

INCH-POUND

MIL-DTL-17/179B
25 July 2014
SUPERSEDING
MIL-C-17/179A
22 March 1988

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE TRIAXIAL,
75 OHMS, M17/179-00001

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-17.

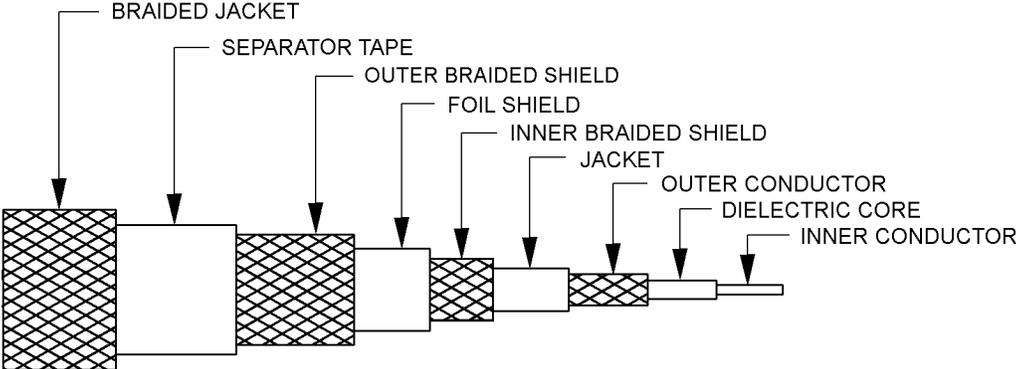


FIGURE 1. General configuration.

TABLE I. Description.

Component	Construction
Inner conductor	Seven strands of silver-coated, annealed-copper-covered, steel wire, each strand .004 inch diameter Overall diameter: .012 inch \pm 0.001
Dielectric core	Type F-1: Solid, extruded PTFE Diameter: .063 inch \pm 0.003
Outer conductor	Single braid of AWG No. 38 silver-coated copper wire Diameter: .084 inch maximum Coverage: 92.3%, nominal Carriers: 16 Ends: 5 Picks/inch: 12.0 \pm 10%
Jacket	Type IX: FEP Diameter: .100 inch \pm 0.005
Inner braided shield	AWG No. 36 nickel-coated copper wire conforming to ASTM B-355 Coverage: 91.3% nominal Braid angle: 34.8° nominal Carriers: 16 Ends: 5 Picks/inch: 16.1 \pm 5% Outer diameter: .130 maximum
Foil shield	Copper-polyester-copper laminate, .0024 inch thick OD, .0007 inch copper each side of .001 inch polyester film conforming to MIL-I-631, type G, form F, subform T _F , class I Overlap shall be 20 to 40 % of tape width. Elongation 3% minimum. Outer diameter: .145 maximum Optional construction, of copper-polyester, polyester-copper laminate, .0007 inch copper backed with .0005 inch polyester film, is permissible
Outer braided shield	AWG No. 36 nickel-coated copper wire conforming to ASTM B-355 Coverage: 91.9% nominal Braid angle: 25.9° nominal Carriers: 16 Ends: 7 Picks/inch: 8.9 \pm 5% Outer diameter: .170 maximum
Separator tape	.001 inch polyester film conforming to MIL-I-631, type G, form F, subform T _F , class I. Tape shall be spirally applied with not less than one third nor more than two thirds lap Outer diameter: .175 maximum
Braided jacket	Single braid of polyester fiber braid with high temperature finishers, conforming to NEMA-WC27500 Diameter: .195 inch maximum

ENGINEERING INFORMATION

Continuous working voltage: 900 V rms, maximum.

Operating frequency: 3 GHz, maximum.

Velocity of propagation: 69.5 percent, nominal.

Power rating: See figure 2.

Operating temperature range: -55°C to +150°C.

Inner conductor properties:

DC resistance (maximum at +20°C): 24.45 ohms per 100 feet.

Elongation: 10 percent, minimum.

Tensile strength: 50klb_f/inch² minimum.

Engineering note: This cable is useful on shield critical medium high temperature applications.
(See connector series "TRB" and "TRT" in accordance with MIL-PRF-49142,
including related specification sheets and MIL-STD-348.)

REQUIREMENTS

Dimensions, configuration, and description: See figure 1 and table I.

Environmental and mechanical: Applicable.

Visual and mechanical examination:

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 1.5 pounds, minimum; 4 pounds, maximum.

Aging stability: Not applicable.

Stress crack resistance: +230°C ± 5°C.

(Note: Requirement is prior to adding shields over jacket.)

Outer conductor integrity: Not applicable.

Cold bend: -55°C ± 2°C.

Dimensional stability: +200°C ± 5°C.

(Note: Requirement is prior to adding shields over jacket.)

Inner conductor from core: .187 inch, maximum.

Inner conductor from any jacket: .250 inch, maximum.

Contamination: Not applicable.

Bendability: Not applicable.

Flammability: Applicable.

Weight: 36.5 pounds per 1,000 feet, maximum.

