

MIL-R-52000C(ME)
1 May 1978
SUPERSEDING
MIL-R-52000B(ME)
30 October 1970

MILITARY SPECIFICATION
REELS, CABLE, FOR AIRFIELD
AND HELIPORT LIGHTING SETS

This specification is approved for use by the Mobility Equipment Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers steel reels for electric cable and wire.

1.2 Classification. Reels shall be of the following types, as specified (see 6.2):

Type I - Single section cable reel.
Type II - Double section cable reel.

2. APPLICABLE DOCUMENTS

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

SPECIFICATIONS

FEDERAL

| | | |
|-----------|---|---|
| QQ-S-781 | - | Strapping, Steel, and Seals. |
| PPP-B-601 | - | Boxes, Wood, Cleated-Plywood. |
| PPP-B-636 | - | Boxes, Shipping, Fiberboard. |
| PPP-B-640 | - | Boxes, Fiberboard, Corrugated, Triple-Wall. |

MILITARY

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| MIL-T-704 | - | Treatment and Painting of Materiel. |
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Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: USA Belvoir, Research, Development, and Engineering Center, ATTN: STRBE-TSE, Fort Belvoir, VA 22060-5606 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 6210
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STANDARDS

MILITARY

| | | |
|--------------|---|--|
| MIL-STD-105 | - | Sampling Procedures and Tables for Inspection by Attributes. |
| MIL-STD-129 | - | Marking for Shipment and Storage. |
| MIL-STD-130 | - | Identification Marking of US Military Property. |
| MIL-STD-1188 | - | Commercial Packaging of Supplies and Equipment. |

DRAWINGS

ME

| | | |
|--------------|---|--------------|
| TA13217E7498 | - | Reel, Cable. |
| TA13217E7499 | - | Reel, Cable. |

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

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

Boiler and Pressure Vessel Code, Section IX, Welding Qualifications.

(Application for copies should be addressed to the American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017.)

AMERICAN WELDING SOCIETY, INC. (AWS)

D1.1 Structural Welding Code, - Section 5, Qualification.

(Application for copies should be addressed to the American Welding Society, 2501 N.W. 7th Street, Miami, FL 33135.)

3. REQUIREMENTS

3.1 Description. The cable reels shall be in accordance with the applicable drawings, and as specified herein. The reels shall be of steel and when loaded with 100 pounds of cable shall be capable of being lifted axially by the rim from two diametrically opposite sides without permanent deformation of any part of the reel.

3.1.1 Drawings. The drawings forming a part of this specification are end product drawings. No deviation from the prescribed dimensions or tolerances is permissible without prior approval of the contracting officer. Where tolerances could cumulatively result in incorrect fits, the contractor shall provide tolerances within those prescribed on the drawings to insure correct fit, assembly, and operation of the cable reels. Any data (e.g., shop drawings, layouts, flow sheets, processing procedures, etc.) prepared by the contractor or obtained from a vendor to support fabrication and manufacture of the production item shall be made available, up[on request, for inspection by the contracting officer or his designated representative.

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3.2 Material. Material shall be as specified herein and on the applicable drawings. Materials not specified shall be selected by the contractor and shall be subject to all provisions of this specification (see 6.3).

3.3 Identification marking. The reels shall be identified in accordance with MIL-STD-130.

3.4 Treatment and painting. The reels shall be cleaned, treated, and painted in accordance with MIL-T-704, Type A. Color shall be No. 34087.

3.5 Type I reels. Type I reels shall be as shown on TA13217E7498 and as specified herein.

3.6 Type II reels. Type II reels shall be as shown on TA13217E7499 and as specified herein.

3.7 Workmanship. The reels shall be free from defects or imperfections that might affect their serviceability or appearance.

3.7.1 Steel fabrication. Steel used in the fabrication of the reels shall be free from kinks and sharp bends. The straightening of material shall be done by methods that will not cause injury to the metal. Shearing and clipping shall be done neatly and accurately. Corners shall be square and true. Flame cutting, using a tip suitable for the thickness of metal, may be employed instead of shearing or sawing. Burned surfaces of flame-cut material shall be ground or machined sufficiently to remove ash and cooling checks. All bends of a major character shall be made with metal dies and fixtures to insure uniformity of size and shape. Precautions shall be taken to avoid overheating, and heated metal shall be allowed to cool slowly.

3.7.2 Welding. The surfaces of parts to be welded shall be free from rust, scale, paint, grease, mill scale that can be removed by chipping and wire brushing, and other foreign matter. Welds shall transmit stress without permanent deformation or failure when the parts connected by the welds are subjected to proof and service loading. Parts to be joined by fillet welds shall be brought into as close contact as possible and in no event shall be separated by more than 3/16 inch unless appropriate bridging techniques are used. Unless otherwise specified (see 6.2), the welding process used in fabrication of the reels shall be at the option of the contractor.

3.7.3 Welders. Before assigning any welder to manual welding work covered by this specification, the contractor shall provide the contracting officer with certification that the welder has passed qualification tests as prescribed by either of the following listed codes for the type of welding operations to be performed and that such qualification is effective as defined by the particular code:

AWS D1.1 Structural Welding Code, Section 5, Qualification.
ASME Boiler and Pressure Vessel Code, Section IX, Welding Qualifications.

Contractors who made only horizontal welds need not qualify welders for "all position welding". Subject to approval by the Government, the contractor's standard welder qualification may be substituted in lieu of the above codes provided that the contractor's procedure is equivalent to the above codes. The contractor shall be responsible for determining that automatic welding equipment operators are capable of producing quality welds in accordance with AWS or ASME codes.

