifoulant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel or Aluminum, atmospheric:</td>
<td>1-2 cts. SeaGuard 5000 HS Epoxy</td>
<td>5.0-7.0 (125-175)</td>
</tr>
<tr>
<td>1-2 cts. Sherthane 2K</td>
<td>2.0-4.0 (50-100)</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td>1-2 cts. Polysiloxane XLE-80 HAPS Free</td>
<td>5.0-7.0 (125-175)</td>
</tr>
<tr>
<td>or</td>
<td>1-2 cts. SeaGuard 1000</td>
<td>2.0-3.0 (50-75)</td>
</tr>
<tr>
<td>or</td>
<td>1-2 cts. Hi-Solids Polyurethane</td>
<td>3.0-5.0 (75-125)</td>
</tr>
<tr>
<td>Galvanized, atmospheric:</td>
<td>1 cts. SeaGuard 5000 HS Epoxy</td>
<td>4.0-7.0 (100-175)</td>
</tr>
<tr>
<td>1-2 cts. Sherthane 2K</td>
<td>2.0-4.0 (50-100)</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td>1-2 cts. Polysiloxane XLE-80 HAPS Free</td>
<td>5.0-7.0 (125-175)</td>
</tr>
<tr>
<td>or</td>
<td>1-2 cts. SeaGuard 1000</td>
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</tr>
<tr>
<td>or</td>
<td>1-2 cts. Hi-Solids Polyurethane</td>
<td>3.0-5.0 (75-125)</td>
</tr>
</tbody>
</table>

### Seawater Ballast Tank Applications

In accordance with IMO Resolution MSC.215(82) PSPC, all application requirements specified in PSPC Table 1 have to be strictly adhered to.

- **Substrate:** Abrasive blasting to Sa 2.5 (ISO 8501-1), SSPC-SP-10.
- **Surface profile:** 30 - 75 microns as per ISO 8503-1/3.
- **Water soluble contaminants:** ≤ 50mg/m² of sodium chloride. Conductivity measured in accordance with ISO 8502-9.
- **Dry film thickness:** PSPC stipulates a Nominal Dry Film Thickness (NDFT) of 320 microns obtained in 2 coats. The film thickness distribution is measured in accordance with the 90/10 rule. Maximum total dry film thickness not to exceed 1000 microns/40 mils.
- **Coating sequence:** Red, followed by light grey.
- **Stripe coats:** 2 strip coats in alternating colors must be applied as part of the system.

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

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**SEAGUARD® 5000 HS EPOXY**

**PART A** N11B350 BLACK  **PART A** N11W350 OFF WHITE

**PART A** N11R350 RED  **PART A** N11G350 GREEN

**PART A** N11H350 BUFF  **PART A** N11A350 GRAY

**PART B** N11V350 HARDENER

### PRODUCT INFORMATION

#### RECOMMENDED SYSTEMS

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8507-1</th>
<th>Swedish Std.</th>
<th>SSPC</th>
<th>NACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Metal</td>
<td>Sa 3</td>
<td>Sa 3</td>
<td>SP 5</td>
<td>1</td>
</tr>
<tr>
<td>Near White Metal</td>
<td>Sa 2.5</td>
<td>Sa 2.5</td>
<td>SP 6</td>
<td>3</td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2</td>
<td>Sa 2</td>
<td>SP 7</td>
<td>4</td>
</tr>
<tr>
<td>Brush-Off Blast</td>
<td>Sa 1</td>
<td>Sa 1</td>
<td>SP 8</td>
<td>5</td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
<td>Rusted</td>
<td>C St 2</td>
<td>SP 2</td>
<td>-</td>
</tr>
<tr>
<td>Power Tool Cleaning</td>
<td>Rusted</td>
<td>D St 2</td>
<td>SP 2</td>
<td>-</td>
</tr>
</tbody>
</table>

### SURFACE PREPARATION

- **Temperature:** 35°F (1.7°C) minimum, 110°F (43°C) maximum (air, surface, and material).
- **Relative humidity:** At least 5°F (2.8°C) above dew point 85% maximum.
- **Do not tint.**

Refer to product Application Bulletin for detailed application information.

### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Packing</th>
<th>1 gallon (3.78L) and 5 gallon (18.9L) containers</th>
<th>1 gallon (3.78L) and 5 gallon (18.9L) containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>12.73 ± 0.2 lb/gal; 1.5 Kg/L</td>
<td>11.43 ± 0.2 lb/gal; 1.4 Kg/L</td>
</tr>
<tr>
<td>Mixed</td>
<td>12.08 ± 0.2 lb/gal; 1.45 Kg/L</td>
<td></td>
</tr>
</tbody>
</table>

### 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.

### WARRANTY

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**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 / Aluminum, 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 or SSPC-SP12/NACE No. 5. For SSPC-SP10/NACE 2, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2.0 mils / 50 microns). For SSPC-SP12/NACE No. 5, all surfaces to be coated shall be cleaned in accordance with WJ-2M/SC-2 standards. Pre-existing profile should be approximately 2.0 mils (50 microns). Remove all weld spatter and round all sharp edges. Prime any bare steel the same day as it is cleaned.

**Iron & Steel / Aluminum, Atmospheric Service:**
Minimum surface preparation is Hand Tool Clean per SSPC-SP2 or SSPC-SP12/NACE No. 5. For surfaces prepared by SSPC-SP2, first remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6/NACE 3, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2.0 mils / 50 microns). For surfaces prepared by SSPC-SP12/NACE No. 5, all surfaces shall be cleaned in accordance with WJ-3M/SC-2. Pre-existing profile should be approximately 2.0 mils (50 microns). Prime any bare steel the same day as it is cleaned.

