



# Protective & Marine Coatings

# SEAGUARD® 6000 MARINE EPOXY

PART A  
PART B

N11-400  
N11V400

SERIES  
HARDENER

Revised: February 23, 2016

## PRODUCT INFORMATION

9.28

### PRODUCT DESCRIPTION

SEAGUARD 6000 MARINE EPOXY is a modified epoxy phenalkamine, formulated specifically for immersion and atmospheric service in marine and industrial environments. SeaGuard 6000 is a versatile anti-corrosive coating that can be applied at temperatures as low as 20°F/-7°C.

- Self-priming
- Low temperature application
- Surface tolerant - damp surfaces
- Provides salt water and fresh water immersion resistance

### PRODUCT CHARACTERISTICS

<b>Finish:</b>	Low Sheen
<b>Colors:</b>	Red Oxide, Gray, Off-White, Black, Buff, Aluminum, Bronze Tone
<b>Volume Solids:</b>	67% ± 2%, mixed
<b>Weight Solids:</b>	80% ± 2%, mixed
<b>VOC (EPA Method 24):</b>	
Unreduced:	<300 g/L; 2.50 lb/gal
Reduced 10%:	<340 g/L; 2.80 lb/gal
<b>Mix Ratio:</b>	4:1 by volume (2 component)

### Recommended Spreading Rate per coat:

	Minimum	Maximum
<b>Wet mils (microns)</b>	<b>8.0</b> (200)	<b>11.0</b> (275)
<b>Dry mils (microns)</b>	<b>5.0</b> (125)	<b>7.0</b> (175)
<b>~Coverage sq ft/gal (m<sup>2</sup>/L)</b>	<b>154</b> (3.8)	<b>215</b> (5.3)
<b>Theoretical coverage sq ft/gal (m<sup>2</sup>/L) @ 1 mil / 25 microns dft</b>	<b>1072</b> (26.2)	

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

### Drying Schedule @ 8.0 mils wet (200 microns):

	@ 40°F/4.5°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
<b>To touch:</b>	3.5 hours	2 hours	20 minutes
<b>To handle:</b>	12 hours	3.5 hours	40 minutes
<b>To recoat:</b>			
<b>minimum:</b>	12 hours	3.5 hours	40 minutes
<b>maximum:</b>	30 days	30 days	30 days
<b>Cure to service:</b>	14 days	7 days	3 days

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

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

**Pot Life:** 8 hours 4 hours 1 hour

**Sweat-in-Time:** 30 minutes 15 minutes 5 minutes

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

<b>Shelf Life:</b>	36 months, unopened Store indoors at 40°F (4.5°C) to 100°F (38°C)
<b>Flash Point:</b>	100°F (38°C) Seta Flash
<b>Reducer/Clean Up:</b>	
Above 50°F (10°C):	R7K104
Below 50°F (10°C):	R6K30

### RECOMMENDED USES

For use over properly prepared steel substrates, including:

- Salt water and fresh water immersion service
- Ballast tanks
- Offshore and marine structures
- Bilges and wet void areas
- Decks and superstructures
- Underwater hulls
- Fabrication and new construction
- Maintenance and repair
- As an anti-corrosive primer when used as part of an underwater hull system with anti-fouling coatings
- Immersion service in wastewater treatment plants

### PERFORMANCE CHARACTERISTICS

**Substrate\*:** Steel

**Surface Preparation\*:** SSPC-SP10/NACE 2

**System Tested\*:**

2 cts. SeaGuard 6000 Marine Epoxy @ 6.5 mils (162 microns) dft/ct

\*unless otherwise noted below

Test Name	Test Method	Results
<b>Corrosion Weathering</b>	ASTM D5894, 15 cycles, 5,000 hours	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 per rusting
<b>Direct Impact Resistance</b>	ASTM D2794	32 in. lb.
<b>Flexibility</b>	ASTM D522, 180° bend, 1" mandrel	Passes
<b>Immersion</b>	1 year fresh and salt water	Passes, no rusting, blistering, or loss of adhesion
<b>Moisture Resistance</b>	ASTM D4585, 5000 hours, 100°F	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 per rusting
<b>Pencil Hardness</b>	ASTM D3363	5H

### IMMERSION

(Ambient temperature)

- Salt Water..... Recommended
- Fresh Water..... Recommended
- Ballast Tank Mix ..... Recommended

Epoxy coatings may darken or yellow following application and curing.

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 Pre-rusted and Hydro-Jetted substrate.

Received Highest Obtainable rating B1.



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### RECOMMENDED SYSTEMS

	Dry Film Thickness / ct.	
	Mils	(Microns)
<b>Steel, atmospheric service:</b>		
1-2 cts. SeaGuard 6000	5.0-7.0	(125-175)
1-2 cts. Macropoxy 646	5.0-10.0	(125-250)
<b>or</b>		
1-2 cts. SeaGuard 6000	5.0-7.0	(125-175)
1-2 cts. Sherthane 2K	2.0-4.0	(50-100)
<b>Steel, immersion service:</b>		
2 cts. SeaGuard 6000	5.0-7.0	(125-175)
<b>Steel, Underwater Hull with Antifouling</b>		
2 cts. SeaGuard 6000	5.0-7.0	(125-175)
2 cts. SeaGuard Antifouling*		

\*Consult your Sherwin-Williams Marine Representative for the Appropriate Antifouling coating

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:

<b>Iron &amp; Steel:</b>	
Atmospheric:	SSPC-SP2 or SSPC-SP12/NACE No. 5, WJ-3/SC-2
Immersion:	SSPC-SP10/NACE 2, 2.0 mil (50 micron) profile or SSPC-SP12/NACE No. 5, WJ-2/SC-2
Galvanized, atmospheric:	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	C 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	D St 3	D St 3	SP 3	-

### TINTING

Do not tint.

