NAVSEA REVIEWED ASTM F-718

The Sherwin-Williams Company

SeaGuard 5000 HS

PRODUCT DESIGNATIONS

Part A: N11-350 base color series

Part B: N11V350 hardener

MIL-PRF-23236
MIL-PRF-24647

If this product is to be applied as part of a coating system, all components of the system must be as listed on the QPL.

This NAVSEA-REVIEWED ASTM F-718 data sheet is the only data sheet approved for use when utilizing this coating for U.S. Navy preservation projects. NAVSEA's review covers only the application process for the material. The review does not denote the material as a qualified product, nor does it constitute an approval for purchase/procurement of the material. For products on the Qualified Products List (QPL) for this MILSPEC, please refer to http://qpldocs.dla.mil/search/default.aspx.
Questions regarding modifications or updates of this ASTM F-718 shall be directed toward:

NSWCPD
NSWCPD_ASTM_F718.fct@navy.mil

SHIPBUILDERS AND MARINE PAINTS AND COATINGS PRODUCT/PROCEDURE DATA SHEET

CONTINUATION SHEET USED: ■ YES ☐ NO

Date: August 9, 2016 ` Rev.

I. GENERIC TYPE AND DESCRIPTION: Sherwin-Williams SeaGuard 5000 HS
Specification Number: MIL-PRF-23236 and MIL-PRF-24647
NOTE: For Type/Grade/Class/Application information see QPL-23236, QPL-24647

II. MANUFACTURERS DATA:

(a) MANUFACTURER: The Sherwin-Williams Company

(b) PRODUCT DESIGNATION: Part A: N11-350 base color series Part B: N11V350 hardener

(c) COLOR(S): Red, Gray, Black, Off-White, Buff, Green

(d) USES: Ballast tanks, fuel tanks, underwater hull, freeboard, topside, interior spaces

(e) TECHNICAL SERVICE REPRESENTATIVE: 1-877-877-7115 or your local Sherwin-Williams Representative

(f) NOT INTENDED FOR USE ON: Potable water tanks, well deck overheads, CHT tanks

III. PROPERTIES:

(a) PERCENT VOLUME SOLIDS (ASTM D2697): 73% ± 2%

(b) PERCENT WEIGHT SOLIDS (ASTM D2369): 79% ± 2%

(c) FLASH POINT (ASTM D93): >100°F

(d) WEIGHT PER VOLUME (ASTM D1475): 12.1 ± 0.2 lbs per mixed gallon

(e) PERCENT EDGE RETENTION (MIL-PRF-23236 Appendix A): N/A

(f) SHELF LIFE: 36 months

(g) VISCOSITY (ASTM D562): COMPONENT A: 95-115 KU's

COMPONENT B: 95-115 KU's

MIXED: 80-100 KU's

(h) PACKAGING: 2, 5, and 10 gallon kits

(i) NUMBER OF COMPONENTS: 2

(j) GLOSS (ASTM D523): >30 at 60 degrees

(k) STORAGE REQUIREMENTS: TEMPERATURE: MIN. 40°F MAX. 100°F

ADDITIONAL PAINT STORAGE REQUIREMENTS: Protected indoor storage out of sun, rain, etc….

(l) VOLATILE ORGANIC COMPOUNDS (EPA TEST METHOD 24): < 250 g/L

(m) WEIGHT PER AREA OF DRY FILM AT 1 MIL THICKNESS: 0.0082 lbs per square foot per mil

(n) SPECIAL PROPERTIES: All purpose epoxy for exterior/interior applications

SHIPBUILDERS AND MARINE PAINTS AND COATINGS PRODUCT/PROCEDURE DATA SHEET

CONTINUATION SHEET USED: ■ YES ☐ NO

Date: August 9, 2016 ` Rev.

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS:

(a) INITIAL: SSPC-SP10 Near White Metal Blast.

