

MIL-P-46856 (MI)
28 June 1968

MILITARY SPECIFICATION

PRIMER COATING EPOXY, PROCESS FOR APPLICATION OF

1. SCOPE

1.1 Scope. This specification provides instructions for the application of epoxy primer, Specification MIL-P-52192.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on the date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

SPECIFICATIONS

Federal

TT-E-776 - Ethylene Glycol Monobutyl Ether (for use in organic coatings).

TT-T-266 - Thinner; Dope and Lacquer (Cellulose Nitrate).

TT-X-916 - Xylene (for use in organic coatings).

Military

MIL-P-52192 - Primer Coating, Epoxy.

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

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3. REQUIREMENTS

3.1 Material.

3.1.1 Primer. The epoxy primer is supplied as a two-component item, in accordance with MIL-P-52192, wherein the two components are admixed just prior to use. One component (Part A) contains pigment ground in an epoxy resin vehicle. The other component (Part B) is an amine-epoxy resin adduct which functions as a curing agent for the epoxy resin solution. These components have excellent storage stability. However, when admixed, storage life is limited and only that amount which can be used for one 8 hour work shift should be admixed. If absolutely necessary, left-over admixed primer may be saved by additional thinning and refrigeration. This reduced left-over primer may be added to fresh admixed primer which may not require additional thinning. Mixtures containing added left-over primer which are not employed during the day of admixture shall be discarded.

3.1.2 Thinner. The thinner shall be xylene conforming to TT-X-916.

3.2 Equipment. Spray guns, accessories, and lines shall be kept clean. Equipment should be cleaned out with thinner conforming to TT-T-266, as soon as the work is finished. Cleanliness must be exercised since epoxy primer, once cured, becomes difficult to dissolve.

3.3 Painting Conditions. Painting shall be done in clean, dry, well ventilated areas. Air temperatures shall be not less than 15.5 degrees centigrade (C) (60 degrees Fahrenheit (F) nor greater than 37.8 degrees C (100 degrees F). The relative humidity shall be not greater than 90 percent.

3.4 Procedure.

3.4.1 Mixing. The components in the original containers shall be thoroughly agitated by means of a mechanical paint shaker to assure thorough admixture of the contents. If a mechanical shaker is not available, use a paddle being sure to remove excess material from the paddle. After each component has been sufficiently agitated add 1 part by volume of Part B to 4 parts by volume of Part A and mix well. Local exhaust ventilation should be provided where Part A and Part B are mixed.

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3.4.2 Methods of Application. Spraying is the most satisfactory method of application, but brushing may be employed. The method of application shall be such as to give coats of the prescribed thickness, smoothness and uniformity. The primer, as applied, shall have the requisite adhesion to the substrate and be suitable with the prescribed topcoat. Regular and frequent checks shall be conducted on control panels and on production items to insure the suitability of the primer film.

3.4.2.1 Spraying. To reduce the primer for spraying add 1 volume of xylene conforming to TT-X-916 to 4 volumes of admixed primer to obtain the required spraying characteristics. Since individual batches of primer will vary in actual package viscosity, slight variations may be required to obtain optimum working characteristics. A spray viscosity of 15 to 25 seconds No. 4 Ford cup at 77 degrees F (25.56 degrees C) is generally satisfactory. The thinned primer shall be stirred thoroughly, strained and allowed to stand one half hour prior to use.

3.4.2.2 Brushing. If brush application is desired, the admixed primer may be thinned by using ethylene glycol monobutyl ether TT-E-776, as required.

3.4.3 Preparation of Metal Surfaces. Prior to painting, metal surfaces shall be cleaned and surface treated in accordance with the applicable drawings.

3.4.4 Application of Primer. After completion of the 30 minute waiting period specified in 3.4.2.1, the thinned primer shall be sprayed to a dry film thickness between 0.0008 and 0.0012 inch in two cross passes of the spray gun. A suitable film measuring device shall be used to control the film thickness. Primer coats of less than 0.0008 inch will have reduced corrosion inhibiting effectiveness and should be avoided.

3.4.5 Recoating Time.

3.4.5.1 Air Drying. For maximum adhesion of gloss and semi-gloss finishes the primer shall be recoated within 2 hours. For lustreless finishes it shall be recoated within 24 hours. Where production operations are suspended for short periods of time such as over holidays and weekends, etc, and these recoating times are exceeded

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the primer shall be lightly sanded and wiped down with a tack rag before applying the topcoat. Recoating time for applying a second coat of epoxy primer can be applied as much as 30 days after the application of the first coat without affecting intercoat adhesion.

3.4.5.2 Baking. Whenever it is considered desirable to shorten the drying time the primer may be baked at 300 degrees F (148.89 degrees C) for 20 minutes or at lower temperatures for a longer period of time. If the primer is to be recoated it shall be lightly sanded and wiped down with a tack rag before applying the topcoat. It would be preferable, however, to allow the primer to air dry approximately 30 minutes, apply the topcoat and then bake the entire system. In either case sufficient air drying should be allowed before oven cure for flash off of solvent to prevent blistering of the primer and the topcoat.

4. QUALITY ASSURANCE PROVISIONS

4.1 Inspection Responsibility. Regular and frequent inspections, under the supervision of the procuring activity, shall be conducted to assure compliance with the requirements of this specification.

4.2 Paint Thickness Measurements. Regular and frequent paint thickness measurements shall be conducted on the production items with a suitable film thickness gage on a sufficient number of selected areas to assure maintenance of the overall thickness of primer in accordance with a specification requirement.

4.3 Mixing. Mixing and thinning of primer shall be restricted to specially designated personnel in direct conjunction with the materials quality control personnel.

5. PREPARATION FOR DELIVERY

5.1 This section not applicable to this specification.

6. NOTES

6.1 Supersession Data. This specification includes the requirements of Missile Interim Specification MIS-10067, dated 19 February 1964.

Custodian:
Army - MI

Preparing Activity:
Army - MI

Project No. 8010-A037

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<p style="text-align: center; margin: 0;"><u>INSTRUCTIONS</u></p> <p style="margin: 0;">This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity.</p>			
SPECIFICATION			
ORGANIZATION		CITY AND STATE	
CONTRACT NO.	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT	
		\$	
MATERIAL PROCURED UNDER A			
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT			
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?			
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2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID			
3. IS THE SPECIFICATION RESTRICTIVE?			
<input type="checkbox"/> YES <input type="checkbox"/> NO IF "YES", IN WHAT WAY?			
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REPLACES NAVSHIPS FORM 4863, WHICH IS OBSOLETE