

DETAIL SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
75 OHMS, M17/191-00001

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.

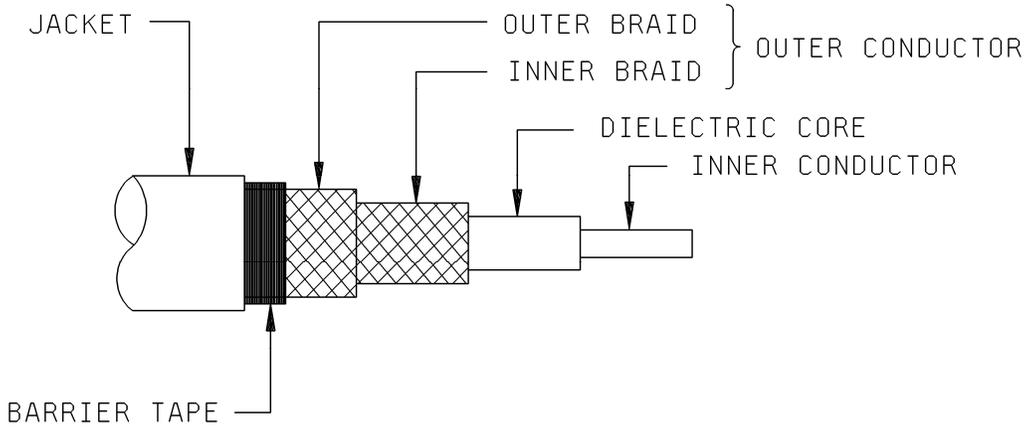


FIGURE 1. General configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Seven strands of tinned copper wire at 0.159 inch each. Overall diameter: .0477 inch ± .0020.
Dielectric core	Type A-1: Solid polyethylene. Diameter: .285 inch ± .007.
Outer conductor	Double braid of AWG No. 34, copper wire. Diameter: .355 inch maximum.
Inner braid	Coverage: 95.4% nominal Carriers: 24 Ends: 9 Picks/inch: 6.5 ± 10%
Outer braid	Coverage: 93.6% nominal Carriers: 24 Ends: 8 Picks/inch: 10.3 ± 10%

TABLE I. Description – Continued.

Components	Construction details
Barrier tape	A .001 inch thick polyester tape faced with a .002 inch thick layer of aluminum. The tape will be applied with a 50% lap, minimum. Aluminum face toward the outer conductor. Diameter: .365 inch, maximum.
Jacket	Cross-linked polyolefin. Diameter: .425 inch + .007.

ENGINEERING INFORMATION:

Continuous working voltage: 3,700 V rms, maximum.

Operating frequency: 3 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power ratings: See figure 2.

Operating temperature range: -30°C to +85°C.

Inner conductor properties:

DC resistance (maximum at 20°C): 0.66 ohm per 100 feet.

Elongation: 15 percent, minimum.

Engineering notes: This cable is useful in general purpose, medium low temperature applications. (See connector series “N” in accordance with MIL-PRF-39012.) These cables were redesigned to meet the vertical flame test.

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out of roundness: Applicable.

Eccentricity: 10 percent maximum.

Adhesion of conductors:

Inner conductor to core: 7 pounds, minimum; 50 pounds, maximum.

Aging stability: +98° ± 2°C.

Cold bend: -30° ± 2°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Dimensional stability: $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

Inner conductor from core: .062 inch, maximum.

Inner conductor from jacket: .125 inch, maximum.

Contamination: Not applicable.

Bendability: Not applicable

Flammability: Not applicable.

Flame propagation: Applicable.

Acid gas generation: 2.0 percent, maximum.

Halogen content: 0.2 percent, maximum.

Immersion test:

Tensile strength, percent of unaged minimum: 50.

Elongation, percent of unaged minimum: 50.

Smoke index: 25 maximum.

Toxicity index: 5 maximum.

Durometer hardness: (Type A) 80 minimum.

Weathering: Applicable.

Abrasion resistance: 75 cycles, minimum (jacket only).

Tear strength: 35 pounds per inch minimum.

Heat distortion: 30 percent maximum distortion.

Physical tests on unaged jacket:

Tensile strength: 1,300 psi. minimum.

Elongation: 160 percent minimum.

Physical tests on aged jacket:

Air oven:

Tensile strength, percent minimum: 60.

Elongation, percent minimum: 60.

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Hot oil immersion:

Tensile strength, percent minimum: 50.

Elongation, percent minimum: 50.

Tensile strength and elongation: 1,300 psi, 160 percent minimum.

Weight: 13.9 pounds per 100 feet maximum.

Electrical:

Spark test: 5,000 V rms, +25, -0 percent.

Voltage withstanding: 10,000 V rms, minimum.

Insulation resistance: Not applicable.

