**Product Description**

Fast Clad ER Epoxy is an edge retentive, ultra high solids epoxy amine coating engineered for immersion service in sea water ballast tanks, fuel/sea water ballast tanks, and petroleum storage tanks. The rapid return to service and high build, edge retentive properties of this coating provide superior protection compared to conventional epoxies.

- One coat protection
- Fast return to service
- Low odor
- Dry to walk-on within four hours
- Designed for plural-component application equipment
- Greater than 70% edge build retention
- Low Temperature application and cure capabilities to 35°F

**Product Characteristics**

- **Finish:** Gloss
- **Color:** White-Base, Blue OAP, Red Oxide
- **Volume Solids:** 100%, mixed
- **Weight Solids:** 100%, mixed
- **VOC (EPA method #24):** <85 g/L; 0.71 lb/gal, mixed
- **Mix Ratio:** 1:1 by volume

*Recommended Spreading Rate per coat:*

<table>
<thead>
<tr>
<th>Wet mils (microns)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.0 (450)</td>
<td>22.0 (550)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dry mils (microns)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.0 (450)</td>
<td>22.0 (550)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coverge sq ft/gal (m²/L)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>~Coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft</td>
<td>73 (1.8)</td>
<td>89 (2.2)</td>
</tr>
<tr>
<td>Theoretical coverage sq ft/gal (m²/L)</td>
<td>1604 (39.4)</td>
<td></td>
</tr>
</tbody>
</table>

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

**Drying Schedule @ 20.0 mils (500 microns):**

- **To touch:** 6 hours
- **To handle:** 8-12 hours
- **To recoat:**
  - minimum: 6 hours
  - maximum: 14 days
- **Foot traffic:** 8-12 hours
- **Cure to service:** 36 hours
- **Pot Life:** 7 minutes
- **Sweat-in-Time:** None required

**Shelf Life:** 24 months

**Flash Point:** 230°F (110°C), PMCC, mixed

**Reducer:** Not recommended

**Clean Up:** MEK (R6K10) or Reducer R7K104

**Recommended Uses**

For use over prepared steel or masonry surfaces in industrial and marine exposures such as:

- Ballast tank interiors and oil storage tank interiors
- Fuel storage tanks and external pipeline coating
- Primary or Secondary containment
- Acceptable for use with cathodic protection systems
- Where rapid return to service and edge protection film build properties are required
- Meets MIL-PRF-23236 Type VII, Class 5, 7, 5/18, 7/18, 13/18, 17, 17/18 Grade C requirements for single and multi-coat seawater, fuel, bilges, and CHT tanks
- Blue OAP contains fluorescent pigment
- Wind tower gearbox lining and transformer lining up to 204°F (96°C)
- Suitable for use in the Mining & Minerals Industry

**Performance Characteristics**

**Substrate:** Steel

**Surface Preparation:** SSPC-SP10

**System Tested:**

- 1 ct. Fast Clad ER Epoxy @ 18.0-22.0 mils (450-550 microns) dft *unless otherwise noted below

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Test Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion Resistance</td>
<td>ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load</td>
<td>22.4 mg loss</td>
</tr>
<tr>
<td>Adhesion</td>
<td>ASTM D4541</td>
<td>&gt;2000 psi</td>
</tr>
<tr>
<td>Cathodic Bonding</td>
<td>ASTM G8</td>
<td>Passes 30 days @ 1.5 volts (Cu/CuSO₄), &lt;10 mm disbondment radius</td>
</tr>
<tr>
<td>Corrosion Weathering</td>
<td>ASTM D5894, 4 cycles, 1134 hours</td>
<td>Rating 10 per ASTM D610 for Rusting (field); Rating 10 per ASTM D714 for Blistering (field)</td>
</tr>
<tr>
<td>Direct Impact Resistance</td>
<td>ASTM D2794</td>
<td>15 in-lb</td>
</tr>
<tr>
<td>Dry Heat Resistance</td>
<td>ASTM D2485</td>
<td>250°F (121°C)</td>
</tr>
<tr>
<td>Flexibility</td>
<td>ASTM D2522</td>
<td>7/16” (24-hour cure)</td>
</tr>
<tr>
<td>Moisture Condensation Resistance</td>
<td>ASTM D4585, 100°F (38°C), 2000 hours</td>
<td>Rating 10 per ASTM D610 for Rusting (field); Rating 10 per ASTM D714 for Blistering (field)</td>
</tr>
<tr>
<td>Pencil Hardness</td>
<td>ASTM D3363</td>
<td>H</td>
</tr>
</tbody>
</table>

*Report No. IM54.1382-09

**Immersion (ambient temperature) for the following:**

- Ballast tank mix: Recommended
- Crude oil: Recommended
- Fresh water: Recommended
- Gasoline: Recommended
- Sea water: Recommended
- Reformulated gasoline: Recommended
- Kerosene: Recommended

