

INCH-POUND

MIL-C-17/206A
22 May 1995
SUPERSEDING
MIL-C-17/206
25 February 1994

MILITARY SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
50 OHMS, M17/206-00018 AND M17/206-00030

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 the issue of the following specification listed in that
issue of the Department of Defense Index of Specifications and Standards (DODISS)
specified in the solicitation: MIL-C-17.

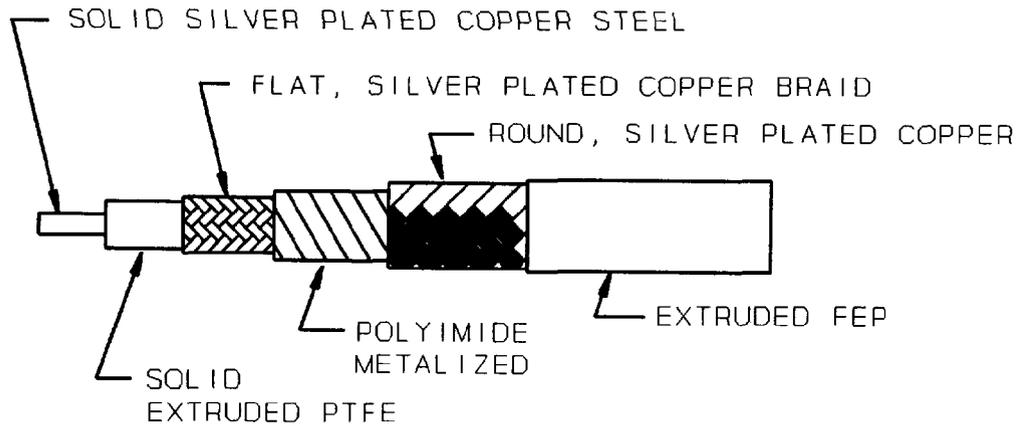


FIGURE 1. General configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Solid silver coated copper wire. Overall diameter: .0365 inch \pm .0003.
Dielectric core	Type F-1: Solid PTFE. Diameter: .117 inch \pm .003.
Inner shield helical wrap	Double braid with metalized polyimide interlayer. Diameter: .153 inch \pm .005. Carriers: 16. Ends: N/A. Picks/inch: 18-19. Wire type: Flat, silver-plated copper wire. .030 inch \pm .003 x .0020 inch \pm .0005.
Interlayer	45% overlap minimum, aluminum polyimide.
Outer braid	Carriers: 24. Ends: 4. Picks/inch: 23-25. Wire type: AWG 36, silver-plated copper wire. Diameter: .153 inch \pm .005.
Jacket	Type IX extruded FEP. Diameter: .169 inch \pm .005.

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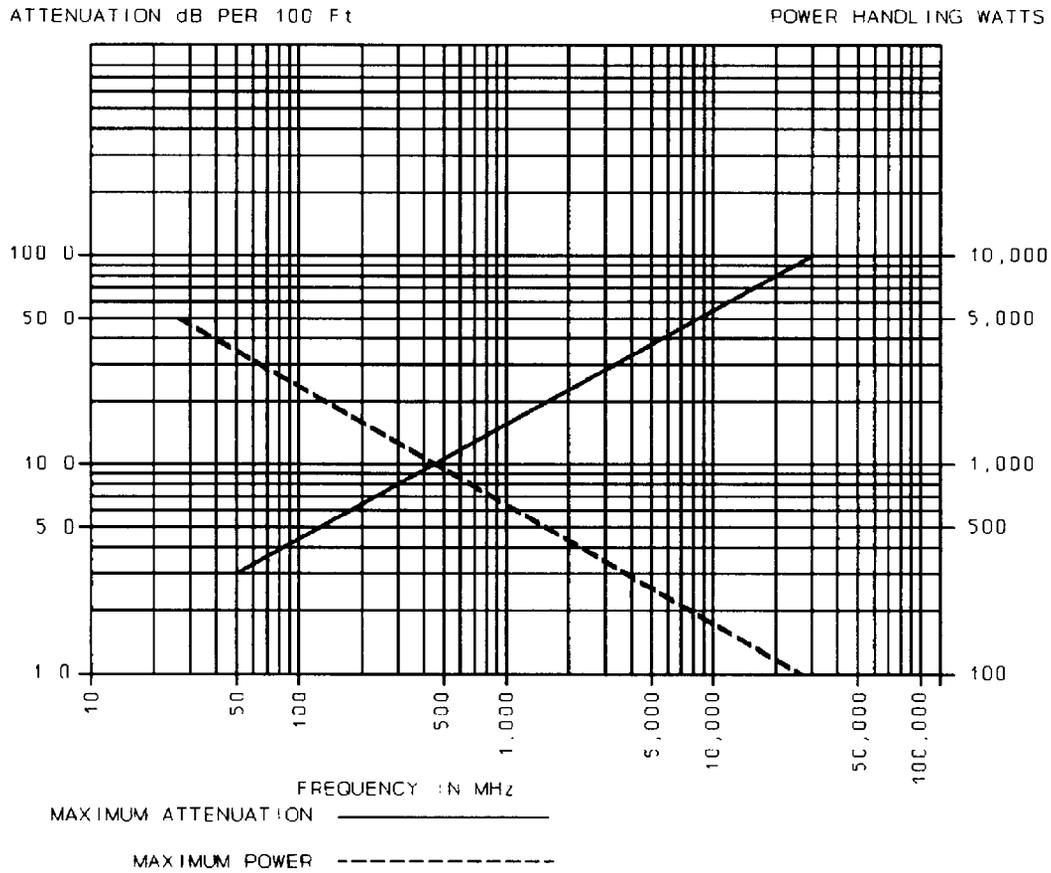


FIGURE 2. Power rating and attenuation at 25°C sea level.

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ENGINEERING INFORMATION:

Continuous working voltage: 1,400 V rms maximum.

Operating frequency: 30 GHz maximum.

Velocity of propagation: 69.5 percent nominal.

Power rating: See figure 2.

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

Inner conductor properties:

DC resistance (maximum at +20°C): 19.5 ohms per 1,000 feet.

Elongation: 1 percent minimum.

Engineering notes: This cable is useful in general purpose, high temperature applications (connector series 2.4 mm, 3.5 mm, and SMK).

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: 4 pounds minimum, 30 pounds maximum.

Aging stability: Not applicable.

Cold bend: -55°C ±2°C.

Stress crack resistance: ±230°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.

Dorometer hardness: Not applicable.

Weathering: Not applicable.

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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: 4 pounds per 100 feet maximum.

Electrical:

Test frequency:

M17/206-00018: 50 MHz TO 18 GHz.

M17/206-00030: 50 MHz to 30 GHz.

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

Voltage withstanding: 3,000 V rms minimum.

Insulation resistance: Not applicable.

Corona extinction voltage: 1,900 V rms minimum.

Characteristic impedance: 50 ±2 ohms.

Attenuation: See figure 2.

Structural return loss (maximum): 1.15:1 at 12 GHz, 1.25:1 at 18 GHz, and 1.30:1 at 30 GHz.

Capacitance: 32 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): M17/206-00018 or M17/206-00030.

Revision letters are not used to denote changes due to the extensiveness of the changes.

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 85

Preparing activity:
DLA - ES

Review activities:

Army - AR, AT, ME, MI
Navy - AS, MC, OS, SH
Air Force - 11, 80, 99
DLA - IS

(Project 6145-2106)