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METRIC
DOD-P-23236A(SH)
AMENDMENT 2
26 August 1985
SUPERSEDING
AMENDMENT 1
15 May 1984

MILITARY SPECIFICATION

PAINT COATING SYSTEMS, STEEL SHIP TANK,
FUEL AND SALT WATER BALLAST (METRIC)

This amendment forms a part of Military Specification DOD-P-23236A(SH) dated 13 November 1979, and is approved for use by the Naval Sea Systems Command, Department of the Navy and is available for use by all Departments and Agencies of the Department of Defense.

PAGE 1

1.2: Delete and substitute:

"1.2 Classification. Coating systems shall be of the following types and classes, as specified (see 6.2.1):

Type I - General use.
Type III - Limited solvent content (for use where air pollution regulations apply).
Type IIIa - Coating systems where the first coat is a shop primer or preconstruction primer.
Type IIIb - Coating systems with or without shop primer which will be used exclusively in dedicated sea water ballast tanks. No exposure to fuel, other hydrocarbons or fresh water is permitted.
Class 1 - Epoxy (2 component, chemically cured coating)."

Beneficial comments statement, line 3: Delete "SEA 3112" and substitute "SEA 5523".

PAGE 2

* 2.2, Under "AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)" Add: "F 718 - Shipbuilders and Marine Paints and Coatings; Product/Procedure Data Sheet."

FSC 8030

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PAGE 3

3.2.2 through 3.2.4: Delete.

3.3: Delete and substitute:

"3.3 Color. Class 1 coating system shall be composed of coats having a 60-degree directional reflectance of not less than 30 with exception of the prime coat. Succeeding coats shall be of contrasting color, and the top or finish coat shall be white or a very light pastel shade."

3.4: Delete and substitute:

"3.4 Description. Where coatings are composed of components to be mixed at the time of application, the minimum proportions for any component shall be at least 5 percent by volume of the total. Class 1 coating system shall consist of at least two full coats (excluding shop or preconstruction primer)."

3.6, line 3: Delete and substitute: "for service within 7 days after the application of the last coat, maintaining a minimum temperature of 10°C (50°F) (see 4.5)."

3.7: Add: "Preconstruction primers (shop primers, after blast primers, after pickling primers) shall have a minimum flash point of 26°C (80°F) when tested in accordance with 4.5."

PAGE 4

3.10, line 3: Delete "4.7" and substitute "4.6".

Add as new paragraph 3.12.1:

"3.12.1 Materials (types and classes) provided in accordance with this specification shall contain no asbestos or lead."

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PAGES 4 and 5

Table I and footnotes thereto: Delete and substitute:

"TABLE I. Identification characteristics values.

Characteristic	Coating component 1/	Coating 2/	Coating system 3/	Quality conformance	QPL
Chemical nature	X				X
Percent of principal constituents (15 percent or more of total)	X			X	X
Percent pigment	X			X	X
Percent nonvolatile vehicle	X			X	X
Percent volatile	X			X	X
Mass per liter (L), gallon (gal)	X	X		X	X
Color	X	X		X	X
Viscosity	X	X		X	X
Flash point	X	X		X	X
Fineness of grind	X	X		X	X
Odor	X	X		X	X
Pot life		X		X	X
Drying or curing time		X	X	X	X
Gloss and appearance		X	X	X	X
Recoatability		X 4/	X 4/		X
Adhesion		X 4/	X 4/		X
Flexibility		X	X	X	X
Resistance to boiling water immersion (identification standard)			X 4/		X
Resistance to fuel and water at 32°C (90°F) (accelerated performance test)			X 4/		X
Mixing instructions		X 5/			X
Application instructions			X 5/		X
Ash		X		X	X

1/ Coating components are individually packaged components such as base component (Part A) or converter component or hardener (Part B). Indicate only applicable characteristics. For example, percent pigment is not applicable to curing solutions.
2/ Coating for class 1 is the resin base and converter as mixed for application.
3/ Coating system is total system (number and type of coats and approximately dry film thickness as tested for qualification approval).
4/ Not required for each lot. Shall be run at least once every 6 months.
5/ Required once only. Shall be furnished with request for test."

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3.14, line 1: Delete "(not required for class 2)."

Add as new paragraphs 3.14.6 and 3.14.7:

"3.14.6 Shop primer (type IIIa). If the total paint system includes, as a first coat, a shop primer or preconstruction primer, the following requirements for exposure and immersion resistance shall apply:

(a) The shop primer shall be capable of protecting a steel substrate for a period of up to 1 year (see 4.6.1). After 1 year of atmospheric exposure, the test panel shall be free of all corrosion products.
(b) The test panel with shop primer shall be cleaned according to paint manufacturer's instructions and recoated according to manufacturer's instructions with the finish paint system which shall then be subject to the requirements of immersion resistance (see 3.9).

3.14.7 Ballast tank coatings (type IIIb). Coating systems designed for use solely in dedicated salt water ballast tanks shall meet the requirements of 3.9 when tested in accordance with 4.6.2. Ballast tank coating systems when used with a shop primer shall meet the requirements of 3.14.6 when tested in accordance with 4.6.1."

* Add as new paragraph 3.16:

"3.16 Product/procedure data sheet. Manufacturers and suppliers of coatings shall provide the ASTM F 718 forms to the contracting activity at the time of contract award. The product/procedure data sheet shall be included with each shipment of the material covered by this specification."

