

[INCH-POUND]
A-A-50557
May 15, 1996
SUPERSEDING
MIL-P-28577B
7 July, 1988

COMMERCIAL ITEM DESCRIPTION

PRIMER, WATER-BORNE, ACRYLIC OR MODIFIED ACRYLIC, FOR METAL SURFACES

The General Services Administration has authorized the use of this commercial item description, for all federal agencies.

1. **SCOPE.** This commercial item description covers a waterborne primer, acrylic or modified acrylic, suitable for use on exterior or interior metal surfaces. The primer is intended for use on properly prepared exterior and interior metal surfaces in non-marine environments including those where Volatile Organic Compound (VOC) emissions are controlled by air quality regulations as described below. The primer is intended to be used over bare metal with two coats of a waterborne topcoat, or over previously painted surfaces with one coat of topcoat. The primer should only be applied at temperatures between 50 °F (10 °C) and 100 °F (38 °C) and a relative humidity no higher than 85 percent.

2. **CLASSIFICATION.** The primer covered by this commercial item description shall be one type, however, it may be procured in white and tints, as specified (see 7.2) by the procuring agency.

3. SALIENT CHARACTERISTICS

3.1 General. The primer shall consist of pigments and vehicle combined to produce a ready-to-use product meeting all the requirements of this commercial item description. The primer shall be free of materials that would be toxic to personnel under normal conditions of use.

3.2 Composition.

3.2.1 Pigments. Pigments shall be compatible with the vehicle, and shall include an anti-corrosive pigment. Tinting pigments shall be used when necessary to provide the color specified .

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043-4301.

AMSC N/A

FSC 8010

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

3.2.2 Vehicle. The vehicle shall consist of an acrylic or modified acrylic copolymer. Other necessary additives such as preservatives, antifoam agents, and dispersants may be included.

3.3 Quantitative requirements.

3.3.1 Drying time. The dry-to-touch time shall be a maximum of one hour, and the dry-to-recoat time shall be a maximum of 4 hours when tested in accordance with ASTM D 1640.

3.3.1.1 Testing conditions. Unless otherwise specified, all tests shall be conducted using a dry film thickness of 0.001 ± 0.0001 mils (0.25 ± 0.02 mm) on a smooth steel surface prepared per type 3, procedure D of ASTM D 609. All tests shall be run at room temperature as defined by ASTM D 3924. The paint shall be allowed to dry for a minimum of 24 hours at room temperature.

3.4 Qualitative requirements.

3.4.1 Condition in container. The primer, as received, shall be ready-mixed, and shall show no evidence of biological growth, livering, skinning, putrefaction, rust from corrosion of the container, or hard settling of the pigment. Any settled pigment shall be readily dispersible in the liquid portion by hand stirring for five minutes to form a smooth, homogeneous product, free from persistent foam. When stored for two weeks in either condition, 40 ± 3 °F (4.45 ± 1.65 °C) or 100 ± 3 °F (37.77 ± 1.65 °C), the primer shall show no gelation, pigment settling, excessive thickening, coagulation, lumps, or coarse particles, and when applied to a glass panel shall dry to a smooth, uniform finish.

3.4.2 Color. When tested in accordance with ASTM D 1729, the color shall be a general match to the color specified (see 7.2).

3.4.3 Working properties. When tested as specified in ASTM D 2932, the primer coating shall brush and spray easily and dry to a smooth, uniform film, free from dusting, mottling, sagging, lap marks, color separation, orange peel, or excessive brush marks.

3.4.4 Microbial growth resistance. When tested in accordance with ASTM D 3273, the degree of microbial growth shall have not more than the maximum disfigurement rating of 8 as specified in ASTM D 3274.

3.4.5 Flexibility. The primer coating shall not crack or flake when bent over a 0.125 inch (3.18 mm) diameter mandrel, as described in ASTM D 522. The test shall be performed on a draw down of the primer coating on tinplate panels. The dry film thickness shall be 0.0015 ± 0.0001 inch (38 ± 2 μm). The coating shall air dry for 24 hours and then conditioned for 2 hours at 221 °F (105 °C) prior to testing.

3.4.6 Adhesion. When tested in accordance with ASTM D 3359 Method B, the adhesion shall be rated 4B or better. Prepare the test specimen by applying the primer to a cold-rolled steel panel conforming to ASTM D 609, Type 1, prepared for coating by Method D. Draw down a

film of the primer using a 0.003 inch (76 µm) (approximately 0.006 inch (152 µm) gap clearance) film applicator and allow to dry at room temperature for 72 hours.

3.4.7 Flash rusting resistance. The primer shall exhibit no flash rusting or rust bleed-through. After removing a portion of the dried primer with a suitable organic solvent the primer shall show no signs of underfilm corrosion. Apply the primer to a hot-rolled steel panel, having an area of at least 24 square inches (155 cm²), prepared for coating by blast cleaning to a nominal 2.0 mil (51 µm) profile in accordance with SSPC-SP 10, using an aluminum oxide grit. Draw down a film using a 0.003 inch (76 µm) (approximately 0.006 inch (152 µm) gap clearance) film applicator. Allow the coated panel to dry in a horizontal position for 48 hours at 73 ±2 °F (22.77± 1.11 °C) and relative humidity of 80 ±5 percent. Examine the film for flash rusting, and then remove a portion of the dried primer with a suitable organic solvent and examine for underfilm corrosion.

