

INCH-POUND

MIL-DTL-17/193C
 12 June 2014
 SUPERSEDING
 MIL-C-17/193B
 20 February 1991

DETAIL SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
 50 OHMS, M17/193-00001 UNARMORED, M17/193-00002 ARMORED

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.

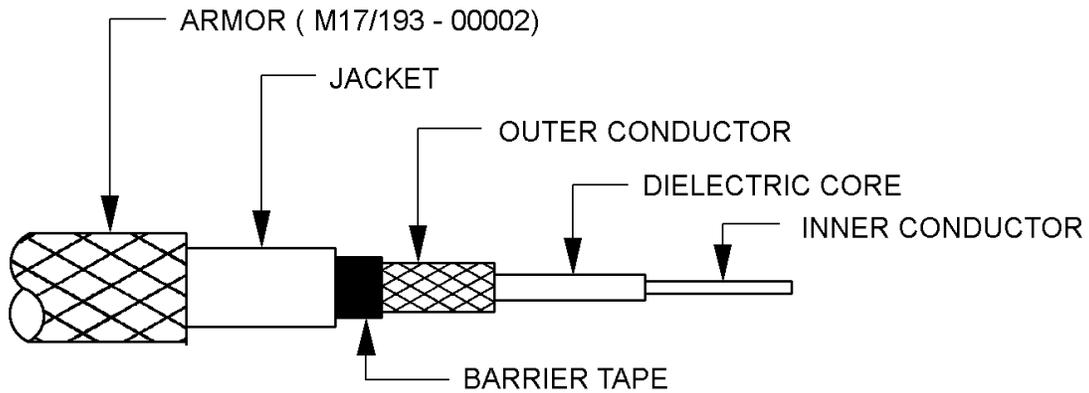


FIGURE 1. Configuration.

TABLE I. Description.

| Components | Construction details | | | | | | | | | | | | |
|-------------------------|---|-------------------------|---------------|---------------|--------------|----|----|----------|---|---|-----------------------|-----------|-----------|
| Inner conductor | Solid bare copper wire. Diameter: .195 inch ± .002. | | | | | | | | | | | | |
| Dielectric core | Type A-1: Solid polyethylene. Diameter: .680 inch ± .010. | | | | | | | | | | | | |
| Outer conductor | Single braid of AWG No. 30, bare copper wire. Diameter: .740 inch maximum. | | | | | | | | | | | | |
| | <u>Alternates</u> | | | | | | | | | | | | |
| Inner | <table style="width: 100%; border: none;"> <tr> <td>Coverage: 97.7% nominal</td> <td>97.8% nominal</td> <td>97.2% nominal</td> </tr> <tr> <td>Carriers: 24</td> <td>36</td> <td>48</td> </tr> <tr> <td>Ends: 14</td> <td>9</td> <td>7</td> </tr> <tr> <td>Picks/inch: 3.1 ± 10%</td> <td>4.0 ± 10%</td> <td>5.6 ± 10%</td> </tr> </table> | Coverage: 97.7% nominal | 97.8% nominal | 97.2% nominal | Carriers: 24 | 36 | 48 | Ends: 14 | 9 | 7 | Picks/inch: 3.1 ± 10% | 4.0 ± 10% | 5.6 ± 10% |
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| Carriers: 24 | 36 | 48 | | | | | | | | | | | |
| Ends: 14 | 9 | 7 | | | | | | | | | | | |
| Picks/inch: 3.1 ± 10% | 4.0 ± 10% | 5.6 ± 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: .752 inch maximum. | | | | | | | | | | | | |

TABLE I. Description – Continued.

| Components | Construction details |
|-------------------------------|--|
| Jacket | Cross-linked polyolefin. Diameter: .870 inch \pm .010. |
| Armor (M17/193-00002 only) | Single braid of aluminum –alloy wire. Diameter: .945 inch maximum. |

REQUIREMENTS:

Continuous working voltage: 8,000 V rms, maximum.

Operating frequency: 1 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): 0.0278 ohm per 100 feet.

Elongation: 30 percent, minimum.

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out-of-roundness: Applicable.

Eccentricity: 5 percent maximum.

Adhesion of conductors:

Inner conductor to core: 60 pounds, minimum; 600 pounds, maximum.

