



Protective & Marine Coatings

SEAGUARD® 5000 HS EPOXY

PART A N11B350	BLACK	PART A N11B357	COMMERCIAL USE BLACK
PART A N11W350	OFF WHITE	PART A N11W357	COMMERCIAL USE OFF WHITE
PART A N11R350	RED OXIDE	PART A N11R357	COMMERCIAL USE RED OXIDE
PART A N11A350	GRAY	PART A N11A357	COMMERCIAL USE GRAY
PART A N11H350	BUFF	PART A N11H357	COMMERCIAL USE BUFF
		PART B N11V350	HARDENER

Revised: June 11, 2022

PRODUCT INFORMATION

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PRODUCT DESCRIPTION

SEAGUARD 5000 HS EPOXY is a high performance and high solids, polyamine cured epoxy that is designed to be used as a part of an anticorrosive system for marine applications, or as a lining system for fuel, brine, ballast and non-potable water tanks.

- Complies with IMO Performance Standard for Protective Coatings SOLAS REGULATIONS II-1/3-2 and XII/6.3
- Corrosion resistant
- Outstanding adhesion
- Qualified to MIL-PRF-24647 for underwater hull
- Qualified to MIL-PRF-23236 for ballast tanks and fuel tanks

PRODUCT CHARACTERISTICS

Finish:	Low Sheen
Color:	Black, Off White, Red Oxide, Gray, and Buff
Volume Solids:	73% ± 2% mixed
Weight Solids:	79% ± 2% mixed
VOC (EPA Method 24):	<250 g/L; 2.08 lb/gal
Mix Ratio:	1:1 by volume (2 components)

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	7.0 (175)	10.0 (250)
Dry mils (microns)	5.0 (125)	7.0 (175)
~Coverage sq ft/gal (m²/L)	167 (4.1)	234 (5.7)
Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft	1168 (28.6)	

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

Drying Schedule @ 7.0 mils wet (175 microns):

	@ 35°F/1.7°C	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 110°F/43°C
To touch:	8 hours	5 hours	4 hours	2 hours
To recoat:				
minimum:	24 hours	12 hours	6 hours	3 hours
maximum*:	90 days	90 days	90 days	90 days
To cure:	20 days	14 days	7 days	7 days

*Two weeks maximum for alkyd and urethane topcoats.

If maximum recoat time is exceeded, abrade surface before recoating.

Drying time is temperature, humidity, and film thickness dependent.

Pot Life: 8 hours 6 hours 2 hours 1 hour

Sweat-in-Time: None None None None

Application of the antifouling coating shall occur while the epoxy coat is still tacky. Refer to the Application Bulletin for the definition of "TACKY".

Shelf Life: 36 months, unopened
Store indoors at 40°F (4.5°C) to 100°F (38°C)

Flash Point (ADMIX): 110°F (43°C) PMCC

Reducer: Not recommended*

Clean Up: Reducer #130 (R7K130)

*Contact your Sherwin-Williams representative for more information

RECOMMENDED USES

For use as a coating for:

- Fuel, brine, ballast and non-potable water tanks
- Underwater hull
- Interior or exterior marine vessel applications
- Freeboard, topside, decks
- Acceptable for use with UHP / waterjetted substrates
- Use N11-350 series for Military/Government vessels or which require IMO PSPC approval
- Use N11-357 series for commercial vessels

PERFORMANCE CHARACTERISTICS

Substrate*: Steel

Surface Preparation*: SSPC-SP10/NACE 2

System Tested*:

2 cts. SeaGuard 5000 HS Epoxy @ 5.0 mils (125 microns) dft/ct
*unless otherwise noted below

Test Name	Test Method	Results
Solvent Resistance	ASTM D1308	Passed

Qualified to MIL-PRF-23236, Type VI, Class 5 and 7, Grade C

Qualified to MIL-PRF-24647, Type I, Class 1 and 2, Grade A and B, Application 1, 2 and 4

Qualified to MIL-PRF-24647, Type II, Class 1, Grade A and B, Application 1, 2, 3 and 4

Tested by Det Norske Veritas (DNV). According to DNV Procedure, testing and classification of ballast tank coatings, REV-02. Tested to the DNV Procedure over a Zinc Shop Primer Steel.