*Epoxy coatings may darken or yellow after application and curing.*
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**Recommended Systems**

<table>
<thead>
<tr>
<th>Part A</th>
<th>Part B</th>
<th>Part C</th>
</tr>
</thead>
<tbody>
<tr>
<td>B62W230</td>
<td>B622V230</td>
<td>B62AV230</td>
</tr>
</tbody>
</table>

**Steel, immersion:**
- 1 ct. Fast Clad ER Epoxy 18.0-22.0 (450-550)
- 2 cts. Fast Clad ER Epoxy 9.0 – 11.0 (225-275)

**Concrete, immersion:**
- 1 ct. Corobond 100 Epoxy Primer/Sealer; apply primer to achieve uniform hiding, appearance, and complete wetting of the concrete surface, approximately 4-6. Coating will be partially absorbed into the concrete. Roll out any puddles.

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

**Surface Preparation**

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.

**Minimum recommended surface preparation:**
- Immersion: SSPC-SP10/NACE 2.3 mil (50-75 micron) profile or SSPC-SP12/NACE No. 5, WJ-2/SC-2

**Concrete & Masonry:**
- Atmospheric: SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP2-3
- Immersion: SSPC-SP13/NACE 6-4.3.1 or 4.3.2, or ICRI No. 310.2R, CSP2-3

**Tinting**

Do not tint part A. 5 gallons (18.9L) of clear hardener part B may be tinted with up to 2.75 ounces of Maxitoner Colorant Phthalo Green or Black only.

**Application Conditions**

- Temperature: Air & surface: 40°F (4.5°C) minimum*, 110°F (43°C) maximum
- Relative humidity: 85% maximum

*For application at 35°F (1.7°C) to 40°F (4.5°C), specific guidelines are required:
- Air & Surface temperature conditions must be expected to remain stable or improve for a period of four hours.
- Environmental controls (dehumidication, heating, forced-air ventilation) are recommended to maintain acceptable application conditions.
- Final cure must be confirmed in accordance with ASTM D5402, “Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs”.

The material should be 85°F-130°F/29°C-54°C (vary as needed) at the mixing block for optimal atomization based on tip size and pump pressure. Do not heat above 140°F/60°C.

**Ordering Information**

- **Packaging:**
  - Part A: 5 gallon (18.9L) container
  - Part B: 5 gallon (18.9L) container
- **Weight:** 11.71, ± 0.3 lb/gal ; 1.4 Kg/L, mixed

**Disclaimer**

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**Warranty**

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**Safety Precautions**

Refer to the MSDS sheet before use.

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**Surface Preparation Standards**

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8501-1/BS7074:1/SSPC</th>
<th>Swedish Std.</th>
<th>SIS055900</th>
<th>SSPC</th>
<th>NACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rusted</td>
<td>Sa 3 Sa 2.5 Sa 2 Sa 1</td>
<td>C St 2 D St 2 C St 3 D St 3</td>
<td>Sa 3 Sa 2 Sa 1</td>
<td>C St 2 D St 2 C St 3 D St 3</td>
<td>SP 10 2 7 3</td>
</tr>
<tr>
<td>Painted &amp; Rusted</td>
<td>Sa 3 Sa 2 Sa 1</td>
<td>C St 2 D St 2 C St 3 D St 3</td>
<td>Sa 3 Sa 2 Sa 1</td>
<td>C St 2 D St 2 C St 3 D St 3</td>
<td>SP 10 2 7 3</td>
</tr>
</tbody>
</table>

**Power Tool Cleaning**

- **Rusted**
  - Sa 3 Sa 2 Sa 1 | C St 2 D St 2 C St 3 D St 3 | SP 10 2 7 3 |
- **Painted & Rusted**
  - Sa 3 Sa 2 Sa 1 | C St 2 D St 2 C St 3 D St 3 | SP 10 2 7 3 |

**Environmental Controls**

Refer to product Application Bulletin for detailed surface preparation information.

Do not heat above 140°F/60°C.
### 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 (atmospheric service)**

Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6/NACE 3 or SSPC-SP12/NACE No. 5. For surfaces prepared by SSPC SP6/NACE 3, first remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. 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 (2-3 mils / 50-75 microns). For surfaces prepared by SSPC-SP12/NACE No. 5, all surfaces shall be cleaned in accordance with WJ-3/SC2. Pre-existing profile should be approximately 2 mils (50 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

**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, or SSPC-SP12/NACE No. 5. For SSPC-SP10/NACE 2, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2-3 mils / 50-75 microns). For SSPC-SP12/NACE No. 5, all surfaces to be coated shall be cleaned in accordance with WJ-3/SC2. Pre-existing profile should be approximately 2 mils (50 microns). Remove all weld spatter. 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. 310.2R, CSP 2-3. 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 pockets and other voids with Steel-Seam FT910. Primer required.