(b) TOUCH-UP: SSPC-SP11 Power Tool Clean to Bare Metal areas requiring touch-up. Clean and abrade 1" to 2" of coating surface adjacent to touch-up areas with 80 grit sandpaper (or equivalent) to create tie-in and promote adhesion prior to recoating.

(c) PROFILE (ASTM D4417, Methods B or C): MIN. 2 mils MAX. 4 mils

(d) SPECIAL INSTRUCTIONS: 2 - 4 mil profile recommended, up to 5 mil profile acceptable.

(e) PRIMER REQUIREMENTS: Use SeaGuard 5000 HS – self priming.

(f) MAXIMUM ALLOWABLE CONDUCTIVITY (Conductivity samples shall be collected using a product that meets the requirements of NACE SP0508-2010, "Methods of Validating Equivalence to ISO 8502-9 on Measurement of the Levels of Soluble Salts."):

For immersed areas maximum conductivity is 30 micro-siemens/cm. For non-immersed areas maximum conductivity is 70 micro-siemens/cm.

(g) MAXIMUM DEGREE OF FLASH RUSTING ALLOWED: SSPC-SP WJ-2M

SPECIAL SAFETY PRECAUTIONS:

See Material Safety Data Sheet or Globally Harmonized System Safety Data Sheet

V. MIXING PROCEDURES:

(a) MIXING RATIOS BY WEIGHT: N/A
BY VOLUME: 1:1

(b) INDUCTION TIME: None

(c) RECOMMENDED CLEANING SOLVENT (NO THINNING ALLOWED): MAK, R7K130

(d) POT LIFE:

8 hours @ 35°F
6 hours @ 50°F
2 hours @ 77°F
1 hour @ 110°F

(e) SPECIAL INSTRUCTIONS: Mix contents of individual components thoroughly using power agitation. Make certain no pigments remain on the bottom or sides of the cans. Then combine one part by volume Part A with one part by volume Part B. Thoroughly combine the mixture using power agitation.

VI. APPLICATION:

(a) ENVIRONMENTAL LIMITATIONS:

SUBSTRATE TEMPERATURE: MIN. 35°F MAX. 110°F
AMBIENT TEMPERATURE: MIN. 35°F MAX. 110°F
MINIMUM SUBSTRATE TEMPERATURE DIFFERENCE ABOVE THE DEW POINT: 5°F
MAXIMUM PERCENT RELATIVE HUMIDITY: 85%

(b) FILM THICKNESS (SSPC PA2-73T): PER COAT:

WET MIN.	6 mils	WET MAX.	11 mils
DRY MIN.	4 mils	DRY MAX.	8 mils

TOTAL SYSTEM: Total system film thickness dependent upon specific application. Refer to qualification and specification guidelines.

(c) DRY TIMES (ASTM D1640): See attached Figures 1 – 4

(d) EQUIPMENT REQUIREMENTS: Airless, plural, or conventional spray. Brush (natural bristle) or roller (3/8" to ½" woven with phenolic core).

(e) SPECIAL INSTRUCTIONS: Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance. Ensure that substrate temperature is at least 5 °F above the dew point prior to application. Dry times are normally a function of humidity, ventilation, and temperature. Information given is to be used as a guideline only.

For antifouling (AF), commence application of the first coat of AF when the SeaGuard 5000 HS is tack free (epoxy can be lightly touched with no paint coming off on the fingertips) and no later than when the SeaGuard 5000 HS is still tacky (soft to finger pressure). If the SeaGuard 5000 HS has cured beyond the tacky state (ie is no longer soft to finger pressure), apply another 1-2 wet mil coat of epoxy (following the recoat intervals) and then commence application of the AF as above. Failure to apply the AF to the SeaGuard 5000 HS as detailed above may result in loss of adhesion.

For underwater hull applications, it is acceptable to launch based on the cure to immersion/undock time of the antifoulant.

