INCH-POUND

MIL-DTL-17/187C
22 May 2014
SUPERSEDING
MIL-C-17/187B
20 February 1991

DETAIL SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE COAXIAL, 50 OHMS, M17/187-00001

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.

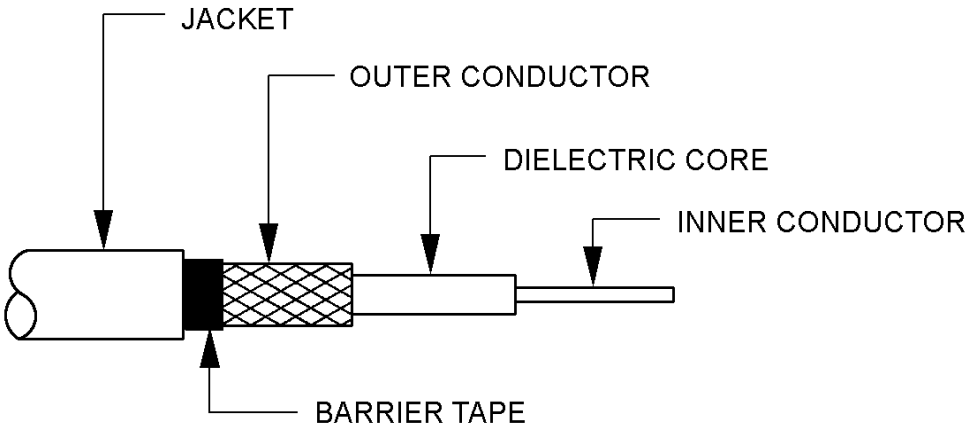

FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Twenty-seven strands of tinned copper wire, each strand .005 inch diameter. Overall diameter: .0308 inch ± .0020.
Dielectric core	Type A-1: Solid polyethylene. Diameter: .096 inch ± .003.
Outer conductor	Single braid of AWG No. 36, tinned copper wire. Diameter: .126 inch maximum. Alternate Coverage: 95.3% nominal 99.3% nominal Carriers: 16 24 Ends: 6 5 Picks/inch: 12.9 ± 10% 12.2 ± 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: .136 inch maximum.
Jacket	Cross-linked polyolefin. Diameter: .160 inch ± .005. Jacket thickness: .012 inch minimum.

REQUIREMENTS:

Continuous working voltage: 1,400 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): 1.79 ohms per 100 feet.

Elongation: 10 percent, minimum.

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

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out-of-roundness: Not applicable.

Eccentricity: 10 percent maximum.

Adhesion of conductors:

Inner conductor to core: 1.3 pounds, minimum; 13 pounds, maximum.

Aging stability: +98°C ± 2°C.

Cold bend: -30°C ± 2°C.

Dimensional stability: +85°C ± 2°C.

Inner conductor from core: .062 inch, maximum.

Inner conductor from jacket: .125 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: 2.3 pounds per 100 feet maximum.

Electrical:

Spark test: 3,000 V rms, minimum.

Voltage withstanding: 5,000 V rms, minimum.

Corona extinction voltage: 1,900 V rms, minimum.

Characteristic impedance: 50 ± 2 ohms.

