Designation: F718 – 07 (Reapproved 2017)

An American National Standard

Standard Specification for Shipbuilders and Marine Paints and Coatings Product/ Procedure Data Sheet[1]

This standard is issued under the fixed designation F718; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 The Shipbuilders and Marine Paints and Coatings Product/Procedure Data Sheet[2] provides on one sheet needed information concerning the characteristics of a specific paint or coating to include generic description, physical properties, surface preparation requirements, application requirements, and safety. The front side of the sheet contains four major, numbered paragraphs and a highlighted section for *Special Safety Precautions.* These paragraphs are as follows:

I. Generic Type and Description
II. Manufacturers Data
III. Properties
IV. Surface Preparation Minimum Requirements

The back side of the page contains the following paragraphs:

V. Mixing Procedure
VI. Application

1.2 The completed data sheets can be used by technical personnel to help evaluate the technical acceptability of a proposed material, by production personnel to evaluate production compatibility of proposed materials and to provide application instructions for selected paints and coatings materials, and by quality control personnel to verify attributes of materials.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[3]

D56 Test Method for Flash Point by Tag Closed Cup Tester
D93 Test Methods for Flash Point by Pensky-Martens Closed Cup Tester
D523 Test Method for Specular Gloss
D1475 Test Method For Density of Liquid Coatings, Inks, and Related Products
D1640 Test Methods for Drying, Curing, or Film Formation of Organic Coatings
D1650 Test Methods for Sampling and Testing Shellac Varnish (Withdrawn 1997)[4]
D2697 Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings
D3278 Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus

2.2 *ASTM Adjunct:*

Shipbuilder's and Marine Paints and Coatings Product/ Procedure Data Sheets[2]

2.3 *U.S. EPA Method:*[5]

24 U.S. Environmental Protection Agency, 40 CFR Ch. 1, Part 60, Appendix A, Determination of Volatile Matter Content, Density, Volume Solids, and Weight Solids of Surface Coatings

3. Instructions for Completing Data Sheet

3.1 When filling out the Product/Procedure Data Sheet (see Figs. 1 and 2) remember that the information contained therein will be utilized by both technical and production personnel.

[1] This standard is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.01 on Structures.

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[2] Available from ASTM International Headquarters. Order Adjunct No. ADJF0718. Original adjunct produced in 1993.

[3] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[4] The last approved version of this historical standard is referenced on www.astm.org.

[5] Available from U.S. Government Printing Office, Superintendent of Documents, 732 N. Capitol St., NW, Washington, DC 20401-0001, http://www.access.gpo.gov.

SHIPBUILDERS AND MARINE PAINTS AND COATINGS PRODUCT/PROCEDURE DATA SHEET NO. _____

CONTINUATION SHEET USED: ☐ YES ☐ NO

Date Rev.

I. GENERIC TYPE AND DESCRIPTION:
Specification Number, Type, Class and/or Grade (If Applicable):

II. MANUFACTURERS DATA:
(a) MANUFACTURER:
(b) PRODUCT DESIGNATION:
(c) COLOR (S):
(d) USES:
(e) TECHNICAL SERVICE REPRESENTATIVE (Include telephone Nos):
(f) NOT RECOMMENDED FOR:

III. PROPERTIES:
(a) % VOLUME SOLIDS (ASTM D2697):
(b) % WEIGHT SOLIDS (ASTM D1475?):
(c) FLASH POINT (ASTM TEST METHOD D93 OR D56 OR D3278)
(d) WEIGHT PER VOLUME (FTMS 141a4184.1):
(e) % EDGE RETENTION (IF REQUIRED BY APPLICABLE SPECIFICATION – LIST TEST METHOD USED)
(f) SHELF LIFE:
(g) VISCOSITY (STATE TEST METHOD TO BE USED): COMPONENT A:
COMPONENT B:
MIXED:
(h) PACKAGING:
(i) NUMBER OF COMPONENTS:
(j) GLOSS (ASTM D523)
(k) STORAGE REQUIREMENTS: TEMP. MIN. _____ MAX. _____
ADDITIONAL PAINT STORAGE REQUIREMENTS:
(l) VOLATILE ORGANIC COMPOUND (VOC - EPA TEST METHOD 24):
(m) WEIGHT OF DRY FILM (WEIGHT/FT^2 AT 1 MIL THICKNESS):
(n) SPECIAL PROPERTIES (e.g., STAIN RESISTANCE, LOW SOLAR ABSORBANCE, MOISTURE TOLERANCE):

