

INCH-POUND

MIL-DTL-17/183C
25 July 2014
SUPERSEDING
MIL-C-17/183B
20 February 1991

DETAIL SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
50 OHMS, M17/183-00001

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.

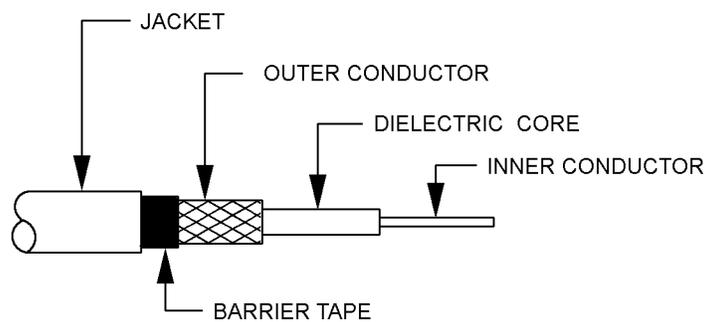


FIGURE 1. General configuration.

TABLE I. Description.

Component	Construction																				
Inner conductor	Nineteen strands of tinned copper wire, each strand .0072 inch diameter. Overall diameter: .0355 inch \pm 0.0020																				
Dielectric core	Type A-1: Solid, polyethylene. Diameter: .116 inch \pm 0.004																				
Outer conductor	Single braid of AWG No. 36, tinned copper wire Diameter: .145 inch maximum <table style="width: 100%; border: none;"> <thead> <tr> <th colspan="2"></th> <th colspan="2" style="text-align: center;"><u>Alternate</u></th> </tr> </thead> <tbody> <tr> <td>Coverage:</td> <td>92.8% nominal</td> <td>Coverage:</td> <td>94.2% nominal</td> </tr> <tr> <td>Carriers:</td> <td>12</td> <td>Carriers:</td> <td>16</td> </tr> <tr> <td>Ends:</td> <td>9</td> <td>Ends:</td> <td>7</td> </tr> <tr> <td>Picks/inch:</td> <td>7.7 \pm10%</td> <td>Picks/inch:</td> <td>10.3 \pm10%</td> </tr> </tbody> </table>			<u>Alternate</u>		Coverage:	92.8% nominal	Coverage:	94.2% nominal	Carriers:	12	Carriers:	16	Ends:	9	Ends:	7	Picks/inch:	7.7 \pm 10%	Picks/inch:	10.3 \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 shall be applied with a 50% lap, aluminum face toward the outer conductor. Diameter: .155 inch maximum																				
Jacket	Cross-linked polyolefin Diameter: .195 inch \pm 0.004																				

ENGINEERING INFORMATION

Continuous working voltage: 1,400 V rms, maximum.

Operating frequency: 1GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power rating: See figure 2.

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

Inner conductor properties:

DC resistance (maximum at +20°C): 1.48 ohms per 100 feet.

Elongation: 15 percent, minimum.

Engineering note: This cable is useful in general purpose low temperature applications.
(See connector series "TNC", "BNC" and "SMA" in accordance with MIL-PRF-39012.)

REQUIREMENTS

Dimensions, configuration, and description: 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: 5 pounds, minimum; 15 pounds, maximum.

Aging stability: $+98^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

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

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.

Flame propagation: Applicable.

Acid gas generation: 2 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: 3 pounds per 100 feet, maximum.

Electrical:

Spark test: 5,000 V rms, minimum.

Voltage withstanding: 5,000 V rms, minimum.

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

Characteristic impedance: 50 ohms \pm 2.

Attenuation: See figure 2.

Structural return loss: See figure 3.

Capacitance: 32.2 pF per foot.

Part or Identifying Number (PIN): M17/183-00001.

