INCH-POUND

MIL-DTL-12216D
24 October 2007
SUPERSEDING
MIL-R-12216C
20 December 1971

DETAIL SPECIFICATION

REFLECTOR, LIGHT: ALUMINUM, AND SHIELD, LIGHT: TELESCOPING, ALUMINUM

Inactive for new design after 11 August 1992

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. Scope

1.1 This specification covers a parabolic aluminum reflector and a collapsible aluminum shield for use on incandescent electric lamps.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in section 3, 4, or 5 of this standard. This section does not include documents cited in other sections of this standard or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in section 3, 4, or 5 of this standard, whether or not they are listed.

Comments, suggestions, or questions on this document should be addressed to Defense Supply Center Philadelphia, ATTN: DSCP-NASA, 700 Robbins Avenue, Philadelphia, PA 19111-5096 or email to dscpg&inspecomments@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at http://assist.daps.dla.mil/

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

FEDERAL SPECIFICATIONS

TT-C-490	Chemical Conversion Coatings and Pretreatments for Ferrous Surfaces (Base for Organic Coatings)

DEPARTMENT OF DEFENSE SPECIFICATIONS

DoD-P-15328	Primer (Wash), Pretreatment (Formula NO. 117 for Metal) (Metric)
MIL-A-8625	Anodic Coatings for Aluminum and Aluminum Alloys

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-130	Identification Marking of US Military Property

(Copies of these documents are available online at http://assist.daps.dla.mil/quicksearch/ or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

CECOM LR CENTER DRAWINGS

13217E7488	Shield
13217E7489	Reflector

(Copies of these documents are available from CECOM LR CENTER, 10115 Gridley Road suite 228, Fort Belvoir, VA 22060-5849.)

2.3 Non-Government publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

AMERICAN SOCIETY FOR QUALITY (ASQ)

ASQ Z1.4 Sampling Procedures and Tables for Inspection by Attributes

(Copies of this document are available from www.asq.org or the American Society for Quality, 611 East Wisconsin Avenue, Milwaukee, WI 53202.)

MASTER PAINTERS INSTITUTE (MPI)

MPI # 94 Exterior Alkyd, Semi-Gloss, MPI Gloss Level 5

(Copies of these documents are available from http://www.mpi.net)

2.4 Order of precedence. In the event of a conflict between the text of this document and the reference cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Description. The reflector and the shield shall be in accordance with CECOM drawings 13217E7489 and 13217E7488, respectively, and as specified herein.

3.1.1 Drawings. The drawings forming a part of this specification are engineering design drawings. No deviations from the prescribed dimensions or tolerances is permissible without prior approval of the contracting officer. Any data (e.g. shop drawings, layouts, flow sheets, processing procedures, etc.) prepared by the supplier or obtained from a vendor to support fabrication and manufacture of the production item shall be made available, upon request, for inspection by the contracting officer or his designated representative.

3.2 First article (preproduction model). The supplier shall furnish a reflector and a shield for examination and testing within the time frame specified to prove prior to starting production that his production methods will produce reflectors and shields that comply with the requirements of this specification. Examination and tests shall be as specified in section 4 and shall be subject to surveillance and approval by the government (see 6.3).

3.3 Reflector. The reflecting surface shall be anodized in accordance with MIL-A-8625, and shall have a minimum reflection factor of not less than 70 percent.

3.4 Shield. In the vertical extended position, the shield shall withstand a static load of four 5-pound weights uniformly applied around the periphery of the bottom of the shield without separation or other permanent deformation.

3.5 Treatment and painting.

3.5.1 Reflector. The exterior of the reflector shall be treated with cleaning procedures per TT-C-490, primed with DoD-P-15328 and painted per MPI # 94; color shall be black matte. Baked finishes will be permitted if the baking temperature does not exceed 250º F.

3.5.2 Shield. The exterior and interior surfaces of the shield shall be etched and finished with a black matte anodized treatment.

3.6 Identification marking. The reflector and the shield shall be identified in accordance with MIL-STD-130.

3.7 Workmanship. The reflector and the shield shall be free from defects, such as cracks, scratches, and other defects that could impair its operation or serviceability.

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follow:

a. Preproduction inspection (see 4.2).
b. Conformance inspection (see 4.3).

4.2 Preproduction inspection.

4.2.1 Examination. The preproduction reflector and shield shall be examined as specified in 4.4.1. Presence of one or more defects shall be cause for rejection.

4.2.2 Tests. The preproduction reflector and shield shall be tested as specified in 4.4.2. Failure of any test shall be cause for rejection.

4.3 Conformance inspection.

4.3.1 Sampling. Sampling for examination and inspection procedures shall be in accordance with ASQ Z1.4, inspection level S4. Unless otherwise specified, the Acceptable Quality Limits (AQLs) listed in this section shall be used to established the sample size, however, the acceptance number shall be zero.

4.3.2 Examination. Samples selected in accordance with 4.4.1 shall be examined as specified in 4.4.1. AQL shall be 1.5 percent defective.

4.3.3 Tests. Samples selected in accordance with 4.4.1 shall be tested as specified in 4.4.2. AQL shall be 1.5 percent defective.

4.4 Inspection procedures.

4.4.1 Examination. The reflectors and shields shall be examined for the following defects:

101. Nonconformance to the dimensions shown on the drawing.
102. Parts or components missing.
103. Misalignment of parts or components.
104. Materials or components not as specified.
105. Treatment and painting not as specified.
106. Identification markings not as specified.
107. Workmanship not as specified.

4.4.2 Tests.

4.4.2.1 Reflective efficiency. The reflective efficiency of the reflector shall be determined by the absorption of light of a reflected collimated beam or other suitable source. The loss of light in the process of reflection shall be determined by comparing the light reflected (in foot – candles) with the light projected (in foot – candles) upon the reflector surface and expressing the result as a percentage. A reflection factor of less than 70 percent shall constitute failure of this test.

4.4.2.2 Shield strength. The shield shall be extended to its full length and suspended vertically in the normal use position from a lamp holder or with the top segment otherwise securely fixed. Four 5-pound weights shall be suspended without impact at uniform intervals from the flange of the bottom section of the shield for 5 minutes. The weights shall then be removed and the shield telescoped. Failure to telescope correctly, or any evidence of separation or other permanent deformation shall constitute failure of this test.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of material is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Services or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The reflectors and shields are intended to be used in conjunction with conventional incandescent electric lamps to illuminate under normal and blackout conditions the interiors of tents, shelters, dugouts, and other similar field installations. They are components of light of Light Set, General Illumination; 25 Outlet.

6.2 Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification.
b. Time frame required for submission of preproduction model (see 3.2).
c. Packaging requirements (see 5.1).

6.3 Preproduction model. Any changes or deviations of production reflectors or shields from the approved preproduction model during production will be subject to the approval of the contracting officer. Approval of the preproduction model will not relieve the supplier of his obligation to furnish reflectors or shields conforming to this specification.

6.4 Subject term (key word) listing.

Collapsible
General illumination
Incandescent electric lamps
Light set

6.5 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodian:
Army – CR4
Air Force - 99

Preparing activity:
DLA – IS

(Project 6210-2007-002)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at http://assist.daps.dla.mil/