3.4.8 Humidity resistance. The primer shall resist humidity. There shall be no rust bleed-through and the degree of blistering shall be no greater than size 6 and of medium density as defined in ASTM D 714. Apply one coat of primer and two coats of paint conforming to MIL-P-28578, to a hot-rolled steel panel, having an area of at least 24 square inches (155 cm²), prepared for coating by blast cleaning to a nominal 2.0 mil (51 µm) profile in accordance with SSPC-SP 10, using an aluminum oxide grit. Draw down the coats using a 0.003 inch (76 µm) (approximately 0.006 inch (152 µm) gap clearance) film applicator. Allow the panel to dry 24 hours between each coat, and cure the finished panel one week before scribing and exposure. Scribe an “x”, two inches wide and two inches high, through the coating to the metal, on the lower half of the panel, before exposure testing. Protect the cut edges of the panel with a suitable material stable under the conditions of the test, such as carnauba wax. Test the panel, coated side down, in accordance with ASTM D 2247 for 1000 hours. Examine the exposed panel for compliance.

3.4.9 Salt spray resistance. The degree of blistering shall be no greater than size 6 and of medium density as defined in ASTM D 714, and there shall be no rust creepage more than 1/8 inch (3 mm) from the scribed mark. Prepare the panel as described in 3.4.8. Expose the panel in accordance with ASTM B 117 for 1000 hours.

3.5 Environmental Requirement

3.5.1 Prohibited materials. The manufacturer shall certify that the nonvolatile portion of the primer contains less than 0.06 percent lead and the primer does not contain any chromium, toxic heavy metals, halogenated solvents, benzene, ethylbenzene, xylene (all isomers), 2-ethoxyethanol and 2 methoxyethanol and their corresponding acetates.

3.5.2 VOC content. The VOC content shall not exceed 2.08 lbs/gal (250 g/L). Test in accordance with ASTM D 3960. The VOC shall be determined on the primer as applied in accordance with the manufacturer’s instructions for use.

4. REGULATORY REQUIREMENTS.

4.1 Materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR). Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this commercial item description are to be new. They are to be fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this commercial item description.

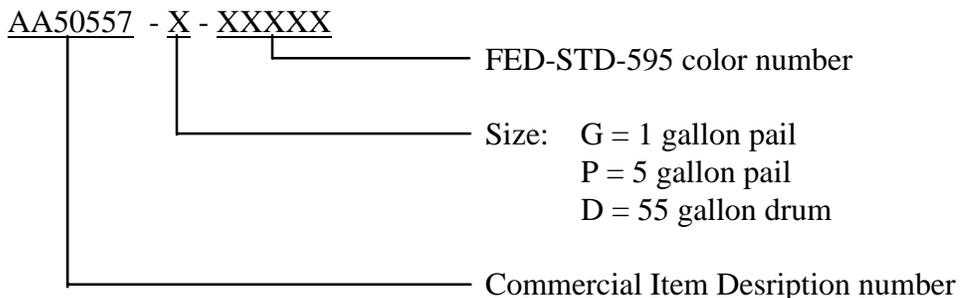
5. QUALITY ASSURANCE PROVISIONS.

5.1 Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of the commercial item description. The product must conform to the producer's own drawings, specifications, standards, and quality assurance practices. The product must be offered for sale in the commercial marketplace by a nationally recognized brand found in standard vendor catalogs. The government reserves the right to require proof of such conformance prior to first delivery, and thereafter as may be otherwise provided for under the provisions of the contract.

6. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

7. NOTES.

7.1 Part Identification Number (PIN). The following part identification numbering procedure is for government purposes and does not constitute a requirement for the contractor. The PIN used for units acquired to this description will be assigned as follows:



7.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Color required. (see 2, 3.4.2)

- c. If proof of conformance to Commercial Item Description is required prior to first delivery. (see 5.1)
- d. Packaging, packing and marking required. (see 6)

7.3 Source of documents.

7.3.1 ASTM Standards are available from American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

7.3.2 Contact the contracting officer for a copy of paragraph 23.403 of the FAR.

7.4 National Stock Numbers (NSNs). The following is a list of NSNs assigned which correspond to this commercial item description. The list may not be indicative of all possible NSNs associated with the commercial item description.

8010-01-383-4988
8010-01-384-2378

7.5 Subject term (key word) listing.

Surface preparation
VOC controller

MILITARY INTEREST:

Custodians
Navy - YD1
Air Force - 99
Army - AV

Review Activity
Navy - SH
Air Force - 84

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FSS
Preparing Activity
Navy -YD1

(Project No. 8010-0960)