FAST CLAD® DTM URETHANE
DIRECT-TO-METAL URETHANE

PART A  B65-850  SERIES  PART B  B65V850  HARDENER

PRODUCT INFORMATION

PRODUCT DESCRIPTION

FAST CLAD DTM URETHANE is a single coat, direct-to-metal urethane finish. It is a fast dry, polyaspartic urethane formulated to provide high build, high performance protection with excellent gloss and color retention through airless spray.

- Single coat application
- Direct to metal
- Corrosion resistant
- High film build in one coat
- Cures quickly to improve productivity
- No gassing
- Outstanding application properties

PRODUCT CHARACTERISTICS

Finish:  Gloss
Color:  Wide range of colors possible
Volume Solids:  62% ± 2%, mixed, may vary by color
Weight Solids:  75% ± 2%, mixed, may vary by color
VOC (EPA Method 24):  <340 g/L; 2.80 lb/gal, mixed, may vary by color
Mix Ratio:  3:1 by volume

Recommended Spreading Rate per coat:

<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>120 mg loss</td>
</tr>
<tr>
<td>Accelerated Weathering - QUV</td>
<td>ASTM D4587, QUV-A, 2000 hours</td>
<td>70% gloss retention</td>
</tr>
<tr>
<td>Adhesion</td>
<td>ASTM D4541</td>
<td>1400 psi</td>
</tr>
<tr>
<td>Corrosion Weathering</td>
<td>ASTM D5894, 8 cycles, 2688 hours</td>
<td>Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting</td>
</tr>
<tr>
<td>Direct Impact Resistance</td>
<td>ASTM G14</td>
<td>60 in lb</td>
</tr>
<tr>
<td>Dry Heat Resistance</td>
<td>ASTM D2485</td>
<td>200°F (93°C)</td>
</tr>
<tr>
<td>Exterior Durability</td>
<td>1 year at 45° South</td>
<td>Excellent</td>
</tr>
<tr>
<td>Flexibility</td>
<td>ASTM D522, 180° bend, 3/4&quot; mandrel</td>
<td>Passes</td>
</tr>
<tr>
<td>Pencil Hardness</td>
<td>ASTM D3363</td>
<td>HB</td>
</tr>
<tr>
<td>Radiation Tolerance</td>
<td>ASTM D4082 / ANSI 5.12</td>
<td>Pass at 18 mils (450 microns)</td>
</tr>
<tr>
<td>Salt Fog Resistance</td>
<td>ASTM B117, 1000 hours</td>
<td>Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting</td>
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Recommended Uses

- For use directly over properly prepared steel in industrial environments
- Replaces conventional epoxy/urethane systems
- Ideal for maintenance or new construction applications
- Not recommended for electrostatic spray or air-assisted airless spray
- Suitable for use in USDA inspected facilities
- Acceptable for use in high performance architectural applications.
- This product meets specific design requirements for non-safety related nuclear plant applications in Level II, III and Balance of Plant, and DOE nuclear facilities.
- Nuclear Power Plants
- DOE Nuclear Fuel Facilities
- Nuclear fabrication shops
- DOE Nuclear Weapons Facilities

* Nuclear qualifications are NRC license specific to the facility.

PERFORMANCE CHARACTERISTICS

Substrate*: Steel
Surface Preparation*: SSPC-SP10/NACE 2
System Tested*: 1 ct. Fast Clad DTM Urethane @ 6.0-9.0 mils (150-225 microns) dft

Test Name                  | Test Method            | Results                      |
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Meets the requirements of SSPC-Paint 39, Level III (QUV).

Shelf Life:
- Part A - 24 months, unopened
- Part B - 24 months, unopened
- Store indoors at 40°F (4.5°C) to 100°F (38°C).

Flash Point:
- 57°F (14°C), mixed (Seta Flash)
- Below 80°F (27°C): MEK, R6K10
- Above 80°F (27°C): Reducer R7K216

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FAST CLAD® DTM URETHANE
DIRECT-TO-METAL URETHANE

PART A
PART B
B65-850
B65V850
SERIES
HARDENER

PROTECTIVE & MARINE COATINGS

PART A
B65-850
PART B
B65V850

PRODUCT INFORMATION

**RECOMMENDED SYSTEMS**

<table>
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<tr>
<th>Dry Film Thickness / ct.</th>
<th>Miles</th>
<th>Microns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel: 1 ct. Fast Clad DTM Urethane</td>
<td>6.0-9.0</td>
<td>(150-225)</td>
</tr>
<tr>
<td>Steel and Galvanizing: 1 ct. DTM Wash Primer</td>
<td>0.7-1.3</td>
<td>(18-32)</td>
</tr>
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<td>6.0-9.0</td>
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* other acceptable primers

