



Standard for Shipbuilders and Marine Paints and Coatings Product/ Procedure Data Sheet¹

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

1. Scope

1.1 The Shipbuilders and Marine Paints and Coatings Product/Procedure Data Sheet² 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.

2. Referenced Documents

2.1 ASTM Standards:

- D 56 Test Method for Flash Point by Tag Closed Tester³
- D 93 Test Methods for Flash Point by Pensky-Martens Closed Cup Tester³
- D 523 Test Method for Specular Gloss⁴

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 Copies of the data sheet are available at a nominal charge from ASTM Headquarters, 100 Barr Harbor Dr., PO Box C700, West Conshohocken, PA 19428-2959. Request Adjunct No. ADJF0718.

³ *Annual Book of ASTM Standards*, Vol 05.01.

⁴ *Annual Book of ASTM Standards*, Vol 06.01.

D 1650 Test Methods of Sampling and Testing Shellac Varnish⁵

D 2697 Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings⁴

D 3278 Test Method for Flash Point of Liquids by Small Scale Closed Cup Apparatus⁴

2.2 Method

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 Coatings⁶

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. Keep it simple and brief but complete. The following instructions are organized by paragraph numbers contained within the data sheet. Also see the two examples attached (Appendix X1).

3.2 *Paragraph I—Generic Type and Description*—Use only known and industry-accepted generic descriptions. 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 possible exception of 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. See Fig. 1.

3.5 *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

⁵ Withdrawn. See 1997 *Annual Book of ASTM Standards*, Vol 06.03.

⁶ Superintendent of Documents, Government Printing Office, Washington, DC 20402.



SHIPBUILDERS AND MARINE

PAINTS AND COATINGS

PRODUCT/PROCEDURE DATA SHEET NO. _____

		Date:	Rev.
I. GENERIC TYPE AND DESCRIPTION: Specification Number (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 D 2697):	(b) FLASH POINT (ASTM TEST METHOD D 93); OR (ASTM TEST METHOD D 56); OR (ASTM TEST METHOD D 3278)		
(c) WEIGHT PER VOLUME (FTMS141a4184.1):	(d) SHELF LIFE:		
(e) VISCOSITY (FTMS141a4281):	(f) PACKAGING:		
(g) NUMBER OF COMPONENTS:	(h) GLOSS (ASTM D 523):		
(i) STORAGE REQUIREMENTS: TEMP. MIN. _____ MAX. _____			
(j) VOLATILE ORGANIC COMPOUND (EPA TEST METHOD 24):			
(k) WEIGHT OF DRY FILM (WEIGHT PER AREA AT A GIVEN THICKNESS)			
SPECIAL SAFETY PRECAUTIONS:			
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):			
(OVER)			

FIG. 1 Data Sheet (Front)

also be made to the appropriate manufacturer's Material Safety Data Sheet. See Fig. 1.

3.6 Paragraph IV—Surface Preparation Minimum Requirements:

3.6.1 Subparagraphs (a) and (b)—Use an agreed-upon standard that is, ASTM, SSPC, Swedish, NACE, SNAME, etc. See Fig. 1.

3.6.2 Subparagraph (c)—Profile data are optional. If used, the profile listed must be given as a range. The method of measurement must be agreed upon by all parties concerned, or this paragraph can be left blank and the type and size of abrasive(s) allowed entered in subparagraph (d), Special Instructions. 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. Subparagraph (c), "Dry Times," is to be used for tank coatings,

underbottoms, and other speciality areas. Maximum recoat times should be expressed in hours, days, weeks, or months. Equipment requirements should be brief. See Fig. 2.