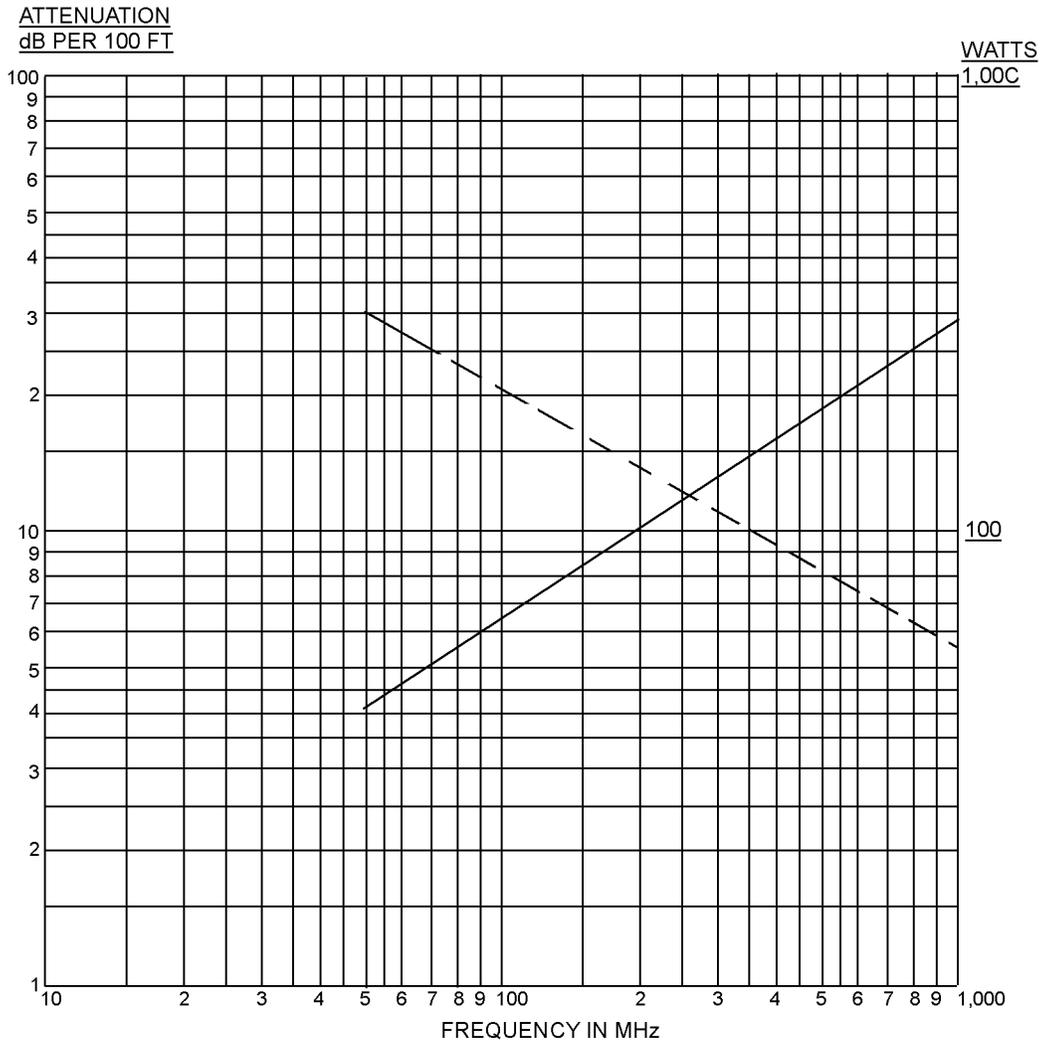
Qualification: Not applicable.

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

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

MIL-PRF-39012

MIL-DTL-17/183C



MAXIMUM POWER ----- AT SEA LEVEL AND 25° C

Tabulated values are for reference only
The values on the chart represent the requirements.

MAXIMUM ATTENUATION _____

Frequency MHz	Attenuation db	Power Watts
50	4.0	300
100	6.5	200
400	17.0	90
1000	28.0	33

FIGURE 2. Power rating at sea level and 25°C.

