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IN REPLY
REFER TO

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July 28, 2004

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Draft of MIL-DTL-3849 and MIL-DTL-3849/11, Cord, Electrical (TINSEL) project numbers 6145-2373-000 and 6145-2386-000.

The initial drafts of these documents, dated 21 July 2004, are now available for viewing and downloading from the DSCC-VA Web site:

<http://www.dsccl.dla.mil/Programs/MilSpec/DocSearch.asp>

These documents are being revised to replace cancelled references with their industry equivalents. In addition, MIL-DTL-3849 has an appendix added to replace the cancelled MIL-I-3930 requirements for SBR rubber.

Concurrence or comments are required at this Center within 60 days from the date of this letter. Late comments will be held for the next coordination of the document. Comments from military departments must be identified as either "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians or this office, as applicable, in sufficient time to allow for consolidating departmental replies.

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NOTE: This draft, dated 21 July 2004 prepared by DLA-CC, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (PROJECT 6145-2386-000)

INCH-POUND

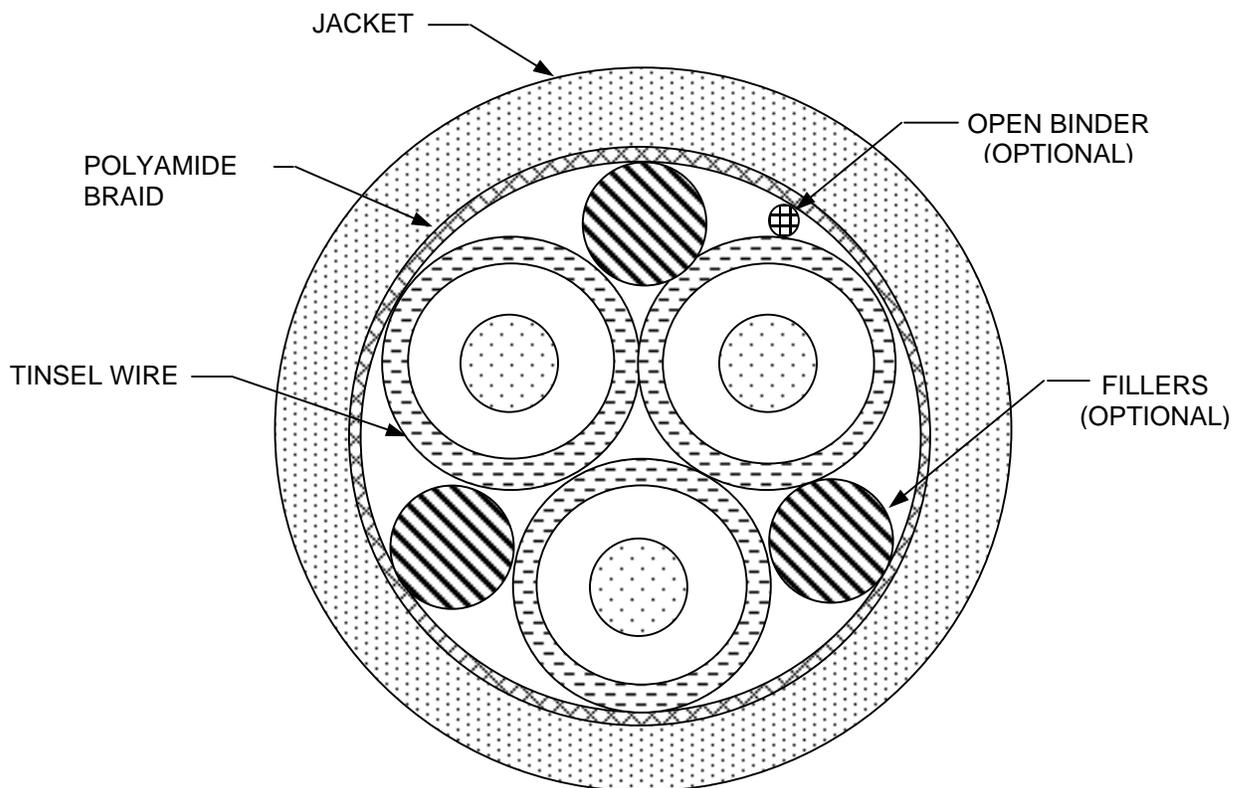
MIL-DTL-3849/11C
NOT DATED
SUPERSEDING
MIL-C-3849/11B
9 November 1973

DETAIL SPECIFICATION SHEET

CORDS, ELECTRICAL (TINSEL), CLASS PSP, POLYAMIDE INSULATED (EXTRUDED), STYRENE BUTADIENE RUBBER (SBR) JACKETED AND POLYAMIDE BRAIDED

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-3849.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.

