Protective & Marine Coatings

FAST-CLAD® ER EPOXY
WITH OPTI-CHECK OAP TECHNOLOGY

PART A	B62W230	WHITE BASE
PART A	B62L230	BLUE OAP
PART A	B62RW230	RED OXIDE
PART A	B62AW230	HAZE GRAY
PART B	B62V230	CLEAR HARDENER
PART B	B62AV230	GRAY HARDENER

Revised: June 17, 2024

PRODUCT INFORMATION

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PRODUCT DESCRIPTION

FAST-CLAD ER EPOXY is an edge retentive, ultra high solids epoxy amine coating engineered for immersion service in sea water ballast tanks, fuel/sea water ballast tanks, and petroleum storage tanks. The rapid return to service and high build, edge retentive properties of this coating provide superior protection compared to conventional epoxies.

- One coat protection
- Fast return to service
- Low odor
- Dry to walk-on within four hours
- Designed for plural-component application equipment
- Greater than 70% edge build retention
- Low Temperature application and cure capabilities to 25°F/-4°C (See Application Conditions)

PRODUCT CHARACTERISTICS

Finish:	Gloss
Color:	White-Base, Blue OAP, Red Oxide and Haze Gray
Volume Solids:	100%, mixed
Weight Solids:	100%, mixed
VOC (EPA method #24):	<85 g/L; 0.71 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)	**73** (1.8)	**89** (2.2)

*Can be applied up to 60.0 mils (1500 microns) dft if required.

Theoretical coverage sq ft/gal (m^2/L) @ 1 mil / 25 microns dft **1604** (39.4)

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):

	@ 40°F/4.5°C	@ 77°F/25°C *50% RH*	@ 100°F/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	
Sweat-in-Time:		None required	

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

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-23236D, Amend 1, Type VII, Class 5, 7, 17a, and Class 5/18, 7/18, 13/18, 17a/18 Grade A, B, C requirements for single and multi-coat seawater, fuel, ballast, bilges, and CHT tanks
- Blue OAP contains fluorescent pigment
- Wind tower gearbox lining and transformer lining up to 204°F (96°C)
- Suitable for use in the Mining & Minerals Industry

PERFORMANCE CHARACTERISTICS

Substrate*: Steel

Surface Preparation*: SSPC-SP10

System Tested*:

1 ct. Fast-Clad ER Epoxy @ 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	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	15 in-lb
Dry Heat Resistance	ASTM D2485	250°F (121°C)
Flexibility	ASTM D522	7/16" (24-hour cure)
Moisture Condensation Resistance	ASTM D4585, 100°F (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
- Gasoline ..... Recommended
- Sea water..... Recommended
- Reformulated gasoline ..... Recommended
- Kerosene ..... 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 ER Epoxy	18.0 -22.0	(450-550)
Steel, immersion:			
1 ct.	Fast-Clad Epoxy Primer	4.0 -8.0**	(100-200)
1 ct.	Fast-Clad ER Epoxy	18.0-22.0	(450-550)
Steel, immersion:			
2 cts.	Fast-Clad ER Epoxy	9.0-11.0	(225-275)
Concrete, immersion:			
1 ct.	Corobond 100 Epoxy Primer/Sealer; apply primer to achieve uniform hiding, appearance, and complete wetting of the concrete surface, approximately 4-6 . Coating will be partially absorbed into the concrete. Roll out any pudles.		
2 cts.	Fast-Clad ER Epoxy	9.0 – 11.0	(225-275)

**When using B62L245 Primer containing the OAP fluorescent pigment, make sure a non-containing OAP fluorescent pigment topcoat is used.

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

SAFETY PRECAUTIONS

Refer to the SDS 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) sharp and angular profile [Medium (G) (ISO 8503-2)] or SSPC-SP12/NACE No. 5, WJ-3/SC-2

Immersion: SSPC-SP10/NACE2, 2-3 mil (50-75 micron) sharp and angular profile [Medium (G) (ISO 8503-2)] or *SSPC- SP12/NACE No. 5, WJ-2/SC-2
***marine exterior hull only**

Concrete & Masonry:

Atmospheric: SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP2-3

Immersion: SSPC-SP13/NACE 6-4.3.1 or 4.3.2, or ICRI No. 310.2R, CSP2-3

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 part A. 5 gallons (18.9L) of clear hardener part B may be tinted with up to 2.75 ounces of Maxitoner Colorant Phthalo Green or Black only.

APPLICATION CONDITIONS

Temperature:

Air & surface: 40°F (4.5°C) minimum*, 110°F (43°C) maximum

*For application at 25°F (-4°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 85°F-130°F/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 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: 11.71, ± 0.3 lb/gal ; 1.4 Kg/L, mixed

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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.

Concrete and Masonry
For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP 2-3. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with Steel-Seam FT910. Primer required.

Follow the standard methods listed below when applicable:
ASTM D4258 Standard Practice for Cleaning Concrete.
ASTM D4259 Standard Practice for Abrading Concrete.
ASTM D4260 Standard Practice for Etching Concrete.
ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete.
SSPC-SP 13/Nace 6 Surface Preparation of Concrete.
ICRI No. 310.2R Concrete Surface Preparation.

Concrete, Immersion Service:
For surface preparation, refer to SSPC-SP13/NACE 6, Section 4.3.1 or 1.3.2 or ICRI No. 310.2R, CSP 2-3.

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 25°F (-4°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 85°F-130°F/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 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

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)	**73** (1.8)	**89** (2.2)

*Can be applied up to 60.0 mils (1500 microns) dft if required.

Theoretical coverage sq ft/gal (m^2/L) @ 1 mil / 25 microns dft **1604** (39.4)

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):

	@ 40°F/4.5°C	@ 77°F/25°C *50% RH*	@ 100°F/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	
Sweat-in-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 MEK, R6K10. Clean tools immediately after use with MEK, R6K10. Follow manufacturer's safety recommendations when using any solvent.

DISCLAIMER

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PERFORMANCE TIPS

Repair of Pitted Tank Bottoms
Extensive, deep pitting:
Options:
Option 1 ..Apply a full wet coat, by spray application, of Fast-Clad Epoxy Primer. Follow with rubber squeegee to work material into and fill the pitted areas. After recommended drying time, apply a full coat of Fast-Clad ER at recommended film thickness.
Option 2 ..Apply Dura-Plate UHS Clear Laminant Resin with 1½ oz fiberglass mat over the pitted areas. After recommended drying time, apply a full coat of Fast-Clad ER at recommended film thickness.
Option 3 ..Weld new steel plates, or use puddle welds, as required to repair pitted areas. Coat areas as recommended.
Shallow pitting, isolated areas:
Options:
Option 1 ..Same as number 1 above.
Option 2 ..Apply Steel Seam FT910 as required to fill the pitted areas. Coat areas as recommended.

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.

When using an OAP fluorescent pigment system, use the Fast-Clad Epoxy Primer, with a non-OAP containing Fast-Clad ER topcoat color.

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.

SAFETY PRECAUTIONS

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WARRANTY

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