Aging stability: +98°C \pm 2°C.

Cold bend: -30°C \pm 2°C.

Dimensional stability: +85°C \pm 2°C.

Inner conductor from core: .200 inch, maximum.

Inner conductor from jacket: .400 inch, maximum.

Contamination: 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

Hot oil immersion:

Tensile strength, percent minimum: 50

Elongation, percent minimum: 50

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

Weight:

52.1 pounds per 100 feet, maximum (M17/193-00001).

57.1 pounds per 100 feet, maximum (M17/193-00002).

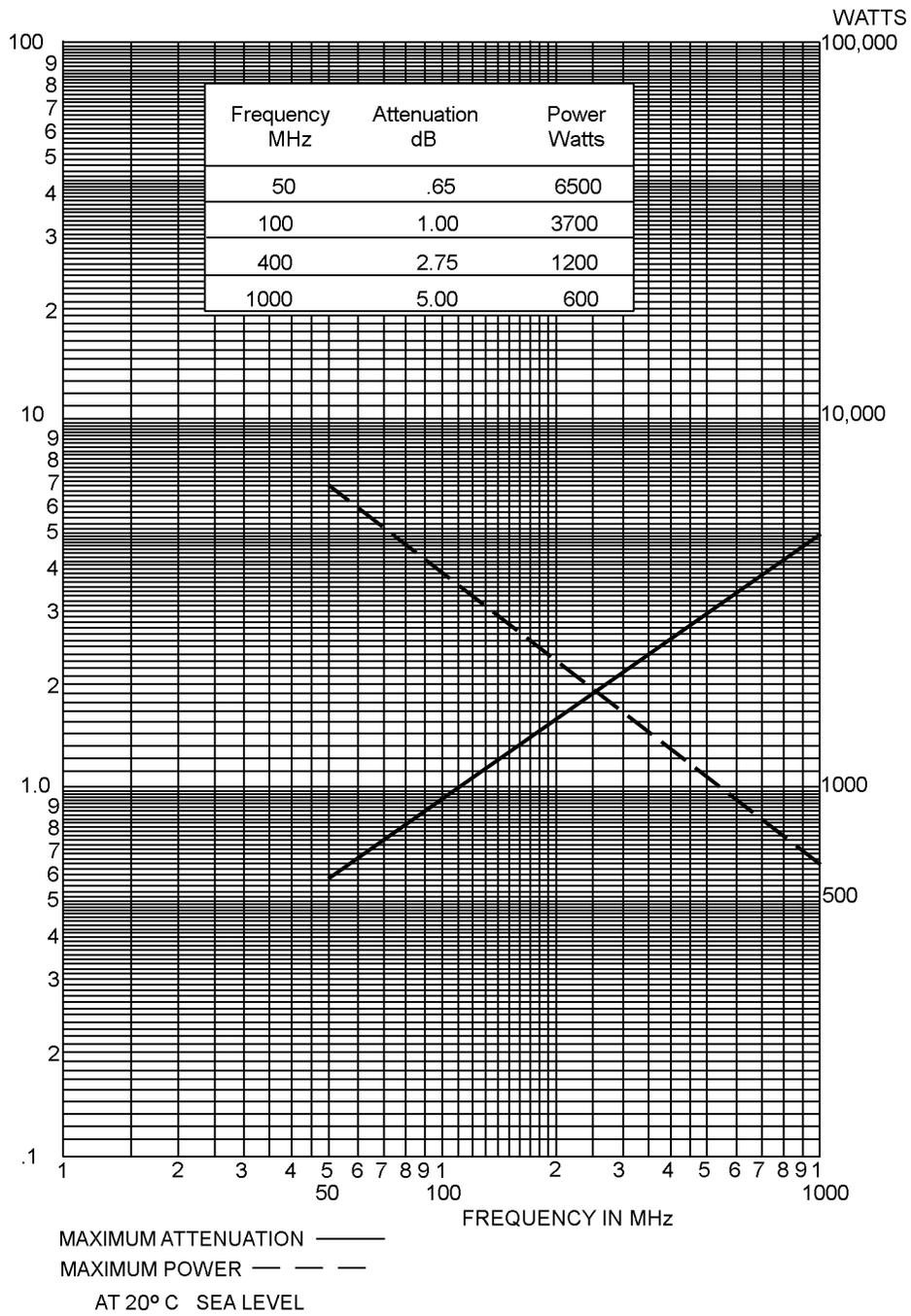


FIGURE 2. Power rating and attenuation.