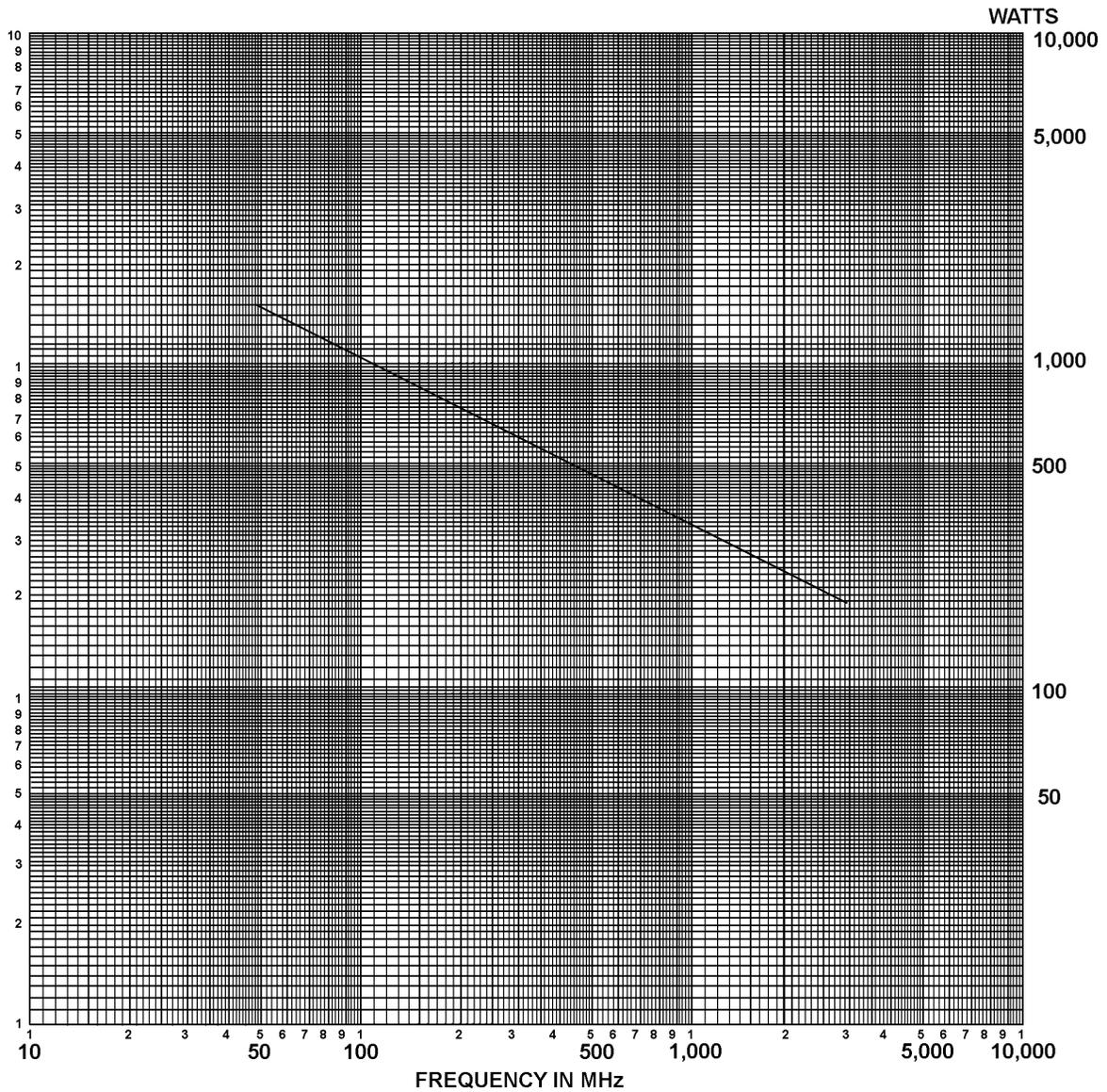


FIGURE 2. Power rating at sea level and 25°C.

Electrical:

Continuity: Applicable.

Spark test: 2,000 V rms, +10%, -0%.

Voltage withstanding: 2,000 V rms, +10%, -0%.

Note: 3,000 V rms, +10%, -0% applied between the inner and outer conductors with the outer conductor grounded; 200 V dc minimum applied between the outer conductor and the outer shield with the outer shield grounded.

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Corona extinction voltage: 1,200 V rms, minimum.

Characteristic impedance: 75 ohms \pm 3.

Attenuation: 21.0 db per 100 feet maximum at 0.4 Ghz.

Structural return loss: Not applicable.

Capacitance: 23.0 pf per foot, maximum.

Part or Identifying Number (PIN): M17/179-00001.

Qualification: Not applicable.

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.

Referenced documents. In addition to MIL-DTL-17, this document references the following:

MIL-I-631 MIL-PRF-49142 MIL-STD-348 ASTM B355 NEMA-WC27500

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 85
DLA - CC

Preparing activity
DLA - CC

(Project 6145-2014-029)

Review activities:

Army - AT, CR4, MI
Navy - AS, MC, OS, SH
Air Force - 19, 99

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 <https://assist.dla.mil>.