4. Keywords

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

APPENDIX

(Nonmandatory Information)

X1. SAMPLE SHEETS



**SHIPBUILDERS AND MARINE
PAINTS AND COATINGS
PRODUCT/PROCEDURE DATA SHEET NO. 2-1-1**

		Date:	Rev.
I. GENERIC TYPE AND DESCRIPTION:		Epoxy Polyamide	
Specification Number (If Applicable):		MIL-P-23236	
II. MANUFACTURERS DATA:			
(a) MANUFACTURER: R-Equal Paint Mfg. Co.	(b) PRODUCT DESIGNATION: 40-DX, Red 40-DX-16, White 40-DX-17, Blue 40-DX-18		
(c) COLOR(S): Red, White, Blue	(d) USES: Ballast Tanks		
(e) TECHNICAL SERVICE REPRESENTATIVE (Include Telephone Nos.): (000) 000-0000 Mr. Good Brush (000) 000-0000 (FAX)	(f) NOT RECOMMENDED FOR: High temperature service above 60°C		
III. PROPERTIES:			
(a) % VOLUME SOLIDS (ASTM D 2697): 50%	(b) FLASH POINT (ASTM TEST METHOD D 93); OR (ASTM TEST METHOD D 56); OR (ASTM TEST METHOD D 3278): 38°C		
(c) WEIGHT PER GALLON (FTMS141a4184.1): 1.4 kg/l	(d) SHELF LIFE: 24 months		
(e) VISCOSITY (FTMS141a4281): 120 K.U.	(f) PACKAGING: 2 premeasured metal containers, one packaged inside the other		
(g) NUMBER OF COMPONENTS: 2	(h) GLOSS (ASTM D 523): Eggshell		
(i) STORAGE REQUIREMENTS: TEMP. MIN. -18°C MAX. 60°C			
(j) VOLATILE ORGANIC COMPOUND (EPA TEST METHOD 24):			
(k) WEIGHT OF DRY FILM (WEIGHT PER AREA AT A GIVEN THICKNESS)			
SPECIAL SAFETY PRECAUTIONS:			
Harmful if inhaled. Could cause skin irritation and may cause respiratory reaction. Keep away from excessive heat and open flame. Use only with adequate ventilation. See U.S. Department of Labor Material Safety Data Sheet for additional information			
IV. SURFACE PREPARATION MINIMUM REQUIREMENTS (USE SPECIFIC STANDARD NUMBERS):			
(a) INITIAL - Near White Blast, SSPC-SP-10 For Recoat - First coat must be clean and dry. Mechanically etch if recoat time has expired			
(b) TOUCH-UP - Same as above. Limited power tool cleaning using disk grinders			
(c) PROFILE (INCLUDE METHOD USED) - MIN. 40 MIC. MAX. 100 MIC. Gardner Model 123 Profile meter			
(d) SPECIAL INSTRUCTIONS - Do not use power wire brush			
(e) PRIMER REQUIREMENTS (IF APPLICABLE): Material is self-priming. The first coat is considered the prime coat			
			(OVER)

FIG. X1.1 Sample Sheet (Front)

V. MIXING PROCEDURE:

- (a) MIXING RATIO BY WEIGHT - 3.5kg powder to 2.6kg liquid
 BY VOLUME - 1liter powder to 3.liters liquid
- (b) INDUCTION TIME - none
- (c) RECOMMENDED SOLVENT - THINNING -
 CONFINED AREAS - #1 Solvent
 NON-CONFINED AREAS - #2 Solvent
 CLEAN UP - Cellosolve Acetate
- (d) THINNING REQUIREMENTS (RATIO) - 10 % maximum
- (e) POT LIFE -

72	Hr (s)	@	4	°C
48	Hr (s)	@	27	°C
24	Hr (s)	@	38	°C
- (f) SPECIAL INSTRUCTIONS -
 Strain mixture through #30 mesh screen.
 Keep mixture under constant agitation.
 Do not thin in VOC compliant areas.

