NAVSEA REVIEWED ASTM F-718

Sherwin-Williams

Sherwin-Williams SeaGuard Tie Coat

PRODUCT DESIGNATIONS

Part A: P23Y00001

Part B: P23V00001

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 https://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

I. GENERIC TYPE AND DESCRIPTION: Sherwin-Williams SeaGuard Tie Coat Epoxy Date: Aug 25, 2020
Specification Number: MIL-PRF-24647
NOTE: For Type/Grade/Class/Application information see QPD-24647

II. MANUFACTURERS DATA:

(a) MANUFACTURER: Sherwin-Williams

(b) PRODUCT DESIGNATION: SeaGuard Tie Coat (Part A: P23Y00001, Part B: P23V00001)

(c) COLOR(S): Yellow

(d) USES: Epoxy tiecoat in antifouling and exterior hull applications

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

III. PROPERTIES:

(a) PERCENT VOLUME SOLIDS (ASTM D2697): 62 +/- 3 %

(b) PERCENT WEIGHT SOLIDS (ASTM D2369): 74 +/- 3 %

(c) FLASH POINT (ASTM D327):

Component A: 75 °F (24 °C)

Component B: 77 °F (25 °C)

Mixed: 70 °F (21 °C)

(d) WEIGHT PER VOLUME (ASTM D1475):

Component A: 11.77 lb/gal (1410.35 g/L)

Component B: 8.12 lb/gal (973 g/L)

Mixed: 11.34 lb/gal (1360 g/L)

(e) PERCENT EDGE RETENTION, IF REQUIRED BY APPLICABLE SPECIFICATION (N/A): N/A %

(f) SHELF LIFE: 36 Months

(g) VISCOSITY (ASTM D562):

Component A : 110 KU @ 25 °C (77 °F)

Component B : 102 KU @ 25 °C (77 °F)

Mixed : 108 KU @ 25 °C (77 °F)

(h) PACKAGING: Component A in 5 gallon can, Component B in 1 gallon can, Mixed kit is in 5 gallons

(i) NUMBER OF COMPONENTS: 2

(j) GLOSS (ASTM D523): 12 GU

(k) STORAGE REQUIREMENTS: TEMPERATURE: 40 °F (5 °C) MIN. 100 °F (38 °C) MAX.

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

(l) VOLATILE ORGANIC COMPOUNDS (VOCS- EPA TEST METHOD 24): <2.8 lb/gal (<340 g/L)

(m) WEIGHT PER AREA OF DRY FILM AT 1 MIL THICKNESS: 0.0084 lb/sq. ft. (41.01 g/m²)

(n) SPECIAL PROPERTIES:Tiecoat for antifouling that does not require thumb print tacky. Low temperature cure.

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS:

(a) INITIAL CLEANLINESS: Ensure preceding coat is sound, dry, free of dust, dirt, oil, grease, and other foreign matter. Ensure proceeding coat is within the maximum allowable recoat window. Product used as a tie-coat (intermediate coat).

(b) TOUCH-UP CLEANLINESS: 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 and C): 2 mils MIN. 4 mils MAX.

(d) SPECIAL INSTRUCTIONS: Profile 2-4 mils recommended, up to 5 mil profile acceptable. Follow NAVSEA Standard Item 009-32 guidelines.

(e) PRIMER REQUIREMENTS: Apply over SeaGuard 5000 HS. Note SeaGuard Tie Coat is also compatible with other Sherwin-Williams primers. Contact your Sherwin-Williams representative for additional information.

(f) MAXIMUM ALLOWABLE CONDUCTIVITY (Bresle Patch Method ISO 8502-9):

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: 91.4:8.6
BY VOLUME: 7:1

(b) INDUCTION TIME: 0 Minutes

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

(d) POT LIFE:

1 Hours @ 86 °F (30 °C)
2 Hours @ 68 °F (20 °C)
3 Hours @ 59 °F (15 °C)

Graphs included on page: N/A

(e) SPECIAL INSTRUCTIONS: Mix contents of individual components thoroughly using power agitation. Make certain no pigments remain on bottom or sides of container. Empty Component B into Component A and thoroughly mix using power agitation. Mix complete kit.