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS (USE SPECIFIC STANDARD NUMBERS):
(a) INITIAL -
(b) TOUCH-UP -
(c) PROFILE (INCLUDE METHOD USED) - MIN._____ MAX. _____
(d) SPECIAL INSTRUCTIONS -
(e) PRIMER REQUIREMENTS (IF APPLICABLE):
(f) MAXIMUM ALLOWABLE CONDUCTIVITY (BRESTLE PATCH METHOD):
(g) MAXIMUM DEGREE OF FLASH RUSTING ALLOWABLE (LIST COMMERCIAL STANDARD):

SPECIAL SAFETY PRECAUTIONS:

(OVER)

FIG. 1 Data Sheet (Front)

SHIPBUILDERS AND MARINE PAINTS AND COATINGS PRODUCT/PROCEDURE DATA SHEET NO. _____

CONTINUATION SHEET USED: ☐ YES ☐ NO

Date Rev.

V. MIXING PROCEDURES:

(a) MIXING RATIOS BY WEIGHT -
BY VOLUME -

(b) INDUCTION TIME -

(c) RECOMMENDED SOLVENT - THINNING -
CONFINED AREAS -
NON-CONFINED AREAS -
CLEAN UP -

(d) THINNING REQUIREMENTS (RATIO) -

IF PRODUCT IS NOT TO BE THINNED STATE "NO THINNING ALLOWED"

(e) POT LIFE - _____ Hr (s) @_____ °C
_____ Hr (s) @_____ °C
_____ Hr (s) @_____ °C

(f) SPECIAL INSTRUCTIONS-

VI. APPLICATION:

(a) ENVIRONMENTAL LIMITATIONS -

SUBSTRATE TEMPERATURE MIN._____ MAX. _____

MINIMUM SUBSTRATE TEMPERATURE DIFFERENCE ABOVE THE DEW POINT- _____

MAXIMUM PERCENT RELATIVE HUMIDITY:

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

WET MIN._____ WET MAX._____

DRY MIN. _____ DRY MAX. _____

TOTAL SYSTEM:

DRY MIN. _____ DRY MAX. _____

(c) DRY TIMES (ASTM D1640) –

PROVIDE EITHER A GRAPH OR A CHART PER PARAGRAPH 3.8.1 SHOWING THE FOLLOWING CURE TIMES AT A MINIMUM:

1) DRY TO RECOAT
2) DRY TO HANDLE (I.E., TIME UNTIL PERSONNEL CAN WALK ON, INSPECT, TOUCH-UP COAT)
3) MAXIMUM RECOAT
4) CURE TO FULL SERVICE

THE GRAPH OR CHART SHALL HAVE AT A MINIMUM EACH OF THESE TIMES AT THE STATED MINIMUM AND MAXIMUM AMBIENT TEMPERATURES, AND AT LEAST ONE DATA POINT IN BETWEEN (E.G., IF A PRODUCT CAN BE APPLIED AS LOW AS 40°F, AND AS HIGH AS 100°F, THE CHART OR GRAPH MAY HAVE DRY TO RECOAT, DRY TO HANDLE, MAX RECOAT AND CURE TO FULL SERVICE TIMES FOR 40°F, 100°F, AND 70°F. FOR PRODUCTS WHERE HUMIDITY AFFECTS CURE TIMES, ADDITIONAL CHARTS AND/OR GRAPHS WILL BE REQUIRED FOR DIFFERENT AMBIENT RELATIVE HUIMIDITY CONDITIONS.

(d) EQUIPMENT REQUIREMENTS (INCLUDE PREFERRED, SUITABLE, NOT SUITABLE REQUIREMENTS) -

IF PLURAL COMPONENT EQUIPMENT IS REQUIRED STATE SO -

IF HEATED LINES ARE REQUIRED STATE SO -

(e) SPECIAL INSTRUCTIONS -

PROVIDE INFORMATION FOR REPAIR PROCEDURES IF THE OVERCOAT WINDOW HAS BEEN EXCEEDED.

