



# Protective & Marine Coatings

# FAST CLAD® DTM URETHANE DIRECT-TO-METAL URETHANE

PART A  
PART B

B65-850  
B65V850

SERIES  
HARDENER

Revised 2/11

## PRODUCT INFORMATION

5.25

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

### 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:

	Minimum	Maximum
Wet mils (microns)	10.0 (250)	15.0 (375)
Dry mils (microns)	6.0 (150)	9.0 (225)
~Coverage sq ft/gal (m <sup>2</sup> /L)	110 (2.7)	166 (4.0)
Theoretical coverage sq ft/gal (m <sup>2</sup> /L) @ 1 mil / 25 microns dft	992 (24.3)	

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):

	@ 35°F/1.6°C	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	5 hours	3 hours	1 hour	30 minutes
To handle:	16 hours	7 hours	2 hours	1 hour
To recoat:				
minimum:	16 hours	7 hours	2 hours	1 hour
maximum:	3 months	3 months	3 months	45 days
To cure:	7 days	7 days	4 days	2 days
Pot Life:	4 hours	3 hours	2 hours	30 minutes
Sweat-in-Time:	None required			

If maximum recoat time is exceeded, abrade surface before recoating.  
Drying time is temperature, humidity, and film thickness dependent.

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)
Reducer/Clean Up:	
Below 80°F (27°C):	MEK, R6K10
Above 80°F (27°C):	Reducer R7K216
Brush / Roll:	Reducer R7K216

### 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
- Nuclear fabrication shops
- DOE Nuclear Fuel Facilities
- 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

\*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	120 mg loss
Accelerated Weathering - QUV	ASTM D4587, QUV-A, 2000 hours	70% gloss retention
Adhesion	ASTM D4541	1400 psi
Corrosion Weathering	ASTM D5894, 8 cycles, 2688 hours	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting
Direct Impact Resistance	ASTM G14	60 in lb
Dry Heat Resistance	ASTM D2485	200°F (93°C)
Exterior Durability	1 year at 45° South	Excellent
Flexibility	ASTM D522, 180° bend, 3/4" mandrel	Passes
Pencil Hardness	ASTM D3363	HB
Radiation Tolerance	ASTM D4082 / ANSI 5.12	Pass at 18 mils (450 microns)
Salt Fog Resistance	ASTM B117, 1000 hours	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting

Meets the requirements of SSPC-Paint 39, Level III (QUV).



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### RECOMMENDED SYSTEMS

	Dry Film Thickness / ct.	
	Mils	(Microns)
<b>Steel:</b>		
1 ct. Fast Clad DTM Urethane	6.0-9.0	(150-225)
<b>Steel and Galvanizing:</b>		
1 ct. DTM Wash Primer	0.7-1.3	(18-32)
1 ct. Fast Clad DTM Urethane	6.0-9.0	(150-225)
<b>Steel, if primer is required:</b>		
1 ct. Corothane I GalvaPac Zinc Primer	3.0-4.0*	(75-100)
1 ct. Fast Clad DTM Urethane	6.0-9.0	(150-225)
* 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

Surface Preparation Standards					
Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE	
White Metal	Sa 3	Sa 3	SP 5	1	
Near White Metal	Sa 2.5	Sa 2.5	SP 10	2	
Commercial Blast	Sa 2	Sa 2	SP 6	3	
Brush-Off Blast	Sa 1	Sa 1	SP 7	4	
Rusted	C St 2	C St 2	SP 2	-	
Hand Tool Cleaning	Pitted & Rusted	D St 2	SP 2	-	
Rusted	C St 3	C St 3	SP 3	-	
Power Tool Cleaning	Pitted & Rusted	D St 3	SP 3	-	

### 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)  
At least 5°F (2.8°C) above dew point  
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  
mixed, may vary with color

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

### DISCLAIMER

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## APPLICATION BULLETIN

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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

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

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

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 ..... .017" - .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.

#### Surface Preparation Standards

Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE
White Metal	Sa 3	Sa 3	SP 5	1
Near White Metal	Sa 2.5	Sa 2.5	SP 10	2
Commercial Blast	Sa 2	Sa 2	SP 6	3
Brush-Off Blast	Sa 1	Sa 1	SP 7	4
Hand Tool Cleaning	Rst 2	Rst 2	SP 2	-
Pitted & Rusted	D St 2	D St 2	SP 2	-
Rusted	C St 3	C St 3	SP 3	-
Power Tool Cleaning	Pitted & Rusted	D St 3	SP 3	-



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### 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:

#### Recommended Spreading Rate per coat:

	Minimum	Maximum
<b>Wet mils (microns)</b>	<b>10.0 (250)</b>	<b>15.0 (375)</b>
<b>Dry mils (microns)</b>	<b>6.0 (150)</b>	<b>9.0 (225)</b>
<b>~Coverage sq ft/gal (m<sup>2</sup>/L)</b>	<b>110 (2.7)</b>	<b>166 (4.0)</b>
<b>Theoretical coverage sq ft/gal (m<sup>2</sup>/L) @ 1 mil / 25 microns dft</b>	<b>992 (24.3)</b>	

*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):

	@ 35°F/1.6°C	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
<b>To touch:</b>	5 hours	3 hours	1 hour	30 minutes
<b>To handle:</b>	16 hours	7 hours	2 hours	1 hour
<b>To recoat:</b>				
<b>minimum:</b>	16 hours	7 hours	2 hours	1 hour
<b>maximum:</b>	3 months	3 months	3 months	45 days
<b>To cure:</b>	7 days	7 days	4 days	2 days
<b>Pot Life:</b>	4 hours	3 hours	2 hours	30 minutes
<b>Sweat-in-Time:</b>	None required			

*If maximum recoat time is exceeded, abrade surface before recoating.  
Drying time is temperature, humidity, and film thickness dependent.*

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.

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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.

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.

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

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