* Add as new paragraph 3.17:

"3.17 Physical properties during storage. The physical properties of the coating shall not degrade through the shelf life period when stored in accordance with the storage temperature constraints as documented by 3.16."

Add as new paragraph 4.1.2:

"4.1.2 The manufacturer shall prepare a certificate of quality compliance for each product listed and tested as being asbestos free and lead free (see 6.2.2)."

4.3, line 3: Delete "4.6".

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PAGES 7 and 8

4.5.2.1(a), line 1: Add after "evaluating": "type III and IIIa".

4.5.5: Delete and substitute:

"4.5.5 Recoatability. Recoatability for qualification of the coating systems shall be determined by 3.9 and 4.5.2. For identification characteristics in connection with acceptance of individual lots, after 24 hours dry time, the panel of 4.5.4 shall be recoated on one side with the finish coat of the coating systems, (or primer and finish coat if appropriate) allowed 72 hours dry time and then be immersed in the same media of 4.5.4 for 24 hours, examined and reported as in 4.5.4."

* 4.5.7.1(b), line 4: Add after MIL-G-5572: "or commercial 100LL aviation gasoline,".

PAGE 10

Add as new paragraphs 4.6.1 and 4.6.2:

"4.6.1 Shop primers (type IIIa). Coating systems with a shop primer or preconstruction primer as part of the system shall be applied in accordance with the manufacturer's application instructions at the manufacturer's designated dry film thickness for exposure and immersion testing as specified in 4.5.2.

(a) Exposure testing. The steel test panel coated with shop primer shall be exposed for 1 year in an outdoor steel storage area. The severity of the test panel exposure shall be equivalent to that of steel stored for construction purposes.
(b) Immersion testing. Immersion resistance shall be determined in accordance with 4.5.2.
(c) The Navy test facility for exposure and immersion testing is the Navy Coatings Productivity Evaluation Center (CPEC), Norfolk Naval Shipyard.

4.6.2 Ballast tank coating. Coatings designed for use in dedicated salt water ballast tanks shall be tested as specified in 4.5.2 with the following exceptions:

(a) One cycle shall be 5 days salt water immersion followed by 2 days dry-out time to simulate a ballast/de-ballast operation.
(b) There shall be no fuel or hydrocarbon exposure.
(c) Total test time shall be 50 cycles."

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PAGE 11

5.1: Delete and substitute:

"5.1 Packaging, packing and marking. Paint shall be delivered in 4-L or 19-L (1- or 5-gal) amounts in suitable unitized packaging. Coating of the coating systems shall be packaged level A, B, or C; packed level A, B, or C, as specified (see 6.2.1), and marked in accordance with PPP-P-1892."

6.1: Delete and substitute:

"6.1 Intended use. Although the different types of coating systems of this specification afford superior protection for various shipboard tanks, the coating systems are not necessarily interchangeable or of equal merit for all kinds of tanks and conditions of application. None of the coating systems covered herein are suitable for use in fresh or potable water tanks except by conformance to additional requirements. For conditions of use, see 1.2."

6.1.2.2: Delete and substitute:

"6.1.2.2 Touch-up applications. Original coating applications shall be maintained by using only materials of the same type (i.e., type I, III, IIIa, or IIIb). In each instance, touch-up material shall be obtained from the same contractor as the original paint and applied in accordance with the contractor's instructions."

PAGE 12

Add as new paragraphs 6.2.2 and 6.2.2.1:

"6.2.2 Data requirements. When this specification is used in an acquisition which incorporates a DD Form 1423, Contract Data Requirements List (CDRL), the data requirements identified below shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved CDRL incorporated into the contract. When the provisions of FAR 52.227-7031 are invoked and the DD Form 1423 is not used, the data specified below shall be delivered by the contractor in accordance with the contract or purchase order requirements. Deliverable data required by this specification is cited in the following paragraph.

Paragraph no.	Data requirement title	Applicable DID no.	Option
4.1.2	Certification data/report	UDI-A-23264	——

(Data item descriptions related to this specification, and identified in section 6 will be approved and listed as such in DoD 5000.19L., Vol. II, AMSDL. Copies of data item descriptions required by the contractors in connection with specific acquisition functions should be obtained from the Naval Publications and Forms Center or as directed by the contracting officer.)

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6.2.2.1 The data requirements of 6.2.2 and any task in sections 3, 4, or 5 of this specification required to be performed to meet a data requirement may be waived by the contracting/acquisition activity upon certification by the offeror that identical data were submitted by the offeror and accepted by the Government under a previous contract for identical item acquired to this specification. This does not apply to specific data which may be required for each contract regardless of whether an identical item has been supplied previously (for example, test reports)."

PAGE 13

Table III: Delete and substitute:

"TABLE III. Comparability data.

Coating system	MIL-P-23236(SHIPS)	DOD-P-23236A(SH)
Type I	X	X
Type II	X	Deleted
Type III		X
Type IIIa		X
Type IIIb		X
Class 1	X	X
Class 2	X	Deleted
Class 3	X	Deleted
Class 4	X	Deleted

"

LAST PAGE

DD Form 1426, Standardization Document Improvement Proposal address: Delete and substitute:

"COMMANDER
NAVAL SEA SYSTEMS COMMAND (SEA 55Z3)
DEPARTMENT OF THE NAVY
WASHINGTON, DC 20362-5101"

NOTE: The margins of this amendment are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

Preparing activity:
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