VI. APPLICATION:

- (a) ENVIRONMENTAL LIMITATIONS -

* TEMP. MIN.	-20°C	MAX.	50°C
* % RELATIVE HUMIDITY MIN.	40%	MAX.	95%
- (b) FILM THICKNESS (SSPC PA2-73T) -

WET MIN.	3.0	WET MAX.	See Special Instructions
DRY MIN.	0.9	DRY MAX.	See Special Instructions
- (c) DRY TIMES (ASTM D 1650)-RECOAT

MIN.	24	Hr (s)	@	-20	°C	@	50	%	R.H.	
MIN.	12	Hr (s)	@	18	°C	@	50	%	R.H.	
MIN.	8	Hr (s)	@	28	°C	@	50	%	R.H.	
MAX.	N.A.	Hr (s)								
TO HANDLE	MIN.	0.25	Hr (s)	@	25	°C	@	50	%	R.H.
	MIN.	0.50	Hr (s)	@	18	°C	@	50	%	R.H.
	MIN.	1.00	Hr (s)	@	-20	°C	@	50	%	R.H.
FOR IMMERSION	MIN.	N.A.	Hr (s)	@	_____	°C				
	MIN.	_____	Hr (s)	@	_____	°C				
	MIN.	_____	Hr (s)	@	_____	°C				
	MAX.	_____	Hr (s)	@	_____	°C				
- (d) EQUIPMENT REQUIREMENTS (INCLUDE PREFERRED, SUITABLE AND NOT SUITABLE REQUIREMENTS).
 Conventional spray-agitated pot, external mix gun with heavy-duty spring & 1.8m/m tip combination.
 Airless spray - 5m/m with 80-125 bar fluid pressure.
 Brush - Use Only for minor touch-up
 Roller - Do not use.
- (e) SPECIAL INSTRUCTIONS - Film thickness must be uniformly correct to facilitate welding and burning operations. No impact on performance. Qualified for use with the following welding processes: SAW, Flux Core, Short Arc, MIG, and Stick. Contact Technical Representative in Para. II(e) for parameters.

* CAUTION SHOULD BE TAKEN THAT SURFACE TEMPERATURE IS AT LEAST 3°C ABOVE DEW POINT.

FIG. X1.2 Sample Sheet (Back)



**SHIPBUILDERS AND MARINE
PAINTS AND COATINGS
PRODUCT/PROCEDURE DATA SHEET NO. 1-1-1**

	Date:	Rev. A
I. GENERIC TYPE AND DESCRIPTION: Specification Number (If Applicable): Alkyl (Solvent-Based) Inorganic Zinc Silicate Primer		
II. MANUFACTURERS DATA:		
(a) MANUFACTURER: R-Equal Paint Mfg. Co. (c) COLOR(S): Gray (e) TECHNICAL SERVICE REPRESENTATIVE (Include Telephone Nos.): (100) 242-6000 Mr. Good Brush (000) 000-000 (FAX)	(b) PRODUCT DESIGNATION: 28-DG-1 Gray (d) USES: Preconstruction Primer (f) NOT RECOMMENDED FOR: Immersion Service See Technical Representative for compatible topcoats	
III. PROPERTIES:		
(a) % VOLUME SOLIDS (ASTM D 2697): 30 (c) WEIGHT PER GALLON (FTMS141a4184.1): 1.4 kg/l (e) VISCOSITY (FTMS141a4281): 78 K.U. (g) NUMBER OF COMPONENTS: 2 (i) STORAGE REQUIREMENTS: TEMP. MIN. <u>N/A</u> MAX. <u>60°C</u> (j) VOLATILE ORGANIC COMPOUND (EPA TEST METHOD 24): (k) WEIGHT OF DRY FILM (WEIGHT PER AREA AT A GIVEN THICKNESS):	(b) FLASH POINT (ASTM TEST METHOD D 93); OR (ASTM TEST METHOD D 56); OR (ASTM TEST METHOD D 3278) <u>25°C</u> (d) SHELF LIFE: 9 months (f) PACKAGING: Premeasured powder packaged in metal container. Premeasured liquid in polyurethane (h) GLOSS (ASTM D 523): container flat	
SPECIAL SAFETY PRECAUTIONS:		
Solvents contained in this coating are extremely flammable and may cause irritation. Use extreme caution if applying in enclosed areas. Keep away from heat and sparks or open flame. Always use with adequate ventilation. See U.S. Department of Labor Material Safety Data Sheet for additional information.		
IV. SURFACE PREPARATION MINIMUM REQUIREMENTS (USE SPECIFIC STANDARD NUMBERS):		
(a) INITIAL - Commercial Blast, SSPC-SP 6 (b) TOUCH-UP - Power Tool Clean, SSPC-SP3 (c) PROFILE (INCLUDE METHOD USED) - MIN. <u>25 mic.</u> MAX. <u>90 mic.</u> Gardner Model 123 Profilometer (d) SPECIAL INSTRUCTIONS - Do not use power wire brush for power tool cleaning. (e) PRIMER REQUIREMENTS (IF APPLICABLE): None		
(OVER)		