VI. APPLICATION:

(a) ENVIRONMENTAL LIMITATIONS:

SUBSTRATE TEMPERATURE: 23°F (-5°C) MIN. 104°F (40°C) MAX.
AMBIENT TEMPERATURE: 23°F (-5°C) MIN. 104°F (40°C) MAX.
DIFFERENCE ABOVE THE DEW POINT: 5 °F (3 °C)
MAXIMUM PERCENT RELATIVE HUMIDITY: 85 %

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

6 mils WET MIN. 12 mils WET MAX.
4 mils DRY MIN. 8 mils DRY MAX.

TOTAL SYSTEM:

Total system film thickness dependent upon specific application. Refer to qualification and specification guidelines. mils DRY MIN. mils DRY MAX.

(c) DRY TIMES (ASTM D1640):

Minimum Overcoat Window:

11 Hours @ 50 °F (10°C)
5.5 Hours @ 68 °F (20°C)
4 Hours @ 86 °F (30°C)

Maximum Overcoat Window:

168 Hours @ 50 °F (10°C)
84 Hours @ 68 °F (20°C)
63 Hours @ 86 °F (30°C)

Dry to Handle:

10 Hours @ 50 °F (10°C)
6 Hours @ 68 °F (20°C)
5 Hours @ 86 °F (30°C)

Dry to Service:

N/A – requires topcoat Hours @ 50 °F (10°C)
N/A – requires topcoat Hours @ 68 °F (20°C)
N/A – requires topcoat Hours @ 86 °F (30°C)

Graphs included on page 4 and 5 or additional information included on page 5

(d) EQUIPMENT REQUIREMENTS: Airless spray, brush or roller.

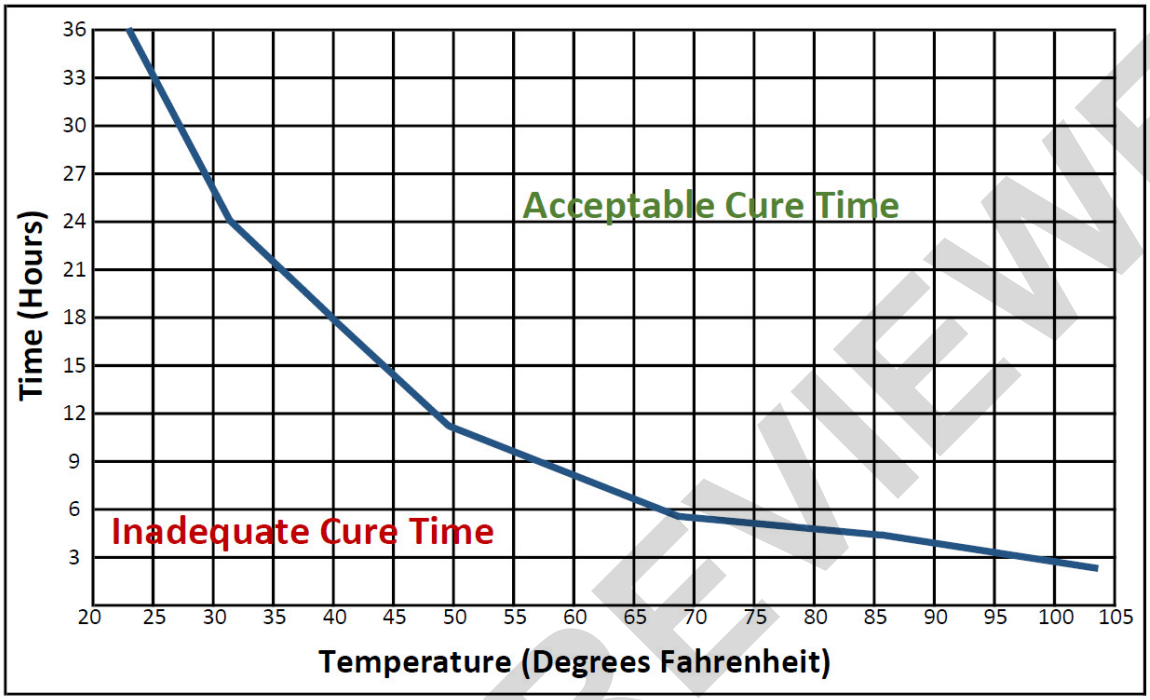
(e) SPECIAL INSTRUCTIONS: Note that the SeaGuard Tie Coat must be dry to recoat (not tacky) before application of subsequent coats and all minimum overcoating intervals must be observed. Use only where application and curing can proceed at temperatures above - 5°C/23°F. When the ambient temperature is below 15°C/59°F then the paint should be kept above 20°C/68°F to maintain application properties. Application of coating below minimum or above maximum recommended dry film thickness may adversely effect 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. Failure to apply the AF to SeaGuard Tie Coat as detailed above may result in loss of adhesion.

