

INCH-POUND

MIL-C-17/1958  
20 February 1991  
SUPERSEDING  
MIL-C-17/195A(EC)  
10 August 1987

MILITARY SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, COAXIAL,  
93 OHMS, M17/195-00001

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 the issue of the following specification  
listed in that issue of the Department of Defense Index of Specifications  
and Standards (DODISS) specified in the solicitation: MIL-C-17.

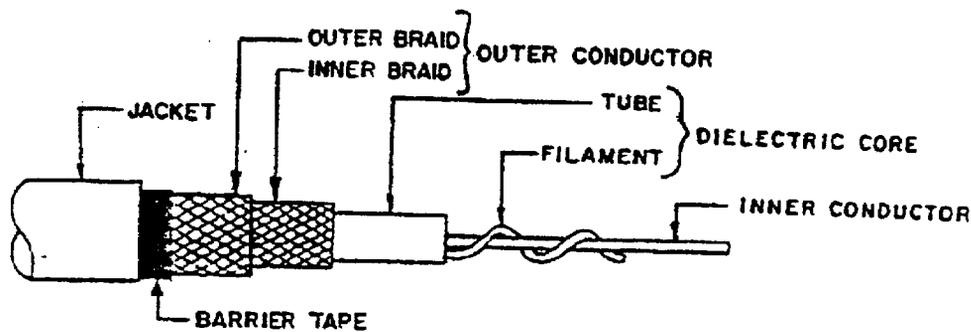


FIGURE 1. Configuration.

TABLE 1. Description.

Components	Construction details																		
Inner conductor	Solid, copper-covered, steel wire. Diameter: .0253 inch $\pm$ .0010.																		
Dielectric core	Type A-3: Air-spaced polyethylene. A monofilament thread, .035 inch approximate diameter with a lay of 1/2 inch approximate under an extruded tube. Diameter: .146 inch $\pm$ .005.  Alternate  A continuous tube, .003 inch thick maximum, under two continuous spiral fins, with a lay of 1 1/4 inches approximate, under an extruded tube.																		
Outer conductor	Double braid of copper wire. Diameter: .208 inch, maximum.  Alternate																		
Inner braid	<table border="0"> <tr> <td>Wire gauge:</td> <td>AWG No. 34</td> <td>AWG No. 36</td> </tr> <tr> <td>Wire coating:</td> <td>Bare</td> <td>Tinned</td> </tr> <tr> <td>Coverage:</td> <td>94.3% nominal</td> <td>95.2% nominal</td> </tr> <tr> <td>Carriers:</td> <td>16</td> <td>24</td> </tr> <tr> <td>Ends:</td> <td>7</td> <td>6</td> </tr> <tr> <td>Picks/inch:</td> <td>8.2 <math>\pm</math>10%</td> <td>12.0 <math>\pm</math>10%</td> </tr> </table>	Wire gauge:	AWG No. 34	AWG No. 36	Wire coating:	Bare	Tinned	Coverage:	94.3% nominal	95.2% nominal	Carriers:	16	24	Ends:	7	6	Picks/inch:	8.2 $\pm$ 10%	12.0 $\pm$ 10%
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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, aluminum face toward the outer conductor. Diameter: .220 inch maximum.																		
Jacket	Cross-linked polyolefin Diameter: .245 inch $\pm$ .005. Jacket thickness: .014 inch minimum.																		

## ENGINEERING INFORMATION:

Continuous working voltage: 750 V rms, maximum.

Operating frequency: 1 GHz, maximum.

Velocity of propagation: 84 percent, nominal.

Power rating: See figure 2.

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

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Inner conductor properties:

DC resistance (maximum at +20°C): 4.4 ohms per 100 feet.

Elongation: 1 percent, minimum.

Tensile strength: 115 klbf/inch<sup>2</sup>, minimum.

Engineering notes: This cable is useful in low temperature applications. (See connector series "TNC" and "BNC" in accordance with MIL-C-39012). These cables were redesigned to meet the vertical flame test.

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors: Not applicable.

Aging stability: +90°C ±2°C.