Received Highest Obtainable rating B1

Epoxy coatings may darken or yellow following application and curing.



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RECOMMENDED SYSTEMS

		Dry Film Thickness / ct.	
		Mils	(Microns)
Steel or Aluminum, immersion:			
2 cts.	SeaGuard 5000 HS Epoxy	5.0-7.0	(125-175)
Steel or Aluminum, underwater hull:			
2 cts.	SeaGuard 5000 HS Epoxy	5.0-7.0	(125-175)
1-3 cts.	SeaGuard Ablative Antifouling	2.5-4.0	(63-100)
or			
2 cts.	SeaGuard 5000 HS Epoxy	4.0-8.0	(100-200)
2-3 cts.	SeaVoyage Copper Free AF*	3.0-6.0	(75-150)
*SeaVoyage Copper Free Antifouling Paint must be applied over the epoxy primer, while the epoxy is still slightly tacky.			
Steel or Aluminum, atmospheric:			
1-2 cts.	SeaGuard 5000 HS Epoxy	5.0-7.0	(125-175)
1-2 cts.	Sherthane 2K	2.0-4.0	(50-100)
or			
1-2 cts.	Polysiloxane XLE-80 HAPS Free	3.0-7.0	(75-175)
or			
1-2 cts.	SeaGuard 1000	2.0-3.0	(50-75)
or			
1-2 cts.	Hi-Solids Polyurethane	3.0-5.0	(75-125)
Galvanized, atmospheric:			
1 ct.	SeaGuard 5000 HS Epoxy	4.0-7.0	(100-175)
1-2 cts.	Sherthane 2K	2.0-4.0	(50-100)
or			
1-2 cts.	Polysiloxane XLE-80 HAPS Free	3.0-7.0	(75-175)
or			
1-2 cts.	SeaGuard 1000	2.0-3.0	(50-75)
or			
1-2 cts.	Hi-Solids Polyurethane	3.0-5.0	(75-125)

Seawater Ballast Tank Applications

In accordance with IMO Resolution MSC.215(82) PSPC, all application requirements specified in PSPC Table 1 have to be strictly adhered to.

- **Substrate:** Abrasive blasting to Sa 2.5 (ISO 8501-1), SSPC-SP-10.
- **Surface profile:** 30 - 75 microns as per ISO 8503-1/3.
- **Water soluble contaminants:** ≤ 50mg/m² of sodium chloride. Conductivity measured in accordance with ISO 8502-9.
- **Dry film thickness:** PSPC stipulates a Nominal Dry Film Thickness (NDFT) of 320 microns obtained in 2 coats. The film thickness distribution is measured in accordance with the 90/10 rule.
- Maximum total dry film thickness not to exceed 1000 microns/40 mils.
- **Coating sequence:** Red, followed by light grey.
- **Stripe coats:** 2 strip coats in alternating colors must be applied as part of the system.

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

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

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:

Immersion:
Iron & Steel / Aluminum SSPC-SP10/NACE 2, 2.0 mil (50 micron) profile or NACE/SSPC WJ2(M) – with existing surface anchor profile of >2.0 mils (>50 microns)

Atmospheric:
Iron & Steel / Aluminum
minimum: SSPC-SP2, SSPC-SP3
preferred: SSPC-SP6/NACE 3, 2.0 mil (50 micron) profile or NACE/SSPC WJ2(M) – with existing surface anchor profile of >2.0 mils (>50 microns)

Galvanizing: SSPC-SP1

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	R St 2	C St 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	-

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature: 35°F (1.7°C) minimum, 110°F (43°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:	1 gallon (3.78L) and 5 gallon (18.9L) containers
Part B:	1 gallon (3.78L) and 5 gallon (18.9L) containers
Weight:	
Part A:	12.73 ± 0.2 lb/gal; 1.5 Kg/L
Part B:	11.43 ± 0.2 lb/gal; 1.4 Kg/L
Mixed:	12.08 ± 0.2 lb/gal; 1.45 Kg/L

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.

