

DETAIL SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
 50 OHMS, M17/205-0018 and M17/205-0050

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.

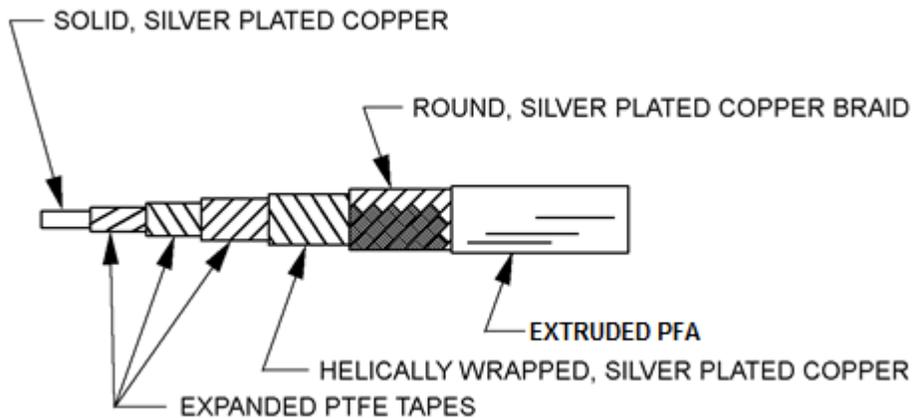
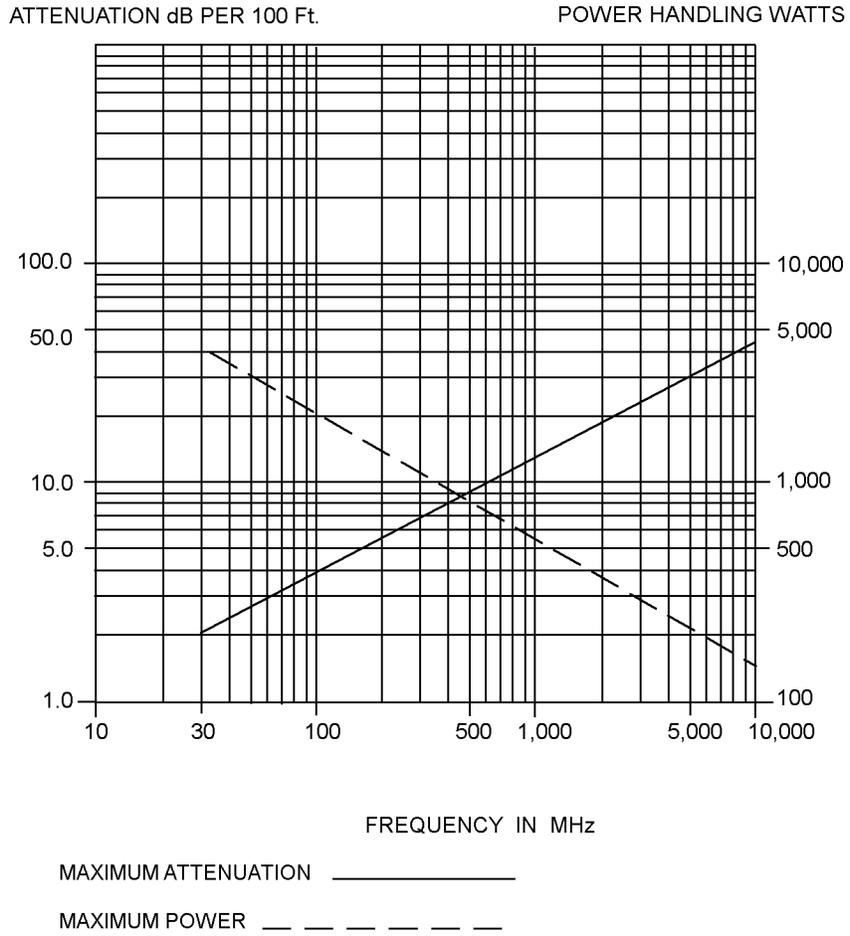


FIGURE 1. General configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Solid silver coated copper wire. Overall diameter: .0298 inch ± .0002.
Dielectric core	Type F-6: Expanded PTFE tape. Diameter: .083 inch ± .003. 50% overlap minimum, 66% nominal.
Outer conductor	Double shield: Helical wrap plus braid. Diameter: .108 inch ± .002.
Inner shield helical wrap	Carriers: N/A Ends: N/A Picks/inch: N/A Wire type: Flat, silver plated copper wire. .060 inch ± .002 x .002 inch ± .003. 45% overlap minimum.
Outer braid	Carriers: 16 Ends: 5 Picks/inch: 25 ± 2 Wire type: AWG 38, silver-plated. Diameter: .108 ± .002, coverage 90%, minimum.
Jacket	Type XIII extruded PFA. Diameter: .120 inch ± .003.



ATTENUATION	
MHz	dB
50	2.9
400	8.2
3,000	22.9
11,000	45.1

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

REQUIREMENTS:

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

Operating frequency: 50 GHz, maximum.

Velocity of propagation: 82 percent, nominal.

Power ratings: See figure 2.

Operating temperature range: -55°C to +200°C.

Inner conductor properties:

DC resistance (maximum at +20°C): 12 ohms per 1000 feet, maximum.

Elongation: 25 percent, minimum.

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out-of-roundness: Not applicable.

Eccentricity: Not applicable.

Adhesion of conductors:

Inner conductor to core: Not applicable.

Aging stability: Not applicable.

Cold bend: -55°C ± 2°C.

Dimensional stability: +200°C ± 5°C.

Inner conductor from core: .187 inch, maximum.

Inner conductor from jacket: .312 inch, maximum.

Contamination: Not applicable.

Flame propagation: Applicable.

Acid gas generation: Not applicable.

Halogen content: Not applicable.

Immersion test: Not applicable.

Smoke index: Not applicable.

Toxicity index: Not applicable.

Durometer hardness: Not applicable.

Weathering: Not applicable.

Abrasion resistance: Not applicable.

Tear strength: Not applicable.

Heat distortion: Not applicable.

Physical tests on unaged jacket: Not applicable.

Physical tests on aged jacket: Not applicable.

Hot oil immersion: Not applicable.

Weight: 1.5 pounds per 100 feet maximum.

Electrical:

Test frequency:

50 MHz to 18 GHz, M17/205-00018

50 MHz to 50 GHz, M17/205-00050

Spark test: 2,000 V rms, +25%, -0%.

Voltage withstanding: 3,000 V rms, minimum.

Corona extinction voltage: 1.9 kV rms, minimum.

Characteristic impedance: 50 ± 2 ohms.

Attenuation: See figure 2.

Structural return loss: 1.15:1 at 12 GHz, 1.25:1 at 18 GHz, 1.30:1 at 26.5 GHz, 1.40:1 at 50 GHz, maximum.

Capacitance: 27 pF per foot, maximum.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise: Not applicable.

Time delay: Not applicable.

Part or Identifying Number (PIN): M17/205-00018 and M17/205-00050.

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 6145-2014-013)

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>.