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 and apply light coat of SeaGuard Tie Coat as per NAVSEA standard item 009-32 requirements.

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 and apply light coat of SeaGuard Tie Coat as per NAVSEA standard item 009-32 requirements.

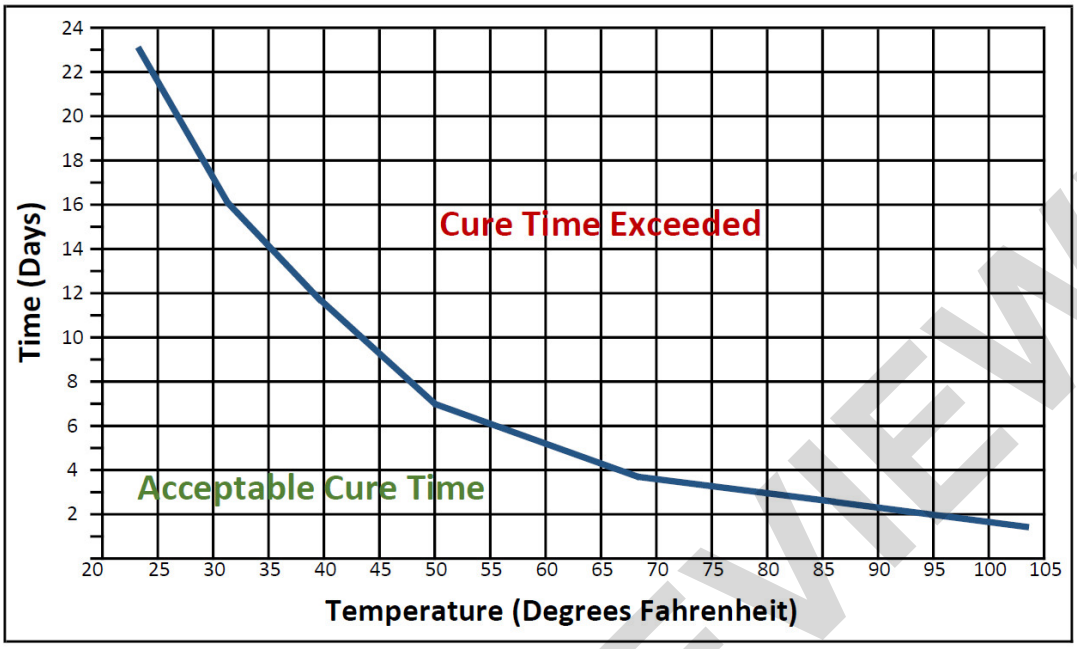
GRAPHS FOR POT LIFE AND CURE TIMES:

Figure 1. Minimum Overcoat Time of SeaGuard Tie-Coat Epoxy Prior to Application of SeaGuard Ablative Antifoulant



The above curing schedule is at 6.0 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 2. Maximum Overcoat Time of SeaGuard Tie-Coat Prior to Application of SeaGuard Ablative Antifoulant



The above curing schedule is at 6.0 wet mils and 50% relative humidity.
Drying time is temperature, humidity, and film thickness dependent.
The above information is provided for guideline use only.

ADDITIONAL DATA/INSTRUCTIONS:

I. GENERIC TYPE AND DESCRIPTION: N/A

II. MANUFACTURERS DATA: N/A

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: N/A

V. MIXING PROCEDURES: N/A

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.