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR CRITICAL APPLICATIONS:

Perform SSPC-SP 1 solvent cleaning. Abrade surface with 80 grit sandpaper or equivalent to promote adhesion. Perform SSPC-SP 1 solvent cleaning.

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR NON-CRITICAL APPLICATIONS:

Perform SSPC-SP 1 solvent cleaning. Abrade surface with 80 grit sandpaper or equivalent to promote adhesion. Perform SSPC-SP 1 solvent cleaning.

ADDITIONAL DATA/INSTRUCTIONS:
I. GENERIC TYPE AND DESCRIPTION:

II. MANUFACTURERS DATA:

III. PROPERTIES:

Note that viscosity is dependent upon temperature, type of measuring equipment, type of paddle or spindle, sample history, and test container size. Detailed test criteria available upon request.

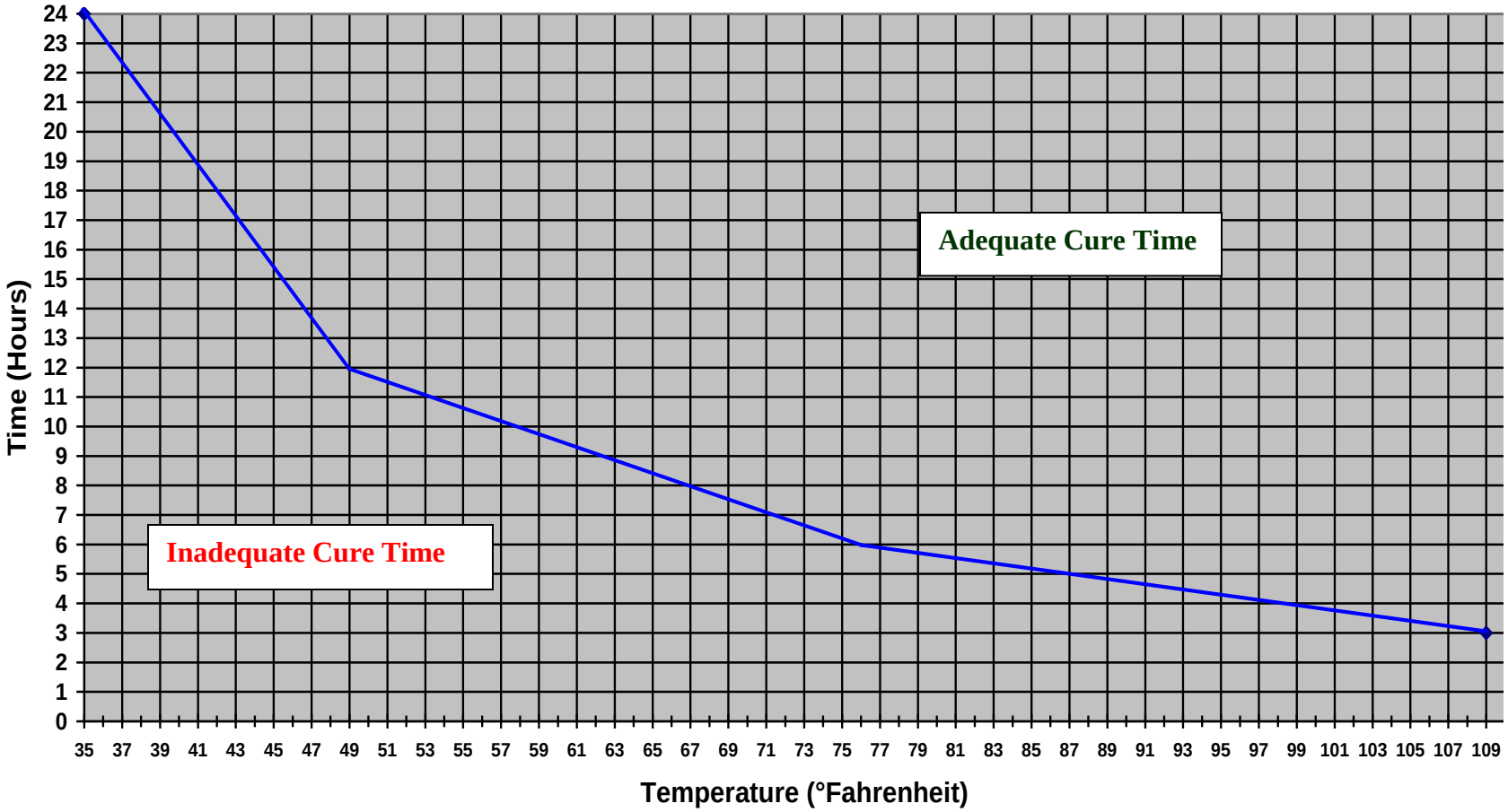
IV. SURFACE PREPARATION MINIMUM REQUIREMENTS:

