

INCH-POUND

MIL-DTL-17/195C
12 June 2014
SUPERSEDING
MIL-C-17/195B
20 February 1991

DETAIL 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 MIL-DTL-17.

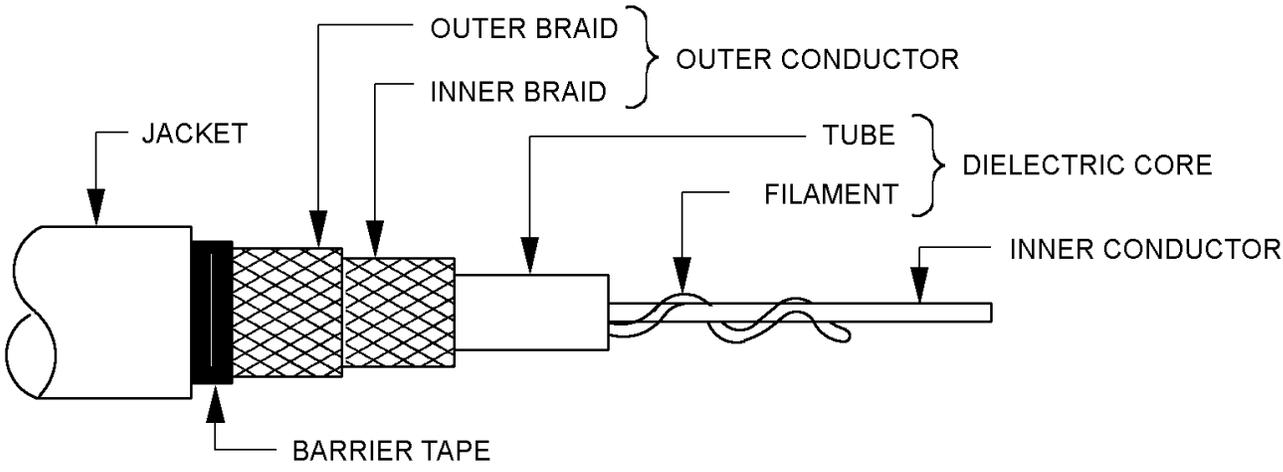


FIGURE 1. Configuration.

TABLE I. Description.

| Components | Construction details | | | | | | | | | | | | | | | | | | |
|-----------------|---|---------------|------------|------------|---------------|--------|--------|-----------|---------------|---------------|-----------|----|----|-------|---|---|-------------|------------|------------|
| Inner conductor | Solid, copper-covered, steel wire. Diameter: .0253 inch ± .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 ± .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. <u>Alternate</u> | | | | | | | | | | | | | | | | | | |
| 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 ± 10%</td> <td>12.0 ± 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 ± 10% | 12.0 ± 10% |
| 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 ± 10% | 12.0 ± 10% | | | | | | | | | | | | | | | | | |
| Outer braid | <table border="0"> <tr> <td>Wire gauge:</td> <td>AWG No. 36</td> <td>AWG No. 36</td> </tr> <tr> <td>Wire coating:</td> <td>Tinned</td> <td>Tinned</td> </tr> <tr> <td>Coverage:</td> <td>93.8% nominal</td> <td>94.6% nominal</td> </tr> <tr> <td>Carriers:</td> <td>16</td> <td>24</td> </tr> <tr> <td>Ends:</td> <td>9</td> <td>6</td> </tr> <tr> <td>Picks/inch:</td> <td>10.6 ± 10%</td> <td>16.0 ± 10%</td> </tr> </table> | Wire gauge: | AWG No. 36 | AWG No. 36 | Wire coating: | Tinned | Tinned | Coverage: | 93.8% nominal | 94.6% nominal | Carriers: | 16 | 24 | Ends: | 9 | 6 | Picks/inch: | 10.6 ± 10% | 16.0 ± 10% |
| Wire gauge: | AWG No. 36 | AWG No. 36 | | | | | | | | | | | | | | | | | |
| Wire coating: | Tinned | Tinned | | | | | | | | | | | | | | | | | |
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| Carriers: | 16 | 24 | | | | | | | | | | | | | | | | | |
| Ends: | 9 | 6 | | | | | | | | | | | | | | | | | |
| Picks/inch: | 10.6 ± 10% | 16.0 ± 10% | | | | | | | | | | | | | | | | | |
| 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 ± .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 ratings: See figure 2.