### APPLICATION CONDITIONS

Temperature:	20°F (-7°C) minimum, 120°F (49°C) maximum (air and surface) At least 5°F (2.8°C) above dew point
Material should be at least 60°F (16°C) for optimal performance.	
Relative humidity:	85% maximum
Refer to product Application Bulletin for detailed application information.	

### ORDERING INFORMATION

<b>Packaging:</b>	
1 gallon (3.78L) mix:	Part A - 0.797 gal. (3.0L) in a 1 gal. (3.78L) container Part B - 0.203 gal. (0.77L) in a quart (0.94L) container
5 gallon (18.9L) mix:	Part A - 4 gal. (15.1L) in a 5 gal. (18.9L) container Part B - 1 gallon (3.78L)
<b>Weight:</b>	11.87 ± 0.2 lb/gal ; 1.4 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.

### 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, Immersion Service:

Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal 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 (2.0 mils / 50 microns). For SSPC-SP12/NACE No. 5, all surfaces to be coated shall be cleaned in accordance with WJ-2/SC-2 standards. Pre-existing profile should be approximately 2.0 mils (50 microns). Light rust bloom is allowed. Remove all weld spatter and round all sharp edges. Prime any bare steel the same day as it is cleaned.

#### Iron & Steel, Atmospheric Service:

Minimum surface preparation is Hand Tool Clean per SSPC-SP2 or SSPC-SP12/NACE No. 5. 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, blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2.0 mils / 50 microns). For surfaces prepared by SSPC-SP12/NACE No. 5, all surfaces shall be cleaned in accordance with WJ-3/SC-2. Pre-existing profile should be approximately 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.

#### 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: 20°F (-7°C) minimum, 120°F (49°C) maximum (air and surface)  
At least 5°F (2.8°C) above dew point

Material should be at least 60°F (16°C) for optimal performance.

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 50°F (10°C).....R7K104  
Below 50°F (10°C).....R6K30

#### Airless Spray

Unit.....30:1 Pump  
Pressure.....2400 - 2800 psi  
Hose.....1/4" - 3/8" ID  
Tip .....0.17" - .021"  
Filter .....60 mesh  
Reduction.....As needed, up to 10% by volume

#### Conventional Spray

Gun .....DeVilbiss MBC-510  
Fluid Tip .....E  
Air Nozzle.....704  
Atomization Pressure.....60-65 psi  
Fluid Pressure.....5-15 psi  
Reduction.....As needed, up to 10% by volume

#### Brush

Brush.....Natural bristle  
Reduction.....Not recommended

#### Roller

Cover .....3/8" woven with solvent resistant core  
Reduction.....Not recommended

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 using low speed power agitation. Make certain no pigment remains on the bottom of the can. Then combine 4 parts by volume of Part A with 1 part by volume of Part B. Thoroughly agitate the mixture with power agitation. Allow the material to sweat-in as indicated prior to application. Re-stir before using.

If reducer solvent is used, add only after both components have been thoroughly mixed, after sweat-in.

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

#### Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	8.0 (200)	11.0 (275)
Dry mils (microns)	5.0 (125)	7.0 (175)
~Coverage sq ft/gal (m <sup>2</sup> /L)	154 (3.8)	215 (5.3)
Theoretical coverage sq ft/gal (m <sup>2</sup> /L) @ 1 mil / 25 microns dft	1072 (26.2)	

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

#### Drying Schedule @ 8.0 mils wet (200 microns):

	@ 40°F/4.5°C	@ 77°F/25°C 50% RH	@ 120°F/49°C
To touch:	3.5 hours	2 hours	20 minutes
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To recoat:			
minimum:	12 hours	3.5 hours	40 minutes
maximum:	30 days	30 days	30 days
Cure to service:	14 days	7 days	3 days
<i>If maximum recoat time is exceeded, abrade surface before recoating.</i>			
<i>Drying time is temperature, humidity, and film thickness dependent.</i>			
Pot Life:	8 hours	4 hours	1 hour
Sweat-in-Time:	30 minutes	15 minutes	5 minutes

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 R7K104 or R6K30. Clean tools immediately after use with Reducer R7K104 or R6K30. Follow manufacturer's safety recommendations when using any solvent.

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### PERFORMANCE TIPS

Stripe coat 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.

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 mix previously catalyzed material with new.

Do not apply the material beyond recommended pot life.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Reducer R7K104 or R6K30.

Anti-slip additives may be added to the coating to provide some slip resistance.

Application of the antifoulant coating shall occur when the last coat of epoxy anticorrosive is still tacky. "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.

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

### SAFETY PRECAUTIONS

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