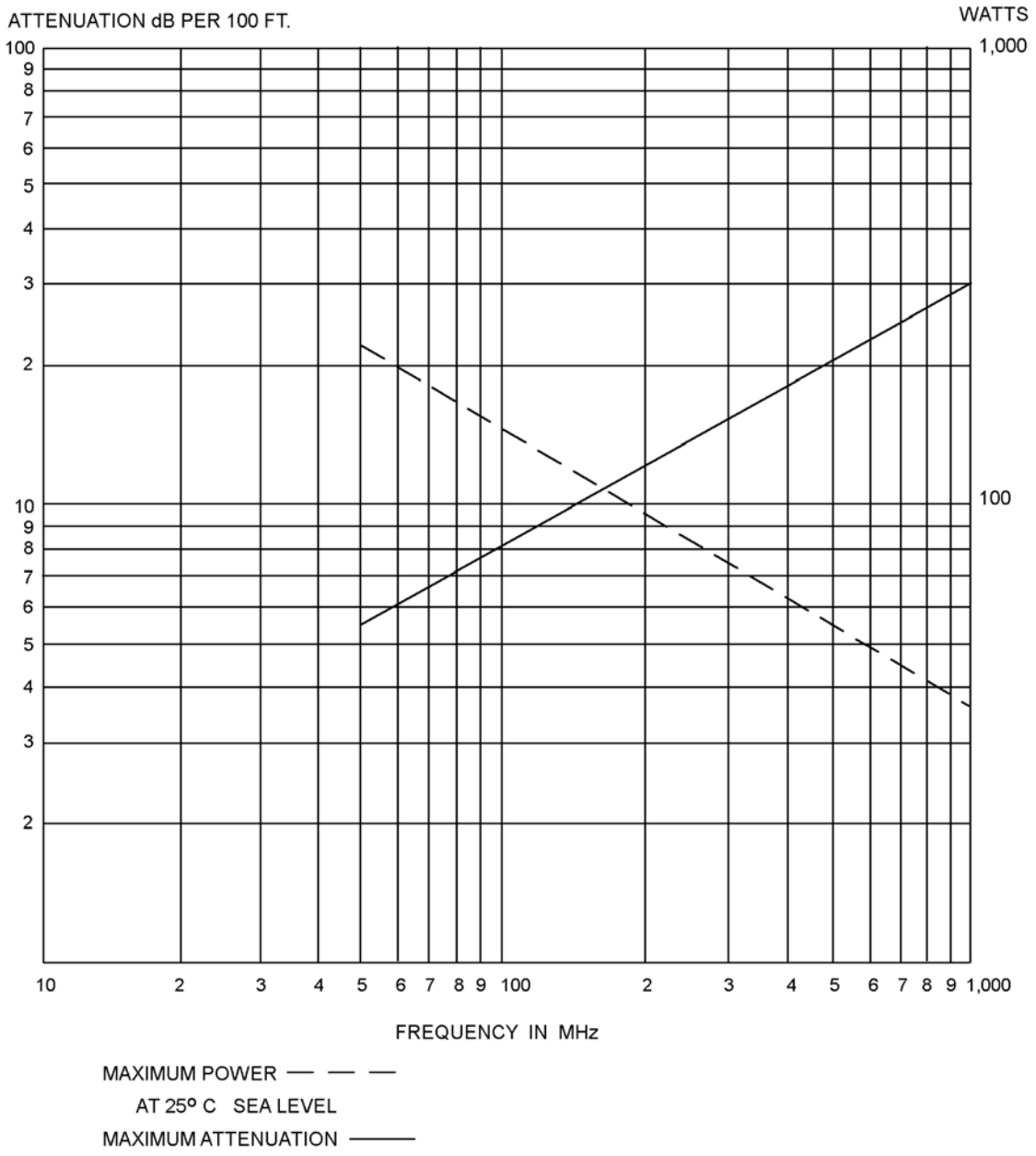

FIGURE 2. Power rating and attenuation.

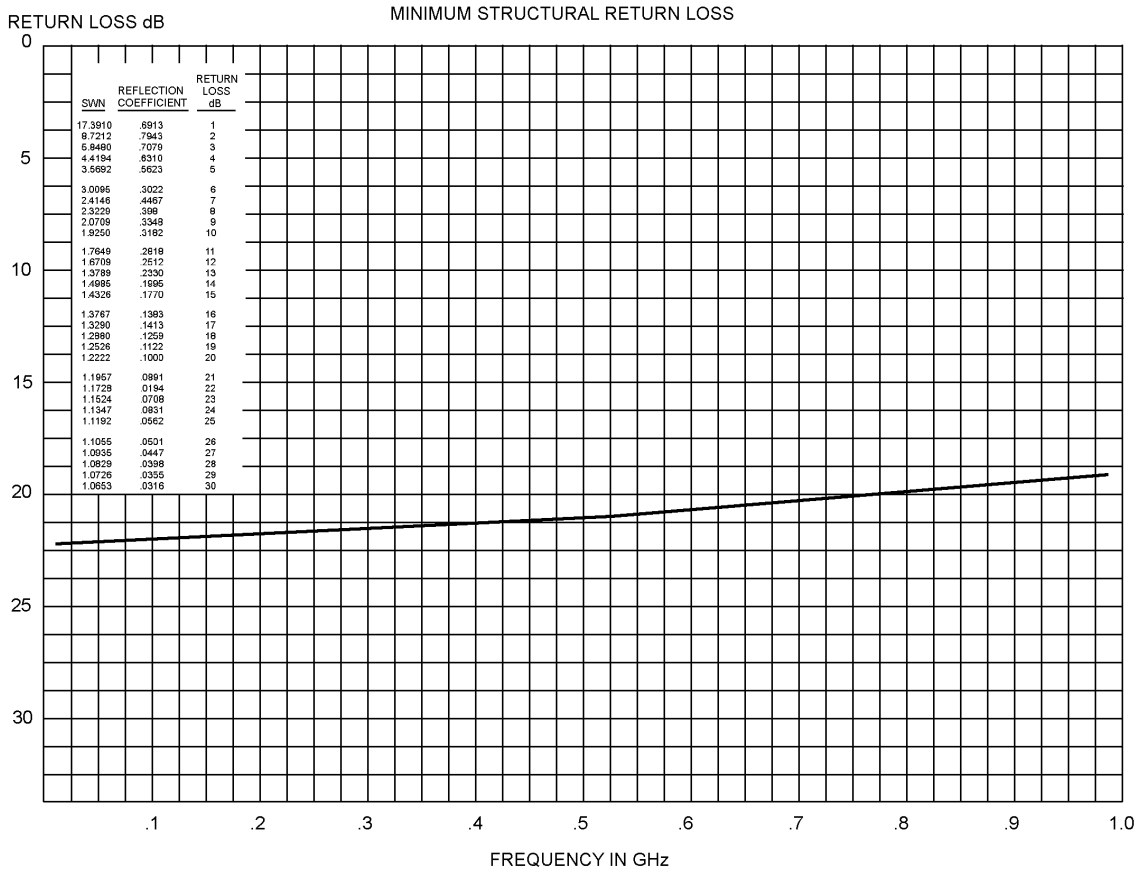

FIGURE 3. Structural return loss.

Attenuation: See figure 2.

Structural return loss: See figure 3.

Capacitance: 32.2 pF per foot, maximum.

Part or Identifying Number (PIN): M17/187-00001.

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. 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

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

(Project 6145-2014-021)

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.