FIG. X1.3 Sample Sheet (Front)

V. MIXING PROCEDURE:

- (a) MIXING RATIO BY WEIGHT - 1kg component A to 1kg of component B
 BY VOLUME - 1 part component A to 1 part component B
- (b) INDUCTION TIME - 30 minutes
- (c) RECOMMENDED SOLVENT - THINNING -
 CONFINED AREAS - #1 Solvent
 NON-CONFINED AREAS - #2 Solvent
 CLEAN UP - 1 part xylene to 1 part MIBK
- (d) THINNING REQUIREMENTS (RATIO) - 25% maximum
- (e) POT LIFE -

8	Hr (s)	@	38	°C
12	Hr (s)	@	27	°C
24	Hr (s)	@	4	°C
- (f) SPECIAL INSTRUCTIONS -

Keep mixture under constant agitation during application. Strain mixture through #30 mesh strainer.

VI. APPLICATION:

- (a) ENVIRONMENTAL LIMITATIONS -

* TEMP. MIN.	10°C	MAX.	50°C
* % RELATIVE HUMIDITY MIN.	50%	MAX.	90%
- (b) FILM THICKNESS (SSPC PA2-73T) -

WET MIN.	200	WET MAX.	350
DRY MIN.	100	DRY MAX.	175
- (c) DRY TIMES (ASTM D 1650)-RECOAT

MIN.	24	Hr (s)	@	27	°C	@	50	% R.H.
MIN.	48	Hr (s)	@	16	°C	@	50	% R.H.
MIN.	72	Hr (s)	@	10	°C	@	50	% R.H.
MAX.	6 mo.	Hr (s)	@		°C			

TO HANDLE	MIN.	4.0	Hr (s)	@	10	°C	@	50	% R.H.
	MIN.	2.0	Hr (s)	@	16	°C	@	50	% R.H.
	MIN.	1.0	Hr (s)	@	27	°C	@	50	% R.H.

FOR IMMERSION	MIN.	72	Hr (s)	@	27	°C
	MIN.	144	Hr (s)	@	16	°C
	MIN.	288	Hr (s)	@		°C
	MAX.	N.A	Hr (s)	@		°C
- (d) EQUIPMENT REQUIREMENTS (INCLUDE PREFERRED, SUITABLE AND NOT SUITABLE REQUIREMENTS).

Conventional spray-agitated pot, external mix spray gun with 1.8m/m tip combination
 Airless spray - 5m/m with 80-125bar fluid pressure
 Brush and roller - Minor touch-up only

- (e) SPECIAL INSTRUCTIONS - This material is to be applied in three coats using alternate color for each coat.

* CAUTION SHOULD BE TAKEN THAT SURFACE TEMPERATURE IS AT LEAST 3°C ABOVE DEW POINT.

FIG. X1.4 Sample Sheet (Back)

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