Protective & Marine Coatings

FAST CLAD® 105ER

PART A B62W105 **WHITE**
PART B B62V105 **CLEAR HARDENER**

Revised: July 18, 2019

PRODUCT INFORMATION

TRM.24

PRODUCT DESCRIPTION

FAST CLAD 105ER is a next generation, ultra high solids epoxy novolac amine coating specifically developed for immersion service in fuel/sea water tanks, petrochemical storage tanks, including ethanol as well as a coating for secondary containment for a variety of chemicals. The extremely rapid return to service, edge retentive properties and exceptionally high film build provide advanced protection and turnaround time compared other high solids epoxies.

- One coat protection up to 22 mils (550 microns) max
- Extremely rapid return to service
- Low odor
- Dry to walk-on within three hours
- Designed for plural-component application equipment
- Low Temperature application and cure capabilities to 35°F/1.7°C (See Application Conditions)

PRODUCT CHARACTERISTICS

Finish:	Gloss
Color:	White
Volume Solids:	99%, mixed
Weight Solids:	99%, mixed
VOC (EPA Method 24):	<50 g/L; 0.42 lb/gal, mixed
Mix Ratio:	1:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**18.0** (450)	***22.0** *(550)
Dry mils (microns)	**18.0** (450)	***22.0** *(550)
~Coverage sq ft/gal (m^2/L)	**72** (1.8)	**88** (2.2)

*Can be applied up to 50.0 mils (1250 microns) if required

Theoretical coverage sq ft/gal (m^2/L) @ 1 mil / 25 microns dft **1588** (39.0)

Drying Schedule @ 20.0 mils (500 microns):

	@ 35°F/1.7°C	@ 77°F/25°C *50% RH*	@ 90°F/32°C
To touch:	6.5 hours	1.5 hours	1.25 hours
To handle:	24 hours	3 hours	2.5 hours
To recoat:**			
minimum:	6.5 hours	1.5 hours	1.25 hours
maximum:	7 days	7 days	4 days
Foot traffic:	24 hours	3 hours	2.5 hours
Cure to service:	7 days	8 hours	4 hours
Pot Life:	15 minutes	15 minutes	15 minutes
Sweat-in-Time:	None required	None required	None required

**Stripe coat and small area repair only

Shelf Life:	24 months Store indoors at 40°F (4.5°C) to 100°F (38°C)
Flash Point:	230°F (110°C), PMCC, mixed
Reducer:	Not recommended
Clean Up:	MEK (R6K10) or Reducer R7K104
In California	Acetone or R7K111

RECOMMENDED USES

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

- Oil storage tank interiors
- Fuel storage tanks and external pipeline coating
- Primary or Secondary containment
- Ethanol storage tanks
- Chemical storage tanks
- Where extremely rapid return to service and edge protection film build properties are required
- Suitable for use in the Mining & Minerals Industry

PERFORMANCE CHARACTERISTICS

Substrate*: Steel

Surface Preparation*: SSPC-SP10

System Tested*:

1 ct. Fast Clad 105ER @ 18.0-22.0 mils (450-550 microns) dft
*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	39 mg loss
Adhesion	ASTM D4541	>2000 psi
Barcol Hardness	ASTM D2583	50+
Cathodic Disbondment	ASTM G8 (30 days)	8.1 mm
Direct Impact Resistance	ASTM D2794	75 in-lb
Dry Heat Resistance	ASTM D2485	250°F (121°C)
Flexibilty	NACE RP0394	1.25%
Shore D Hardness	ASTM D2240	88

Report No. IM52-4567.11

Immersion (ambient temperature) for the following:

- Crude oil ..... Recommended
- E85..... Recommended
- Fresh water ..... Recommended
- Gasoline ..... Recommended
- Sea water..... Recommended
- Reformulated gasoline ..... Recommended
- Kerosene ..... Recommended
- Ethanol ..... Recommended
- Methanol ..... Not Recommended

Epoxy coatings may darken or yellow after application and curing.

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RECOMMENDED SYSTEMS

	Dry Film Thickness / ct. Mils	(Microns)
Steel, immersion:		
1 ct. Fast Clad 105ER	18.0 -22.0	(450-550)

Note: While this product is designed for optimum performance in 1 ct. at18-22 mils, it can be applied up to 50.0 mils (1250 microns) dft if required.

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

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.

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:
Atmospheric: SSPC-SP6/NACE 3, 2 mil (50 micron) profile or SSPC-SP12/NACE No. 5, WJ-3/SC-2
Immersion: SSPC-SP10/NACE2, 2-3 mil (50-75 micron) profile or *SSPC- SP12/NACE No. 5, WJ-2/SC-2
***marine exterior hull only**

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	-

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature:
Air & surface: 40°F (4.5°C) minimum*, 110°F (43°C) 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". 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 110°F-130°F/43°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.**

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:
Part A: 5 gallon (18.9L) container
Part B: 5 gallon (18.9L) container

Weight: 12.07, ± 0.3 lb/gal ; 1.45 Kg/L, mixed

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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 (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-2/SC-2 standards (marine exterior hull only). 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.

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:
Air & surface: 40°F (4.5°C) minimum*, 110°F (43°C) 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". 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 110°F-130°F/43°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.**

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.

Reduction .....Not recommended

Clean Up .....MEK (R6K10) or R7K104
In Callifornia.....Acetone or R7K111

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
Brush.....Nylon/Polyester or Natural Bristle

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.

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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:

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	**18.0** (450)	***22.0** *(550)
Dry mils (microns)	**18.0** (450)	***22.0** *(550)
~Coverage sq ft/gal (m^2/L)	**72** (1.8)	**88** (2.2)

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Theoretical coverage sq ft/gal (m^2/L) @ 1 mil / 25 microns dft **1588** (39.0)

Drying Schedule @ 20.0 mils (500 microns):

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To touch:	6.5 hours	1.5 hours	1.25 hours
To handle:	24 hours	3 hours	2.5 hours
To recoat:**			
minimum:	6.5 hours	1.5 hours	1.25 hours
maximum:	7 days	7 days	4 days
Foot traffic:	24 hours	3 hours	2.5 hours
Cure to service:	7 days	8 hours	4 hours
Pot Life:	15 minutes	15 minutes	15 minutes
Sweat-in-Time:	None required	None required	None required

**Stripe coat and small area repair only

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. In California use Acetone or R7K111.

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PERFORMANCE TIPS

Repair of Pitted Tank Bottoms
Extensive, deep pitting:

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross-coat 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.
No reduction of material is recommended as this can affect film build, appearance, and adhesion.

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

Do not mix previously catalyzed material with new.

Do not apply the material beyond recommended pot life.

Remove and solvent clean tip housing every 20-30 minutes.

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

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

SAFETY PRECAUTIONS

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