- Fast Clad Zinc HS
- Macropoxy 646 Epoxy
- Steel Spec Epoxy Primer
- Zinc Clad III HS
- Zinc Clad IV

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.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

- Iron & Steel: SSPC-SP6/NACE 3, 2 mil (50 micron) profile

<table>
<thead>
<tr>
<th>Condition of Surface</th>
<th>ISO 8501-1</th>
<th>BS7679:A1</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>
<td></td>
</tr>
<tr>
<td>Commercial Blast</td>
<td>Sa 2</td>
<td>Sa 2</td>
<td>SP 6</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Brush-Off Blast</td>
<td>Sa 1</td>
<td>Sa 1</td>
<td>SP 7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Hand Tool Cleaning</td>
<td>Rusted</td>
<td>C St 2</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 3</td>
<td>D St 3</td>
<td>SP 3</td>
<td></td>
</tr>
</tbody>
</table>

**TINTING**

Tint with Maxitoner colorants only into Part A at 100% tint strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

**APPLICATION CONDITIONS**

Temperature: 35°F (1.6°C) minimum, 120°F (49°C) maximum (air, surface, and material)

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

**ORDERING INFORMATION**

Packaging:

- Part A: Short filled 1 gallon (3.78L) and 3 gallon (11.3L)
- Part B: Quart (0.94L) and 1 gallon (3.78L)

Weight: 11.1 ± 0.2 lb/gal ; 1.3 Kg/L

**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**

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, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
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

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.

Aluminum

Remove all oil, grease, dirt, oxide and other foreign material by Solvent Cleaning per SSPC-SP1. Primer required.

Galvanized Steel

Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1. 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.

APPLICATION CONDITIONS

Temperature: 35°F (1.6°C) minimum, 120°F (49°C) maximum (air, surface, and material)
At least 5°F (2.8°C) above dew point

Relative humidity: 85% maximum

APPLICATION EQUIPMENT

Reducer/Clean Up
Above 80°F ..........Reducer R7K216
Below 80°F ..........MEK, R6K10
Brush and roll ..........Reducer R7K216

Airless Spray
Pump .................30:1
Pressure ...............2800 - 3000 psi
Hose .................3/8” ID
Tip .................0.017” - 0.021”
Filter .................60 mesh
Reduction .............As needed up to 5% by volume

Conventional Spray
Gun ..................Binks 95
Cap ..................63P
Fluid Tip ..............67
Atomization Pressure ..50-70 psi
Fluid Pressure .........20-25 psi
Reduction .............As needed, up to 10% by volume

Brush
Brush ..................Natural bristle
Reduction .............As needed up to 5% by volume

Roller
Cover ..................1/4” woven with solvent resistant core
Reduction .............As needed up to 5% by volume

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

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DIRECT-TO-METAL URETHANE

PART A B65-850
PART B B65V850

APPLICATION BULLETIN

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 can. Then combine 3 parts by volume of Part A with 1 part by volume of Part B. Thoroughly agitate the mixture with power agitation.

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

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>10.0 (250)</td>
<td>15.0 (375)</td>
</tr>
<tr>
<td>Dry mils (microns)</td>
<td>6.0 (150)</td>
<td>9.0 (225)</td>
</tr>
<tr>
<td>Coverage sq ft/gal (m²/L)</td>
<td>110 (2.7)</td>
<td>166 (4.0)</td>
</tr>
<tr>
<td>Theoretical coverage sq ft/gal (m²/L) at 1 mil / 25 microns dft</td>
<td>992 (24.3)</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 @ 10.0 mils wet (250 microns):

<table>
<thead>
<tr>
<th>At 35°F/1.6°C</th>
<th>At 50°F/10°C</th>
<th>At 77°F/25°C</th>
<th>At 120°F/49°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>To touch:</td>
<td>5 hours</td>
<td>3 hours</td>
<td>1 hour</td>
</tr>
<tr>
<td>To handle:</td>
<td>16 hours</td>
<td>7 hours</td>
<td>2 hours</td>
</tr>
<tr>
<td>To recoat:</td>
<td>minimum: 16 hours</td>
<td>7 hours</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td>maximum: 3 months</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>To cure:</td>
<td>7 days</td>
<td>7 days</td>
<td>4 days</td>
</tr>
<tr>
<td>Pot Life:</td>
<td>4 hours</td>
<td>3 hours</td>
<td>2 hours</td>
</tr>
<tr>
<td>Sweat-in-Time</td>
<td>None required</td>
<td>None required</td>
<td>None required</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.

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.

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 MEK, R6K10.

Mixed coating is sensitive to water. Use water traps in all air lines. Moisture contact can reduce pot life and affect gloss and color.

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