V. MIXING PROCEDURES:

VI. APPLICATION:

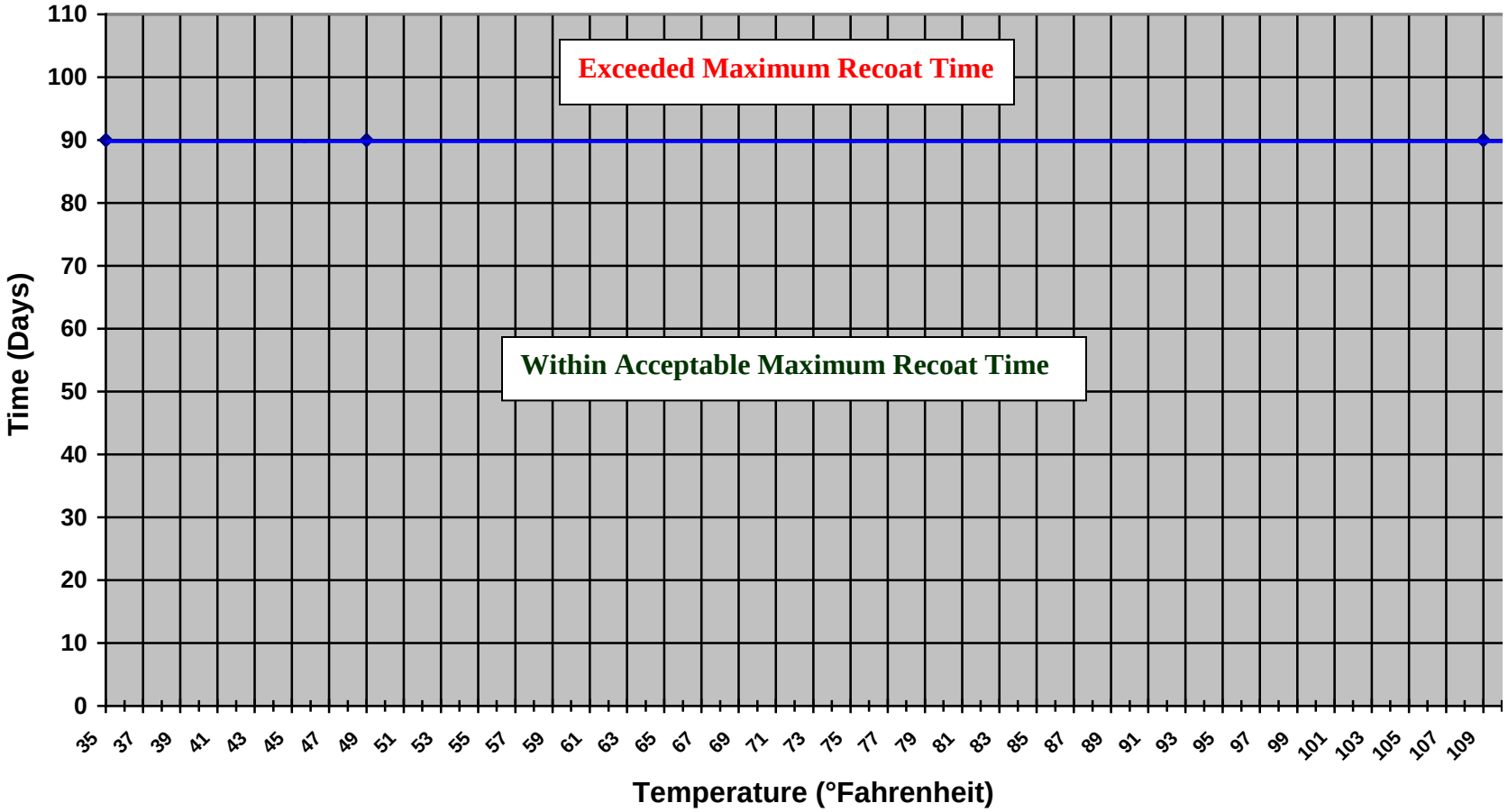
WARRANTY DISCLAIMER: THE TECHNICAL DATA GIVEN HEREIN HAS BEEN COMPILED FOR THE ASSISTANCE OF THE USER AND GUIDANCE IS BASED ON THE EXPERIENCE AND KNOWLEDGE OF THE MANUFACTURER. HOWEVER, AS THE MANUFACTURER HAS NO CONTROL OVER THE USE OF THIS INFORMATION, NO WARRANTY EXPRESSED OR IMPLIED IS INTENDED OR GIVEN.

