MIL-DTL-24441 (SH)

TYPE IV Paint, Epoxy Polyamide

PRODUCT DESIGNATIONS

MIL-DTL-24441 Type IV

MIL-DTL-24441

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

NavseaReviewedf718@us.navy.mil

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SHIPBUILDERS AND MARINE PAINTS AND COATINGS PRODUCT/PROCEDURE DATA SHEET

I. GENERIC TYPE AND DESCRIPTION: Paint, Epoxy Polyamide Date: 2/3/2022
Specification Number: MIL-DTL-24441 Type IV
NOTE: For Type/Grade/Class/Application information see QPD-24441

II. MANUFACTURERS DATA:

(a) MANUFACTURER: Refer to QPL-24441

(b) PRODUCT DESIGNATION: MIL-DTL-24441 Type IV

(c) COLOR(S): F150 Green, F151 Haze Gray, F152 White, F153 Dark Gray Ro 1.8, F154 Dark Gray Ro 3.6, F155 Dark Gray Ro 6.0, F156 Red

(d) USES: Marine vessels

(e) TECHNICAL SERVICE REPRESENTATIVE: Refer to QPL-24441

III. PROPERTIES:

(a) PERCENT VOLUME SOLIDS (ASTM D2697): Component A (varies depending on color): 51.5 +/- 3 %

Component B (varies depending on color): 71.8 +/ 3 %

Mixed (varies depending on color): 66.5 +/- 3 %

(b) PERCENT WEIGHT SOLIDS (ASTM D2369): Component A (varies depending on color): 70 +/- 3 %

Component B (varies depending on color): 81.8 +/- 4 %

Mixed (varies depending on color): 75.5 +/- 3 %

(c) FLASH POINT (ASTM D3828 SETA Flash):

Mixed: 100 °F (37.8 °C)

(d) WEIGHT PER VOLUME (ASTM D1475):

Component A (varies depending on color): 11.6 +/- 0.6 lb/gal (1390 +/- 72 g/L)

Component B (varies depending on color): 11.1 +/- 0.3 lb/gal (1330 +/- 36 g/L)

Mixed (varies depending on color): 11.4 +/- 0.5 lb/gal (1366 +/- 60 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 (varies depending on color) : Max 120 KU @ 25 °C (77 °F)

Component B (varies depending on color) : Max 120 KU @ 25 °C (77 °F)

Mixed (varies depending on color) : Max 120 KU @ 25 °C (77 °F)

(h) PACKAGING: 1-2 gallon kits and 5-10 gallon kits

(i) NUMBER OF COMPONENTS: 2

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(j) GLOSS (ASTM D523):

F150 Mixed: Max 10 GU

F151 Mixed: Max 30 GU

F152 Mixed: Max 35 GU

F153 Mixed: Max 30 GU

F154 Mixed: Max 30 GU

F155 Mixed: Max 25 GU

F156 Mixed: 40-60 GU

(k) STORAGE REQUIREMENTS: TEMPERATURE: 40 °F (4.4 °C) MIN. 100 °F (37.8 °C) MAX.

ADDITIONAL PAINT STORAGE REQUIREMENTS: N/A

(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:

Mixed (varies depending on color): 0.009 lb/sq. ft. (43.9 g/m²)

(n) SPECIAL PROPERTIES:N/A

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS:

(a) INITIAL CLEANLINESS: Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP 1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP 10/NACE 2 (immersion service). Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP 6/NACE 3 (atmospheric service).

(b) TOUCH-UP CLEANLINESS: Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP 1. Minimum surface preparation is Power Tool Cleaning per SSPC-SP 11.

(c) PROFILE (ASTM D4417): 2 mils MIN. 4 mils MAX.

(d) SPECIAL INSTRUCTIONS: Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, and other foreign material to ensure good adhesion.

(e) PRIMER REQUIREMENTS: N/A

(f) MAXIMUM ALLOWABLE CONDUCTIVITY (NACE SP0508-2020 “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 Safety Data Sheet (SDS) for safety information.

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V. MIXING PROCEDURES

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

(b) INDUCTION TIME: N/A Minutes

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

(d) POT LIFE:

7 Hours @ 40-60 °F (4.4-15.6 °C)
6 Hours @ 61-80 °F (16.1-26.7 °C)
3 Hours @ 81-90 °F (27.2-32.2 °C)

Graphs included on page: N/A

(e) SPECIAL INSTRUCTIONS: Mix contents of each component thoroughly with low speed power agitation using a drill and Jiffy blade or equivalent. Make certain no pigment remains on the bottom of the can. Then combine one part by volume of Part A with one part by volume of Part B and thoroughly agitate the mixture with power agitation using a drill and Jiffy blade or equivalent.

VI. APPLICATION:

(a) ENVIRONMENTAL LIMITATIONS:

SUBSTRATE TEMPERATURE: 35°F (1.6°C) MIN. 100°F (37.8°C) MAX.
AMBIENT TEMPERATURE: 35°F (1.6°C) MIN. 100°F (37.8°C) MAX.
DIFFERENCE ABOVE THE DEW POINT: 5 °F (2.8 °C)
MAXIMUM PERCENT RELATIVE HUMIDITY: 85 %

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

6.0 mils WET MIN. 9.0 mils WET MAX.
4.0 mils DRY MIN. 6.0 mils DRY MAX.

TOTAL SYSTEM:

8.0 mils DRY MIN. 12.0 mils DRY MAX.

(c) DRY TIMES (ASTM D1640):

Minimum Overcoat Window:

24 Hours @ 35 °F (2°C)
18 Hours @ 55 °F (12.8°C)
12 Hours @ 70 °F (21°C)
8 Hours @ 85 °F (29°C)

Maximum Overcoat Window:

14 Days @ 35 °F (2°C)
12 Days @ 55 °F (12.8°C)
10 Days @ 70 °F (21°C)
7 Days @ 85 °F (29°C)

Dry to Handle:

12 Hours @ 35 °F (2°C)
8 Hours @ 55 °F (12.8°C)
6 Hours @ 70 °F (21°C)
4 Hours @ 85 °F (29°C)

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Dry to Service:

6 Days @ 35 °F (2°C)
5 Days @ 55 °F (12.8°C)
4 Days @ 70 °F (21°C)
3 Days @ 85 °F (29°C)

Graphs included on page N/A or additional information included on page N/A

(d) EQUIPMENT REQUIREMENTS: Conventional or airless spray, roller or brush

(e) SPECIAL INSTRUCTIONS:

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR CRITICAL APPLICATIONS: : If the overcoat window has been exceeded, Clean surface of coating per SSPC-SP 1, abrade surface with 80 grit sandpaper or equivalent to promote adhesion, clean surface to SSPC-SP 1 again.

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR NON-CRITICAL APPLICATIONS: If the overcoat window has been exceeded, Clean surface of coating per SSPC-SP 1, abrade surface with 80 grit sandpaper or equivalent to promote adhesion, clean surface to SSPC-SP 1 again.

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GRAPHS FOR POT LIFE AND CURE TIMES:
N/A

ADDITIONAL DATA/INSTRUCTIONS:

I. GENERIC TYPE AND DESCRIPTION: N/A

II. MANUFACTURERS DATA: N/A

III. PROPERTIES: N/A

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS: N/A

V. MIXING PROCEDURES: N/A

VI. APPLICATION: N/A

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