**Concrete, Immersion Service**

For surface preparation, refer to SSPC-SP13/NACE 6, Section 4.3.1 or 1.3.2 or ICRI No. 310.2R, CSP 2-3.

**Surface Preparation Standards**

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8501-1 BS 7679:1</th>
<th>Swedish Std. SS055900</th>
<th>SSPC NACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Metal</td>
<td>Sa 3</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>
<td>Sa 2.5</td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2</td>
<td>Sa 2</td>
<td>Sa 2</td>
</tr>
<tr>
<td>Brush-Off Blast</td>
<td>Sa 1</td>
<td>Sa 1</td>
<td>Sa 1</td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
<td>Rusted D St 2 C St 2</td>
<td>Rusted D St 2 C St 2</td>
<td>Rusted D St 2 C St 2</td>
</tr>
<tr>
<td></td>
<td>Pitted &amp; Rusted D St 2</td>
<td>Pitted &amp; Rusted D St 2</td>
<td>Pitted &amp; Rusted D St 2</td>
</tr>
<tr>
<td>Power Tool Cleaning</td>
<td>Rusted D St 3 C St 3</td>
<td>Rusted D St 3 C St 3</td>
<td>Rusted D St 3 C St 3</td>
</tr>
<tr>
<td></td>
<td>Pitted &amp; Rusted D St 3</td>
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**Application Conditions**

- **Temperature:**
  - Air & surface: 40°F (4.5°C) minimum*, 110°F (43°C) maximum

- **Relative humidity:** 85% maximum

*For application at 35°F (1.7°C) to 40°F (4.5°C), specific guidelines are required:
- Air & Surface temperature conditions must be expected to remain stable or improve for a period of four hours.
- Environmental controls (dehumidification, heating, forced-air ventilation) are recommended to maintain acceptable application conditions.
- Final cure must be confirmed in accordance with ASTM D8402, “Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs”. Test shall consist of 50 double rubs with MEK. Test shall confirm no loss of DFT, and no coating residue on rubbing cloth.

The material should be 85°F-130°F/29°C-54°C (vary as needed) at the mixing block for optimal atomization based on tip size and pump pressure. Do not heat above 140°F/60°C.

**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.

**Reduction** Not recommended

**Clean Up** MEK (R6K10) or R7K104

**Plural Component Equipment**

- Pump.................WIWA DUOMIX 1:1, Graco Extreme Mix, Graco XM, or Graco XP
- Pressure..............4000 psi
- Hose...................3/8" ID
- Tip....................021" - .025"
- Pump heater setting.....70 - 80
- Material temperature at gun tip..................85°F-130°F (29°C-54°C) (vary as needed)

**Brush** For stripe coating and repair only

**Roller** For stripe coating and repair only

- Cover...............3/8" woven with solvent resistant core

If specific application equipment is not listed above, equivalent equipment may be substituted.
Application Bulletin

Application Procedures

Surface preparation must be completed as indicated.

Mixing Instructions: Mix contents of each component thoroughly using low speed power agitation. Make certain no pigment remains on the bottom or the sides of the can. Then combine one part by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation.

To ensure that no unmixed material remains on the sides or bottom of the cans after mixing, visually observe the container by pouring the material into a separate container.

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>18.0 (450)</td>
<td>22.0 (550)</td>
</tr>
<tr>
<td>Dry mils (microns)</td>
<td>18.0 (450)</td>
<td>22.0 (550)</td>
</tr>
<tr>
<td>~Coverage sq ft/gal (m²/L)</td>
<td>73 (1.8)</td>
<td>89 (2.2)</td>
</tr>
</tbody>
</table>

*Can be applied up to 60.0 mils (1500 microns) dft if required.

Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft: 1604 (39.4)

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

Drying Schedule @ 20.0 mils (500 microns):

<table>
<thead>
<tr>
<th>@ 40°F/4.5°C</th>
<th>@ 77°F/25°C</th>
<th>@ 100°F/38°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% RH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To touch:</td>
<td>6 hours</td>
<td>1 hour</td>
</tr>
<tr>
<td>To handle:</td>
<td>8-12 hours</td>
<td>3 hours</td>
</tr>
<tr>
<td>To recoat:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>minimum:</td>
<td>6 hours</td>
<td>1 hour</td>
</tr>
<tr>
<td>maximum:</td>
<td>14 days</td>
<td>14 days</td>
</tr>
<tr>
<td>Foot traffic:</td>
<td>8-12 hours</td>
<td>3 hours</td>
</tr>
<tr>
<td>Cure to service:</td>
<td>36 hours</td>
<td>24 hours</td>
</tr>
<tr>
<td>Pot Life:</td>
<td>7 minutes</td>
<td></td>
</tr>
<tr>
<td>Sweat-in-Time:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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.

Safety Precautions

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