Protective & Marine Coatings

FAST CLAD® ER EPOXY
WITH OPTI-CHECK OAP TECHNOLOGY

Revised 04/2015 Issue 2

PRODUCT INFORMATION

PRODUCT DESCRIPTION

Fast Clad ER Epoxy
A solvent-free epoxy technology offering ultra fast return to service. With superior flexibility, excellent edge retention, film forming and high build properties, this solvent-free epoxy product enables ultra fast return to service in as little as 24 hours.

- One coat protection
- Fast return to service
- Low VOC
- Low odour
- Dry to walk-on within four hours
- Designed for plural-component application equipment
- Greater than 70% edge retention
- Low Temperature application and cure capabilities to 2°C (See Application Conditions)

PRODUCT CHARACTERISTICS

Finish:	Gloss
Colour:	White, Blue OAP, Black, Haze Grey
Volume Solids:	98%, ± 2%, mixed
Weight Solids:	98%, ± 2%, mixed
VOC:	<85 g/ltr, mixed
Mix Ratio:	1:1 by volume

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet microns	**450**	**550**
Dry microns	**450**	**550**
Theoretical Coverage m^2/ltr	**2.2**	**1.8**

*Can be applied up to 1500 microns dft if required.

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

Drying Schedule @ 500 microns:

	@ 4.5°C	@ 25°C *50% RH*	@ 38°C
To touch:	6 hours	1 hour	35 minutes
To handle:	8-12 hours	3 hours	55 minutes
To recoat:			
minimum:	6 hours	1 hour	35 minutes
maximum:	14 days	14 days	14 days
Foot traffic:	8-12 hours	3 hours	1 hour
Cure to service:	36 hours	24 hours	12 hours
Pot Life:		7 minutes	
Induction-Time:		None required	

Shelf Life:	24 months Store indoors at 4.5°C to 38°C
Flash Point:	110°C, mixed
Thinner:	Not recommended
Cleanser:	No 13

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 140°C

PERFORMANCE CHARACTERISTICS

Substrate*: Steel
Surface Preparation*: SSPC-SP10/NACE 2/Sa2½
System Tested*:
1 ct. Fast Clad ER Epoxy @ 450-550 microns dft
*unless otherwise noted below

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060, CS17 wheel, 1000 cycles, 1 kg load	22.4 mg loss
Adhesion	ASTM D4541	>2000 psi
Cathodic Disbondment	ASTM G8	Passes 30 days @ 1.5 volts ($Cu/CuSO_4$), <10 mm disbondment radius
Corrosion Weathering	ASTM D5894, 4 cycles, 1134 hours	Rating 10 per ASTM D610 for Rusting (field); Rating 10 per ASTM D714 for Blistering (field)
Direct Impact Resistance	ASTM D2794	1.7J
Dry Heat Resistance	ASTM D2485	121°C
Flexibility	ASTM D522	11mm (24-hour cure)
Immersion Elevated Temperature*		Passes 6 months at 96°C in gearbox oil
Moisture Condensation Resistance	ASTM D4585, 38°C, 2000 hours	Rating 10 per ASTM D610 for Rusting (field); Rating 10 per ASTM D714 for Blistering (field)
Pencil Hardness	ASTM D3363	H

*Report No. IM54.1382-09

Immersion (ambient temperature) for the following:

- Ballast tank mix ..... Recommended
- Crude oil ..... Recommended
- Fresh water ..... Recommended
- Petrol ..... Recommended
- Sea water..... Recommended
- Reformulated petrol ..... Recommended
- Kerosene ..... Recommended

Epoxy coatings may darken or yellow after application and curing.

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PRODUCT INFORMATION

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

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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:

Steel:

Atmospheric: SSPC-SP6/NACE 3/Sa2
50 micron profile or
SSPC-SP/NACE WJ-3/SC-2

Immersion: SSPC-SP10/NACE2/Sa2½
50-75 micron profile or
SSPC- SP/NACE WJ-2/SC-2

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: 4.5°C minimum*, 43°C maximum

*For application at 2°C to 4.5°C, specific guidelines are required as follows:

- 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 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 60°C.**

Relative humidity: 85% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:

Base (Part A): 10ltr in 20ltr pail

Additive (Part B): 10ltr in 12.5ltr pail

Weight: 1.4 Kg/L ± 0.04, mixed

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Revised 05/2013 Issue 1

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.

Steel (atmospheric service)
Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6/NACE 3, Sa2 or SSPC-SP/NACE WJ. 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/Sa2½. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile 50-75 microns. For surfaces prepared by SSPC-SP/NACE WJ, all surfaces shall be cleaned in accordance with WJ-3/SC2. Pre-existing profile should be approximately 50 microns. Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

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/Sa2½, or SSPC-SP/NACE WJ. For SSPC-SP10/NACE 2/Sa2½, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile 50-75 microns. For SSPC-SP/NACE WJ, all surfaces to be coated shall be cleaned in accordance with WJ-2/SC2 standards.
Pre-existing profile should be approximately 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: 4.5°C minimum*, 43°C maximum

*For application at 2°C to 4.5°C, specific guidelines are required as follows:

- 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 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 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 cleanser. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Thinner ..... Not recommended

Cleanser ..... No 13

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..... 21°C - 27C
Material temperature at gun tip ..... 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 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:

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet microns	**450**	**550**
Dry microns	**450**	**550**
Theoretical Coverage m^2/ltr	**2.2**	**1.8**

*Can be applied up to 1500 microns dft if required.

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):

	@ 4.5°C	@ 25°C *50% RH*	@ 38°C
To touch:	6 hours	1 hour	35 minutes
To handle:	8-12 hours	3 hours	55 minutes
To recoat:			
minimum:	6 hours	1 hour	35 minutes
maximum:	14 days	14 days	14 days
Foot traffic:	8-12 hours	3 hours	1 hour
Cure to service:	36 hours	24 hours	12 hours
Pot Life:		7 minutes	
Induction-Time:		None required	

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 No. 13. Clean tools immediately after use with No. 13. Follow manufacturer's safety recommendations when using any solvent.

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PERFORMANCE TIPS

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 mixed 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.

Guidance on techniques and required equipment to inspect a coating system incorporating Opti-Check OAP Technology can be found in SSPC-TU 11.

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

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