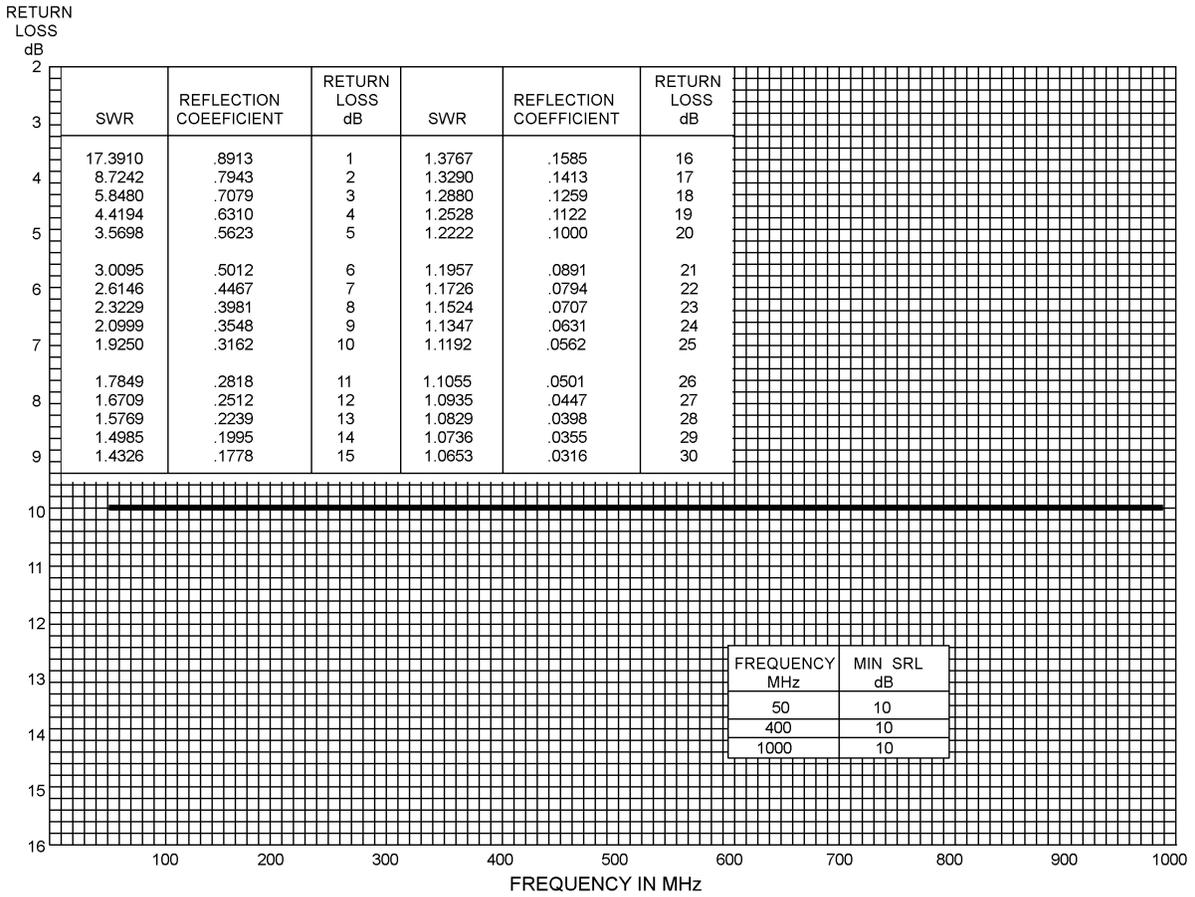


FIGURE 3. Structural return loss.

Electrical:

Spark test: 8,000 V rms, minimum.

Voltage withstanding: 22,000 V rms, minimum.

Corona extinction voltage: 11,000 V rms, minimum.

Characteristic impedance: 50 ± 2 ohms.

Attenuation: See figure 2.

Structural return loss: See figure 3.

Capacitance: 32.2 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):

M17/193-00001 unarmored.

M17/193-00002 armored.

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 6145-2014-017)

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>.