Figure 1 & 2. Seaguard 5000 HS Minimum Cure to Recoat & Handle Time



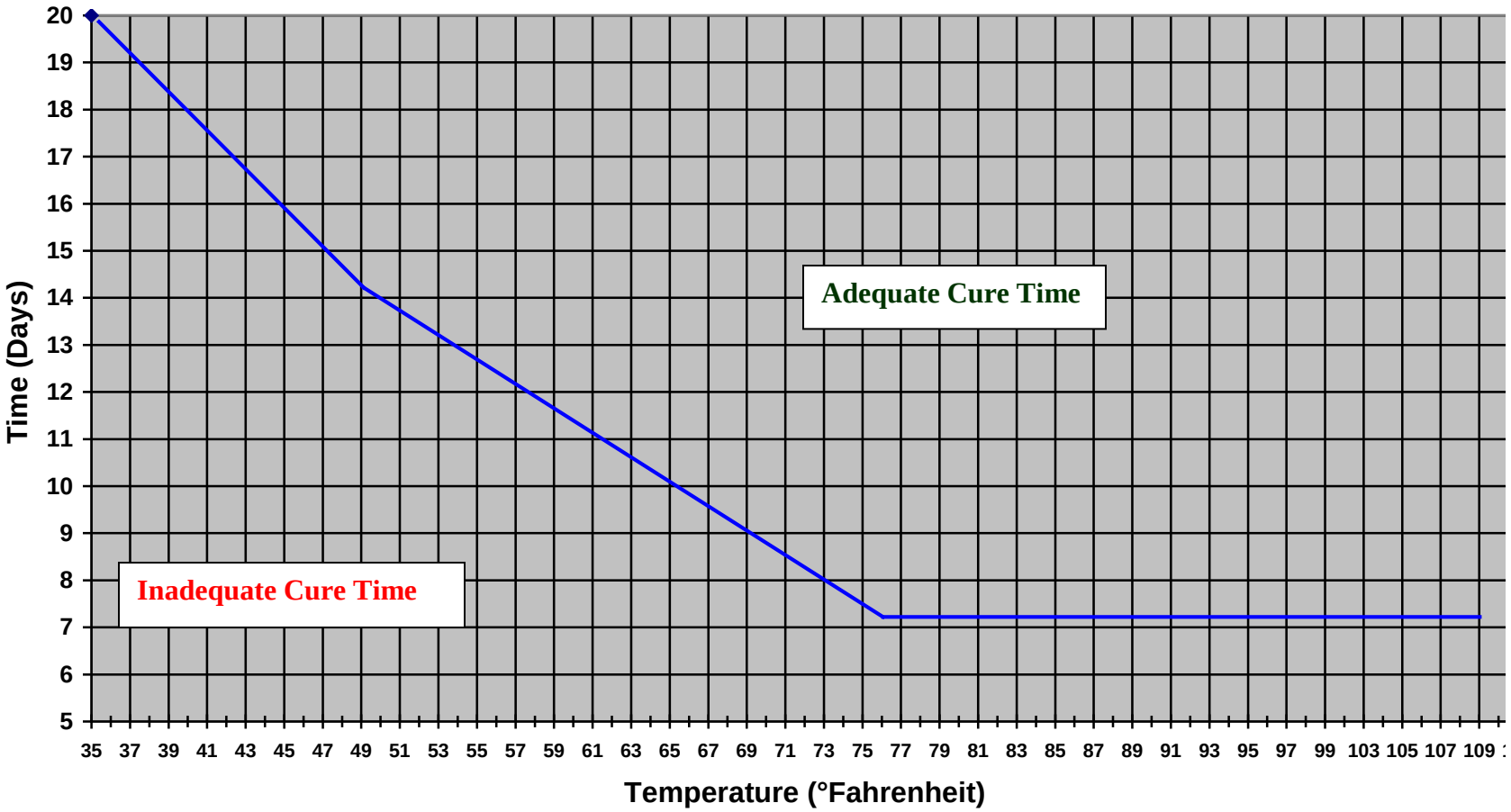
The above curing schedule is at 7 wet mils and 50% relative humidity.
Drying time is temperature, humidity, and film thickness dependent.
The above information is provided for guideline use only.