FIG. 2 Data Sheet (Back)

Keep it simple and brief but complete. The following instructions are organized by paragraph numbers contained within the data sheet.

3.2 *Paragraph I—Generic Type and Description* —Use only known and industry-accepted generic descriptions. Also, list any specification specific terminology (for example, MIL-PRF-23236 Type I, Class 2, etc.). See Fig. 1.

3.3 *Paragraph II—Manufacturers Data*—This section is self-explanatory with the possible exception of subparagraph (*f*). This can be as complete or as brief as the concerned parties desire. For example, a separate attached list of compatible and incompatible topcoats or acceptable cargo exposures could be included. See Fig. 1.

3.4 *Paragraph III—Properties*—This section is also self-explanatory with the following exceptions:

3.4.1 *Subparagraph (a)*—If agreed upon by the concerned parties, a different method for determining volume solids (theoretical coverage) may be substituted. The form should be amended to show method.

3.4.2 *Subparagraph (e)*—If the specification requires an edge-retentive paint to be used, the % edge retention and test method used should be listed.

3.4.3 *Subparagraph (g)*—Use an agreed upon standard for viscosity (for example, ASTM, etc.). Also, for two part coatings, state whether the requirement is for each individual component, the mixed coating, or all three.

3.4.4 *Subparagraph (n)*—any special properties (for example, stain resistance, low temperature cure, etc.) should be listed, and any specific differences in handling, application or maintenance procedures to maintain that property should be listed. See Fig. 1.

3.5 *Paragraph IV—Surface Preparation Minimum Requirements:*

3.5.1 *Subparagraphs (a) and (b)*—Use an agreed-upon standard for example, ASTM, SSPC, Swedish, NACE, SNAME, etc. See Fig. 1.

3.5.2 *Subparagraph (c)*—Surface profile data is required. The profile listed must be given as a range for the average of all profile measurements. The method of measurement must be agreed upon by all parties concerned.

3.5.3 *Subparagraph (d)*—Any specific requirements for, or prohibitions on, the type of abrasives that can be used shall be entered in subparagraph (*d*), Special Instructions. See Fig. 1.

3.5.4 *Subparagraph (f) and (g)*—List commercial industry standard(s), or test method(s), or both, for conductivity and flash rust.

3.6 *Special Safety Precautions*—This section should contain specific instructions of what to do in the event of skin or eye contact or accidental ingestion, or both. Reference should also be made to the appropriate manufacturer's Material Safety Data Sheet. See Fig. 1.

3.7 *Paragraph V—Mixing Procedure*—This section is self-explanatory with the possible exceptions of subparagraphs (*c*) and (*f*). Subparagraph (*c*) should preferably contain a generic solvent as opposed to a proprietary one. Subparagraph (*f*) should, as a minimum, contain the mesh size of the straining material and special procedures governing which component should be added to the other. Subparagraph (*b*), if appropriate, should include length of induction time given as a function of various temperatures. See Fig. 2.

3.8 *Paragraph VI—Application*—This section is one of the most important of the entire form. It must be filled out accurately and completely using all blocks in every paragraph.

3.8.1 *Subparagraph (c), "Dry Times"*—Provide either a graph or a chart showing the following cure times at a minimum:

(1) dry to recoat

(2) dry to handle (that is, time until personnel can walk on, inspect, touch-up coat)

(3) maximum recoat

(4) cure to full service

The graph or chart shall have at a minimum each of these four cure times at the stated minimum and maximum ambient temperatures, and at least one data point in between (for example, if a product can be applied as low as 40°F, and as high as 100°F, the chart or graph may need; to dry, to recoat, dry to handle, max recoat and cure to full service times for 40°F, 100°F, and 70°F).

Maximum recoat times should be expressed in hours, days, weeks, or months.

3.8.2 *Subparagraph (d)*—Equipment requirements should be brief.

3.8.3 *Subparagraph (e)*—Special Instructions should include mitigation steps to be followed when above conditions not met (for example, if max overcoat window is missed), and require special handling to correct. See Fig. 2.

4. Keywords

4.1 data sheet; marine coatings; marine paints; procedure data sheet; product data sheet