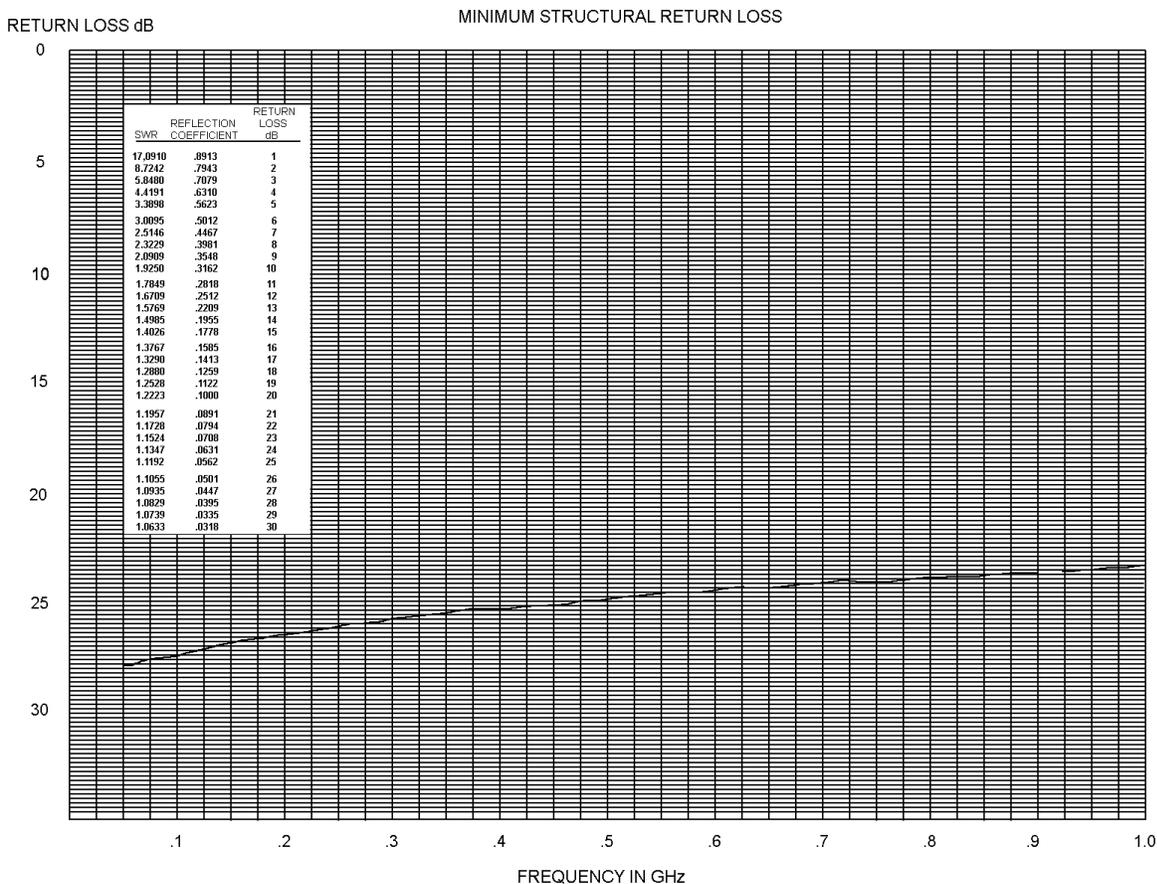


FIGURE 3. Structural return loss.

CONCLUDING MATERIAL

Custodians:
 Army - CR
 Navy - EC
 Air Force - 85
 DLA - CC

Preparing activity
 DLA - CC
 (Project 6145-2014-025)

Review activities:
 Army - AT, CR4, MI
 Navy - AS, MC, OS, SH
 Air Force - 19, 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 <https://assist.dla.mil>.