Corona extinction voltage: 5,000 V rms, minimum.

Characteristic impedance: 75 ohms \pm 3.

Attenuation:

6.5 dB per 100 feet, maximum at .4 GHz.

26.5 dB per 100 feet, maximum at 3 GHz.

Structural return loss: Not applicable.

Capacitance: 22 pF per foot, maximum.

Capacitance unbalance: Not applicable.

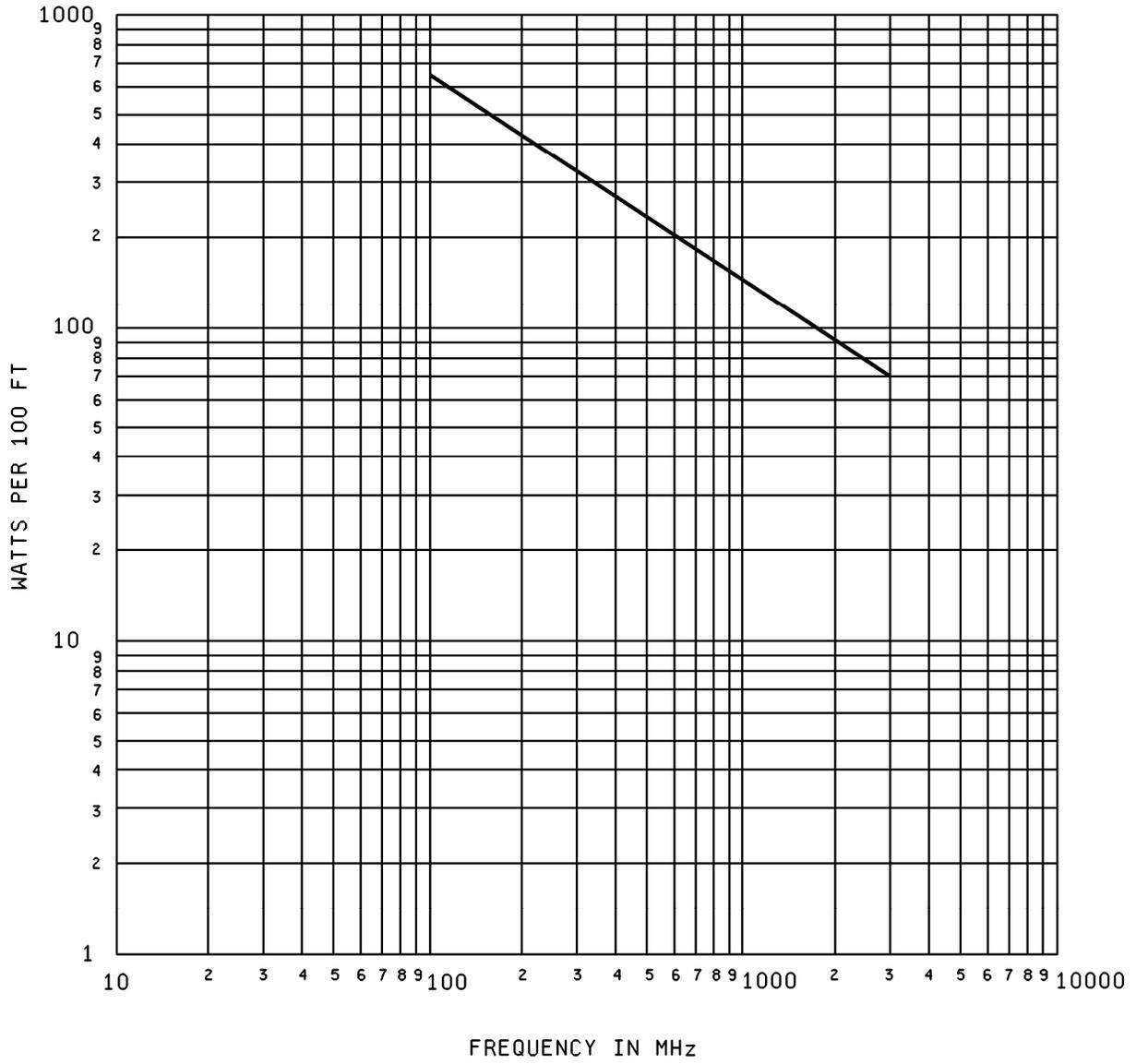
Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

Part or Identifying Number (PIN): M17/191-00001.

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Maximum power at 25°C, seal level.

MHz	Watts
100	650
400	270
1000	150
2000	90
3000	70

FIGURE 2. Power rating.

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Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

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

MIL-PRF-39012

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 6145-2008-103)

Review activities:

Army – AR, AT, CR4, MI
Navy – AS, MC, OS, SH
Air Force – 19, 71, 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 <http://assist.daps.dla.mil>.