3.7.4 Welding practices.

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- (a) Preheat of materials being welded and maximum interpass temperature during welding shall be in accordance with the contractor's recommendations.
- (b) Tack welds shall be subject to the same quality requirements as final welds.
- (c) Work shall be positioned for flat welding whenever practicable.
- (d) Procedures and sequences shall be such that distortion and shrinkage will be held to a minimum. When straightening is required, caution shall be exercised to insure that the straightening process does not weaken the part and reels.

3.7.5 Weld quality.

- (a) The contractor shall be responsible for determining the inspections needed to insure that, when the welded parts are assembled together to make the reels, the reels shall conform to the inspection requirements specified in Section 4.
- (b) All weldments shall be free of slag, flux, weld spatter, and other impurities detrimental to either the appearance or strength of the weldment.
- (c) Undercut in weldments shall be held to a minimum and shall not be more than 1/32 inch deep.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspections requirements specified herein are classified as follows:

- (a) Quality conformance inspection (see 4.3).
- (b) Inspection of packaging (see 4.5).

4.3 Quality conformance inspection.

4.3.1 Sampling. Sampling for examination and test shall be in accordance with MIL-STD-105, Inspection Level I.

4.3.2 Examination. Reels selected in accordance with 4.3.1 shall be examined in accordance with 4.4.1. AQL shall be 21.5 percent defective.

4.3.3 Tests. Reels selected in accordance with 4.3.1 shall be tested as specified in 4.4.2. AQL shall be 2.5 percent defective.

4.4 Inspection procedures.

4.4.1 Examination. The reels shall be examined as specified herein for the following defects:

Major

- 101. Dimensions not as shown on the drawings.
- 102. Poor fit at joints, seams, or edges; misalignment.

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- 103. Poor appearance of welds (porosity, flux inclusions, excessive spatter, undercutting, lack of fusion with apparent metal or between joints).
- 104. Treatment and painting not as specified.

Minor

- 201. Identification marking missing, incomplete, or not legible.

4.4.2 Test. Reels shall be loaded with 100 pounds of cable and then lifted axially by the rim from two diametrically opposite sides. Permanent deformation to any part of the reel shall constitute failure of this test.

4.5 Inspection of packaging.4.5.1 Quality conformance inspection of pack.

4.5.1.1 Units of product. For the purpose of inspection, a completed pack prepared for shipment shall be considered a unit of product.

4.5.1.2 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

4.5.1.3 Examination. Samples selected in accordance with 4.5.1.2 shall be examined for the following defects. AQL shall be 2.5 percent defective.

- 105. Materials and containers not as specified for Level A or B. Each incorrect material or container shall be considered on defect.
- 106. Reels of unlike description packed together for Level A or B.
- 107. Reels not secured within the box to prevent movement or damage for Level A or B.
- 108. Strapping not as specified for Level A or B.
- 109. Marking missing, illegible, incorrect, or incomplete for Level A, Level B, or Commercial.

5. PACKAGING

5.1 Packing. Packing shall be Level A, Level B, or Commercial as specified (see 6.2).

5.1.1 Level A. Reels of like description shall be packed together in close-fitting boxes conforming to PPP-B-601, Overseas Type, style optional, in quantities not to exceed the weight limitations of the box. The reels shall be secured within the box in a manner to prevent movement or damage. Box closure and strapping shall be in accordance with the appendix to the box specification. Strapping shall conform to QQ-S-781, Class 1, Type I or IV, size as applicable. Unless otherwise specified (see 6.2), strapping shall be Finish A.

5.1.2 Level B. Reels of like description shall be packed together as specified in 5.1.1, except boxes shall be Domestic type. As an alternate, boxes conforming to PPP-B-640, Class 2, style optional or PPP-B-636, V3c, V11c, V13C, or V15c, style optional, may be used when the quantity to be packed does not exceed the gross weight or size limitation of the box specification. Box closure and strapping shall be in accordance with the appendix to the applicable box specification.

5.1.3 Commercial. Reels shall be packed in accordance with MIL-STD-1188.

5.2 Marking.

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5.2.1 Military. Marking for military levels of protection shall be in accordance with MIL-STD-129.

5.2.2 Commercial. Marking for Commercial packaging shall be in accordance with MIL-STD-1188.

6. NOTES

6.1 Intended use. The reels are intended for use in transporting, laying, and storing cable and wire used in airfield and heliport lighting sets.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Type required (see 1.2).
- (c) When the welding process will not be at the option of the contractor (see 3.7.2).
- (d) Degree of packing required (see 5.1).

6.3 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of the specification (see 3.2).

Custodian:
Army - ME

Preparing activity:
Army - ME

Review activity:
DLA - GS

Project 6210-A507

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER
MIL-R-52000C (ME)

2. DOCUMENT DATE (YYMMDD)
780501

3. DOCUMENT TITLE

REELS, CABLE, FOR AIRFILED AND HELIPORT LIGHTING SETS

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*

b. ORGANIZATION

c. ADDRESS *(Include Zip Code)*

d. TELEPHONE *(Include Area Code)*
(1) Commercial
(2) AUTOVON
(if applicable)

7. DATE SUBMITTED
(YYMMDD)

8. PREPARING ACTIVITY

a. NAME

BELVOIR CECOM SOUTH

b. TELEPHONE *Include Area Code)*
(1) Commercial
(703) 704-3468

(2) AUTOVON
654-3468

c. ADDRESS *(Include Zip Code)*

10115 GRIDLEY ROAD SUITE 228
ATTN: AMSEL-LC-IEW-D-ED
FORT BELVOIR, VA 22060-5849

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:
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