Protective & Marine Coatings

FAST CLAD® DTM URETHANE MASTIC

PART A B65R860 RED OXIDE
PART A B65S860 ALUMINUM
PART A B65T860 TINT BASE
PART B B65V850 HARDENER

Revised: March 13, 2013

PRODUCT INFORMATION

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PRODUCT DESCRIPTION

FAST CLAD DTM Urethane Mastic is a single coat, fast dry, high build, direct-to-metal, polyaspartic urethane containing MIO (micaceous iron oxide). It is formulated to provide high performance protection with excellent corrosion and weathering resistance.

- Single coat application
- Corrosion resistant
- Surface tolerant
- Direct to metal
- High film build in one coat
- No gassing
- Cures quickly to improve productivity
- Excellent edge protection

PRODUCT CHARACTERISTICS

Finish:	Low Sheen
Color: colors available	Red Oxide, Aluminum and select
Volume Solids:	70% ± 2%, mixed (calculated) May vary by color
Weight Solids:	84% ± 2%, mixed (calculated) May vary by color
VOC (EPA Method 24):	<250 g/L; 2.1 lb/gal, mixed May vary by color
Mix Ratio:	3:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**12.0** (300)	**18.0** (450)
Dry mils (microns)	**8.0** (200)	**12.0** (300)
~Coverage sq ft/gal (m^2/L)	**94** (2.3)	**140** (3.4)
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**1120** (27.4)	

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

Drying Schedule @ 12.0 mils wet (300 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:	36 hours	24 hours	24 hours	24 hours
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), PMCC, mixed
Reducer/Clean Up:	
Below 80°F (27°C):	MEK, R6K10
Above 80°F (27°C):	Reducer R7K216
Brush / Roll:	Reducer R7K216, or R7K132

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
- Provides "epoxy-like" performance with urethane weathering properties

PERFORMANCE CHARACTERISTICS

Substrate*: Steel
Surface Preparation*: SSPC-SP6/NACE 2
System Tested*:
1 ct. Fast Clad DTM Urethane Mastic @ 10.0 mils (250 microns) dft
*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	160 mg loss
Adhesion	ASTM D4541	800 psi
Corrosion Weathering	ASTM D5894, 15 cycles, 5040 hours	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting
Direct Impact Resistance	ASTM G14	20 in lb
Dry Heat Resistance	ASTM D2485	200°F (93°C)
Flexibility	ASTM D522, 180° bend, > 1" mandrel	Passes
Moisture Condensation Resistance	ASTM D4585, 100°F (38°C), 5000 hours	Passes, no blistering
Pencil Hardness	ASTM D3363	HB
Salt Fog Resistance	ASTM B117, 1000 hours	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting
Thermal Shock	ASTM D2246, 30 cycles	No cracking or loss of adhesion

Chemical Resistance: Resists fumes, splash, and spillage of mild acids, alkalies, salts, aliphatic and aromatic hydrocarbon solvents, and lubricating oils (ASTM D3912).

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RECOMMENDED SYSTEMS

	Dry Film Thickness / ct. Mils	(Microns)
Steel:		
1 ct. Fast Clad DTM Urethane Mastic	8.0-12.0	(200-300)
Galvanizing:		
1 ct. DTM Wash Primer	0.7-1.3	(18-32)
1 ct. Fast Clad DTM Urethane Mastic	8.0-12.0	(200-300)
Steel, if primer is required:		
1 ct. Corothane I GalvaPac Zinc Primer	3.0-4.0*	(75-100)
1 ct. Fast Clad DTM Urethane Mastic	8.0-12.0	(200-300)
Aluminum:		
1 ct. DTM Wash Primer	0.7-1.3	(18-32)
1 ct. Fast Clad DTM Urethane Mastic	8.0-12.0	(200-300)

* Other acceptable primers:
- Fast Clad Zinc HS
- Zinc Clad III HS
- Zinc Clad IV

* Acceptable topcoats:
- Acrolon 218 HS
- Hi-Solids Polyurethane
- SherThane 2K
- Corothane I- MCU
- Polylon HP

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-SP3
- Aluminum*: SSPC-SP1
- Galvanized*: SSPC-SP1

*Primer required

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 Rusted	C St 2	C St 2	SP 2	-
Hand Tool Cleaning Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning Rusted	C St 3	C St 3	SP 3	-
Power Tool Cleaning Pitted & Rusted	D St 3	D St 3	SP 3	-

TINTING

Tint with Maxitoner colorants **only** into Part A Tint Base (B65T860) at 100% tint strength. Five minutes minimum mixing on a mechanical shaker is required for complete mixing of color.

Due to MIO, only "darker" colors available.

Do not tint Part A Rex Oxide (B65R860), Part A Aluminum (B65A860), or Part B (B65V850).

APPLICATION CONDITIONS

Temperature:	35°F (1.6°C) minimum, 120°F (49°C0 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:	12.85 ± 0.2 lb/gal ; 1.5 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.

DISCLAIMER

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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.

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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 Power Tool Cleaning per SSPC-SP3. 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 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. Primer required.

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	Rusted	C St 2	C St 2	SP 2	-
	Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	C St 3	SP 3	-
	Pitted & Rusted	D St 3	D St 3	SP 3	-

APPLICATION CONDITIONS

Temperature:	35°F (1.6°C) minimum, 120°F (49°C0 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, or R7K132

Airless Spray
Pump.....30:1
Pressure.....2800 - 3000 psi
Hose.....3/8" ID
Tip .....017" - .021"
Filter.....60 mesh
Reduction.....As needed up to 15% by volume

Conventional Spray
Gun .....Binks 95
Cap 63P
Fluid Tip 69PB
Atomization Pressure.....50-70 psi
Fluid Pressure.....20-25 psi
Reduction.....As needed, up to 15% by volume

Brush
Brush.....Natural bristle
Reduction.....As needed up to 15% by volume

Roller
Cover .....3/8" woven with solvent resistant core
Reduction.....As needed up to 15% by volume

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

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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
Wet mils (microns)	**12.0** (300)	**18.0** (450)
Dry mils (microns)	**8.0** (200)	**12.0** (300)
~Coverage sq ft/gal (m^2/L)	**94** (2.3)	**140** (3.4)
Theoretical coverage **sq ft/gal** (m^2/L) @ 1 mil / 25 microns dft	**1120** (27.4)	

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

Drying Schedule @ 12.0 mils wet (300 microns):

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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:	36 hours	24 hours	24 hours	24 hours
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.

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 use Quik-Thane Urethane Accelerator.

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.

Due to the MIO in the tint base, only medium and dark colors can be shaded (Maxitoner Colorants only)

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

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