Figure 3. Seaguard 5000 HS Maximum Cure to Recoat Time



The above curing schedule is at 7 wet mils and 50% relative humidity.
Drying time is temperature, humidity, and film thickness dependent.
The above information is provided for guideline use only.

Figure 4. Seaguard 5000 HS Minimum Cure to Service Time



The above curing schedule is at 7 wet mils and 50% relative humidity.
Drying time is temperature, humidity, and film thickness dependent.
The above information is provided for guideline use only.

Sherwin-Williams ASTM F718 Addendum
*Use of CHLOR*RID Salt Remover*
January 24, 2018

Per 009-32 FY-18 CH-1 section 3.10.6.6 (and similarly noted in other FY versions of 009-32), the use of CHLOR*RID salt remover is authorized. Sherwin-Williams provides this document as an ASTM F718 addendum for the following Sherwin-Williams MIL-PRF-23236 qualified products:

Fast Clad ER
Fast Clad Primer
Fast Clad Brush Grade
SherPlate PW
DuraPlate UHS Primer
DuraPlate UHS
NovaPlate UHS Primer
NovaPlate UHS
EuroNavy ES301 Series
SeaGuard 5000 HS
DuraPlate 235
ExpressCote 150

When used in accordance with the manufacturers and the following instructions, Sherwin-Williams approves the use of CHLOR*RID, in conjunction with the above products, for U.S. Navy related projects:

1. CHLOR*RID is added to wash water at appropriate level per product recommendation.

2. After water washing with CHLOR*RID, allow substrate to fully dry. ALL treated substrate surfaces MUST be abrasive blasted to an SSPC-SP10 Near White Metal condition post CHLOR*RID application.

3. Failure to reblast all treated surfaces, regardless of their condition post CHLOR*RID application, voids these instructions and subsequent implied or direct warranties.

4. Accomplish surface conductivity checks as required per 009-32 after SSPC-SP10 Near White Metal reblast. Follow pass/fail criteria established in 009-32 including additional remedial steps as necessary.

5. Please see appropriate references in NAVSEA Standard Item 009-32.

Mark Schultz
Government Marine Manager
Sherwin-Williams