**Galvanized Steel:**
Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1 (recommended solvent is VM&P Naphtha). When weathering is not possible, or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test patch. Allow paint to dry at least one week before testing adhesion. If adhesion is poor, brush blasting per SSPC-SP7 is necessary to remove these treatments. Rusty galvanizing requires a minimum of Hand Tool Cleaning per SSPC-SP2, prime the area the same day as cleaned.

**Previously Painted Surfaces**
If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this product attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

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**SURFACE PREPARATION STANDARDS**

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8501-1</th>
<th>BS7079.A1</th>
<th>Swedish Std</th>
<th>SSPC</th>
<th>NACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Metal</td>
<td>Sa 1</td>
<td>Sa 1</td>
<td>Sa 1</td>
<td>SP 1</td>
<td>SA3</td>
</tr>
<tr>
<td>Near White Metal</td>
<td>Sa 2</td>
<td>Sa 2</td>
<td>Sa 2</td>
<td>SP 2</td>
<td>SA2</td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2</td>
<td>Sa 2</td>
<td>Sa 2</td>
<td>SP 3</td>
<td>SA2</td>
</tr>
<tr>
<td>Brush-Off Blast</td>
<td>Sa 1</td>
<td>Sa 1</td>
<td>Sa 1</td>
<td>SP 4</td>
<td>SA1</td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
<td>Rusted</td>
<td>C St 3</td>
<td>C St 3</td>
<td>SP 7</td>
<td>SP3</td>
</tr>
<tr>
<td></td>
<td>Pitted &amp; Rusted</td>
<td>D St 3</td>
<td>D St 3</td>
<td>SP 8</td>
<td>SP3</td>
</tr>
<tr>
<td>Power Tool Cleaning</td>
<td>Rusted</td>
<td>C St 2</td>
<td>C St 2</td>
<td>SP 9</td>
<td>SP3</td>
</tr>
<tr>
<td></td>
<td>Pitted &amp; Rusted</td>
<td>D St 3</td>
<td>D St 3</td>
<td>SP10</td>
<td>SP3</td>
</tr>
</tbody>
</table>

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**APPLICATION CONDITIONS**

- **Temperature:** 35°F (1.7°C) minimum, 110°F (43°C) maximum (air, surface, and material)
- **Relative humidity:** 85% maximum

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**APPLICATION EQUIPMENT**

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.

**Reducer/Clean Up**
Reducer #130, R7K130

**Airless Spray**
- Pressure: 2400 psi
- Hose: 1/4" ID
- Tip: .017" - .031"
- Filter: 60 mesh
- Reduction: As needed, up to 5% by volume

**Brush**
- Brush: Natural Bristle
- Reduction: Not recommended

**Roller**
- Cover: 3/8" - 1/2" woven with solvent resistant core
- Reduction: Not recommended

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

Surface preparation must be completed as indicated. Mix contents of each component thoroughly with low speed power agitation. Make certain no pigment remains on the bottom of the cans. Then combine one part by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation. Allow the material to sweat-in as indicated. Re-stir before using.

If reducer solvent is used, add only after both components have been thoroughly mixed, after sweat-in.

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

<table>
<thead>
<tr>
<th>Recommended Spreading Rate per coat:</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet mils (microns)</td>
<td>7.0 (175)</td>
<td>10.0 (250)</td>
</tr>
<tr>
<td>Dry mils (microns)</td>
<td>5.0 (125)</td>
<td>7.0 (175)</td>
</tr>
<tr>
<td>Coverage sq ft/gal</td>
<td>167 (4.1)</td>
<td>234 (5.7)</td>
</tr>
<tr>
<td>Theoretical coverage sq ft/gal</td>
<td>1168 (28.6)</td>
<td></td>
</tr>
</tbody>
</table>

**CLEAN UP INSTRUCTIONS**

Clean spills and spatters immediately with Reducer #130, R7K130. Clean tools immediately after use with Reducer #130, R7K130. Follow manufacturer’s safety recommendations when using any solvent.

**SAFETY PRECAUTIONS**

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**APPLICATION BULLETIN 9.40**

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PART A N11A350 GRAY  
PART B N11V350 HARDENER

**APPLICATION PROCEDURES**

Application of solvent based alkyd coating, such as MIL-PRF-24635, shall be applied when the epoxy is "dry to the touch, but not fully cured." (For example prior to 7 days @ 77°F/25°C).

**CLEAN UP INSTRUCTIONS**

Clean spills and spatters immediately with Reducer #130, R7K130. Clean tools immediately after use with Reducer #130, R7K130. Follow manufacturer’s safety recommendations when using any solvent.

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**PERFORMANCE TIPS**

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Excessive reduction of material can affect film build, appearance, and adhesion.

Excessive film build, poor ventilation, and cool temperatures may cause solvent entrapment and premature coating failure.

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

Do not apply the material beyond recommended pot life.

Do not mix previously catalyzed material with new.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer #130, R7K130.

Material must be at least 50°F/10°C prior to catalyzing.

Application of the antifoulant coating shall occur when the last coat of epoxy anticorrosive is still tacky. If the epoxy is hard, apply a tack coat of epoxy anticorrosive at 1-2 mils (25-50 microns) WFT over previously painted surfaces. "Tacky" is defined as that curing (drying) stage when a fingertip pressed lightly against the film leaves only a slight impression and none of the film sticks to the finger.

Application of solvent based alkyd coating, such as MIL-PRF-24635, shall be applied when the epoxy is "dry to the touch, but not fully cured." (For example prior to 7 days @ 77°F/25°C).

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

**SPECIAL NOTES**

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