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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Revised: June 11, 2022

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 / Aluminum, 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 NACE/SSPC WJ2(M). For SSPC-SP10/NACE 2, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2.0 mils / 50 microns). For NACE/SSPC WJ2(M), the existing surface anchor profile should be >2.0 mils (>50 microns). Remove all weld spatter and round all sharp edges. Prime any bare steel the same day as it is cleaned.

Iron & Steel / Aluminum, Atmospheric Service:

Minimum surface preparation is Hand Tool Clean per SSPC-SP2. For surfaces prepared by SSPC-SP2, first remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. For better performance, use Commercial Blast Cleaning per SSPC-SP6/NACE 3, or NACE/SSPC WJ2(M). For SSPC-SP6/NACE 3, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2.0 mils / 50 microns). For NACE/SSPC WJ2(M), the existing surface anchor profile should be >2.0 mils (>50 microns). Prime any bare steel the same day as it is cleaned.

Galvanized Steel:

Allow to weather a minimum of six months prior to coating. Solvent Clean per SSPC-SP1 (recommended solvent is VM&P Naphtha). 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.

Previously Painted Surfaces

If in sound condition, clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this product attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above.

Surface Preparation Standards

Condition of Surface	ISO 8501-1 BS709: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	DC St 1	DC St 1	SP 2	-
Rusted	DC St 2	DC St 2	SP 3	-
Pitted & Rusted	DC St 3	DC St 3	SP 3	-
Power Tool Cleaning	D St 3	D St 3	SP 3	-

APPLICATION CONDITIONS

Temperature:	35°F (1.7°C) minimum, 110°F (43°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	Not recommended*
Clean Up	Reducer #130, R7K130

Airless Spray

Pressure.....	2400 psi
Hose.....	1/4" ID
Tip017" - .031"
Filter.....	60 mesh
Reduction.....	Not recommended*

Brush

Brush.....	Natural Bristle
Reduction.....	Not recommended*

Roller

Cover	3/8" - 1/2" woven with solvent resistant core
Reduction.....	Not recommended*

*Contact your Sherwin-Williams representative for more information

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 cans. Then combine one part by volume of Part A with one part by volume of Part B. Thoroughly agitate the mixture with power agitation. Re-stir before using.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	7.0 (175)	10.0 (250)
Dry mils (microns)	5.0 (125)	7.0 (175)
~Coverage sq ft/gal (m ² /L)	167 (4.1)	234 (5.7)
Theoretical coverage sq ft/gal (m ² /L) @ 1 mil / 25 microns dft	1168 (28.6)	

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

Drying Schedule @ 7.0 mils wet (175 microns):

	@ 35°F/1.7°C	@ 50°F/10°C	@ 77°F/25°C 50% RH	@ 110°F/43°C
To touch:	8 hours	5 hours	4 hours	2 hours
To recoat:				
minimum:	24 hours	12 hours	6 hours	3 hours
maximum*:	90 days	90 days	90 days	90 days
To cure:	20 days	14 days	7 days	7 days

*Two weeks maximum for alkyd and urethane topcoats.

If maximum recoat time is exceeded, abrade surface before recoating.

Drying time is temperature, humidity, and film thickness dependent.

Pot Life:	8 hours	6 hours	2 hours	1 hour
Sweat-in-Time:	None	None	None	None

Application of the antifouling coating shall occur while the epoxy coat is still tacky. Refer to the Application Bulletin for the definition of "TACKY".

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 Reducer #130, R7K130. Clean tools immediately after use with Reducer #130, R7K130. 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 film build, poor ventilation, and cool temperatures may cause solvent entrapment and premature coating failure.

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

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 Reducer #130, R7K130.

Material must be at least 50°F/10°C prior to catalyzing.

Application of the antifoulant coating shall occur when the last coat of epoxy anticorrosive is still tacky. If the epoxy is hard, apply a tack coat of epoxy anticorrosive at 1-2 mils (25-50 microns) WFT over previously painted surfaces. "Tacky" is defined as that curing (drying) stage when a fingertip pressed lightly against the film leaves only a slight impression and none of the film sticks to the finger.

Application of solvent based alkyd coating, such as MIL-PRF-24635, shall be applied when the epoxy is "dry to the touch, but not fully cured." (For example prior to 7 days @ 77°F/25°C).

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

SAFETY PRECAUTIONS

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