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

Inner conductor properties:

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

Elongation: 1 percent, minimum.

Tensile strength: 115 klb_f/inch², minimum.

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Eccentricity: 10 percent maximum.

Adhesion of conductors: Not applicable.

Aging stability: $+90^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

Cold bend: $-30^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

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).

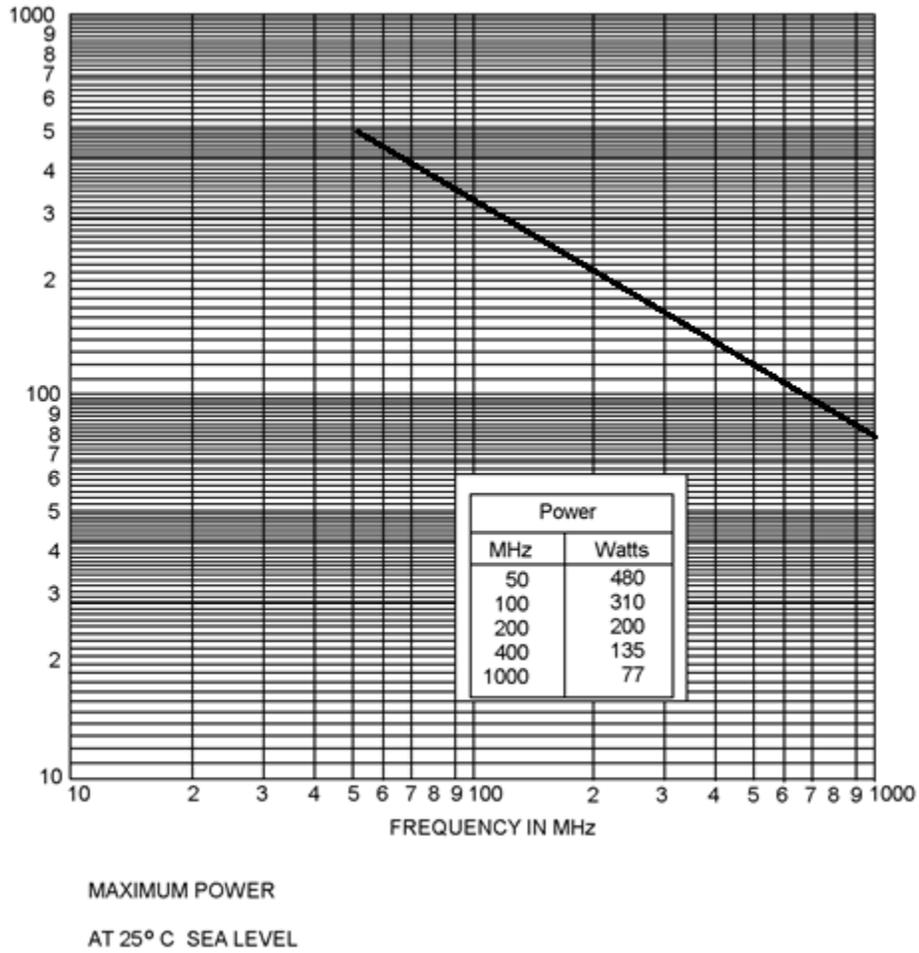


FIGURE 2. Power rating.

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: Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents. This document references MIL-DTL-17.

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA-CC

Review activities:

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

(Project 6145-2014-015)

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>.