Cold bend: -30°C ±2°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Dimensional stability: +85°C ±2°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.

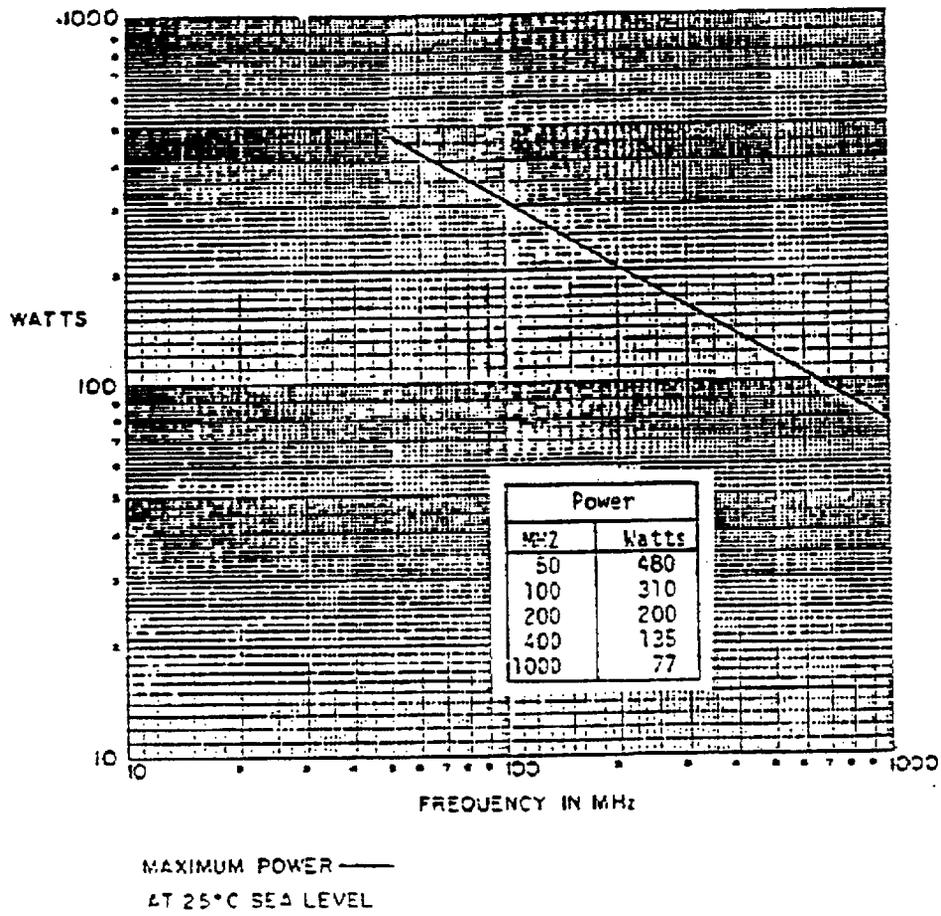


FIGURE 2. Power rating.

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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

Hot oil immersion:

Tensile strength, percent minimum: 50

Elongation, percent minimum: 50

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

Weight: 5.3 pounds per 100 feet, maximum.

Electrical:

Spark test: 3,000 V rms, +25 percent, -0 percent.

Voltage withstanding: 3,000 V rms, minimum.

Corona extinction voltage: Not applicable.

Characteristic impedance: 93 ±5 ohms.

Attenuation: 8.0 dB per 100 feet at 400 MHz.

Structural return loss: Not applicable.

Capacitance: 14.5 pF per foot, maximum.

Capacitance stability: ±1.5 percent.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

Part or Identifying Number (PIN): M17/195-00001.

NOTE: Revision letters are not used to denote changes due to the extensiveness of the changes.

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CONCLUDING MATERIAL

Custodians:

Army - CR  
Navy - EC  
Air Force - 85

Review activities:

Army - AR, MI  
Navy - SH  
Air Force - 11, 80, 99  
DLA - ES, IS

User activities:

Army - AT, ME  
Navy - AS, MC, OS  
Air Force - 19

Preparing activity:

Navy - EC

Agent:

DLA - ES

{Project 6145-1176-16}