FIGURE 1. Type I - 3 wire cable.

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REQUIREMENTS:

Dimensions and configuration. See figure 1.

This specification sheet describes a jacketed three-wire cable construction where extreme flexibility is required.

Materials and construction:

Wire construction:

Uncoated tinsel wire conductor, type V in accordance with MIL-W-3795.

Polyamide insulation in accordance with ASTM D4066, polyhexamethyleneamide, low water absorption, extruded over the tinsel wire conductor. The following requirements shall apply:

Property values for nylon plastic:

- a. Melting point range: 208°C to 220°C.
- b. Specific gravity: 1.05 to 1.09.
- c. Deformation under load, 2,000 psi: 4 percent maximum.
- d. Stiffness: 140,000 psi minimum.
- e. Tensile strength at 23°C: 7,000 psi minimum.
- f. Elongation: 50 percent minimum.
- g. Impact strength at 23°C: 0.90 foot-pounds per inch of notch (natural color, pigments may lower values).
- h. Heat-distortion:
 - (1) At 66 psi fiber stress: 149°C minimum.
 - (2) At 264 psi fiber stress: 52°C minimum.
- i. Water-absorption: 0.7 percent maximum.
- j. Moisture content: 0.28 percent maximum.

Electrical properties:

- a. Insulation resistance: 5 Megohms.
- b. Dielectric strength: 375 volts per mil.
- c. Dielectric constant, at 1 megacycle: 4.0 maximum.
- d. Dissipation factor, at 1 megacycle: 0.11 maximum.

Thickness of insulation:

- .003 inch (0.76 mm) minimum.
- .005 inch (0.13 mm) maximum.

Cable construction:

Three insulated tinsel wire conductors twisted together with the length of lay .375 inch (9.53 mm) nominal .4375 inch (11.11 mm) maximum.

Open binder applied over the cabled tinsel wire conductors (optional).

Fillers in accordance with MIL-DTL-3849, if necessary, to make a circular cross section.

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Polyamide braid, tight fitting applied over the cabled tinsel conductors. The following shall apply:

- a. Yarn shall be in accordance with MIL-C-572, type P, form Y.
- b. The braid shall be composed of 210 denier/34 filaments yarn, 16 carrier, 2 ends per carrier, 29 picks per inch.
- c. Braid color coded dark red unless otherwise specified in the contract or purchase order see MIL-DTL-3849.

Jacket - Styrene butadiene rubber (SBR) in accordance with MIL-DTL-3849 applied over the cabled tinsel wire conductors.

- a. Jacket wall thickness .007 inch (0.18 mm) minimum, .010 inch (0.25 mm) maximum.

Finished outside diameter of cable .102 inch (2.59 mm) minimum, .110 inch (2.79 mm) maximum.

Inspection requirements:

Materials inspection.

Visual and dimensions.

Dielectric withstanding voltage.

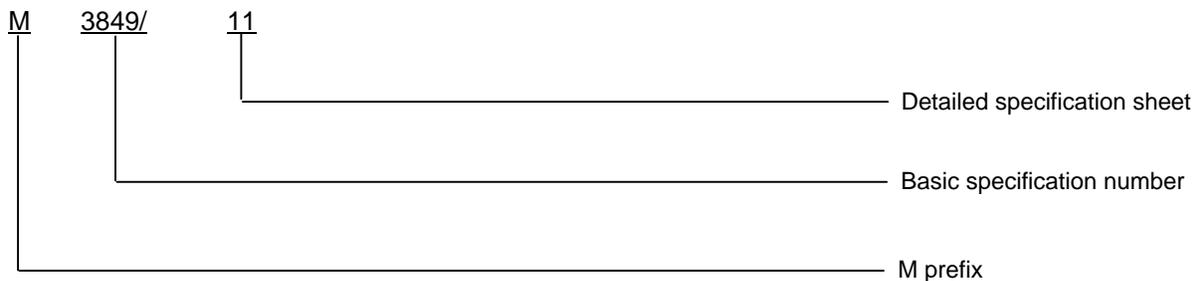
Insulation resistance 1,000 megohms per 1,000 feet (305 m) minimum.

Continuity

DC resistance.

Breaking load 50 pounds (22.68 kg) minimum.

Part or Identifying Number (PIN):



MIL-DTL-3849/11C

Referenced documents: In addition to MIL-DTL-3849, this document references the following:

MIL-C-572
MIL-W-3795
ASTM D4066

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - SH
Air Force - 11
DLA - CC

Preparing activity:

DLA - CC

(Project 6145-2386-000)

Reviewers:

Army - AR
Navy - MC, MS, SA, YD2
Air Force - 80

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://www.dodssp.daps.mil/>.