

MILITARY SPECIFICATION SHEET
CABLES, RADIO FREQUENCY, FLEXIBLE COAXIAL,
50 OHMS, M17/212-00001

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 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.

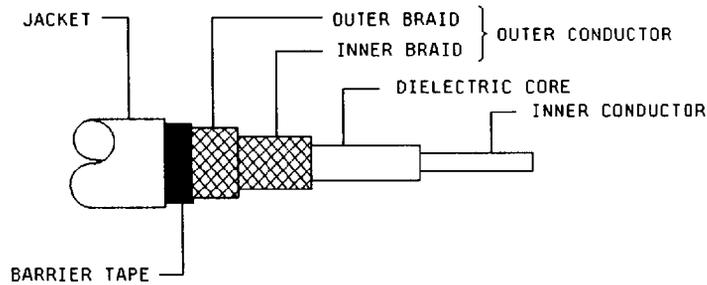


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Solid, bare copper wire. Diameter: .195 inch ±.002.
Dielectric core	A-1: Solid polyethylene. Diameter: .680 inch ±.010.

TABLE I. Description - Continued.

Outer conductor	Double braid of AWG#34, silver-coated copper wire. Diameter: .760 inch maximum.
Inner braid	Coverage: 93.5% nominal Carriers: 48 Ends: 10 Picks/inch 5.2 ±10%
Outer braid	Coverage: 90.4%, nominal Carriers: 48 Ends: 10 Picks/inch: 4.1 ±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, minimum. Aluminum face toward the outer conductor. Diameter: .770 inch, maximum.
Jacket	Cross-linked polyolefin. Diameter: .895 inch ±.015.

CAUTION IS DIRECTED TO THE APPLICATION OF THIS CABLE ABOVE 400 MHZ. ATTENUATION IS TESTED ONLY AT 400 MHZ. SRL AND POWER HANDLING CAPABILITIES ARE NOT STIPULATED HEREIN.

ENGINEERING INFORMATION:

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

Operating frequency: 5.6 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power ratings: See figure 2.

Operating temperature range: -40° to +80°C, maximum.

Inner conductor properties:

DC resistance (maximum at +20°C): .0278 ohms per 100 feet.

Elongation: 30 percent, minimum.

Tensile strength: Not applicable.

Engineering notes: This cable is useful in general purpose medium low temperature applications. (See connector series 'N' per MIL-C-39012; 'HN' per MIL-C-3643, and 'LC' per MIL-C-3650). Use this cable in all new designs in-lieu-of MIL-C-17/160 cables.

The US Government preferred system of measurement is the metric SI system. However, since this item was originally designed using inch-pound units of measurement, in the event of conflict between the metric and inch-pound, the inch-pound units shall take precedence.

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out-of-roundness: Not applicable.

Eccentricity: 5 percent, maximum.

Adhesion of conductors:

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

Aging stability: +98° ±2°C.

Cold bend: -40° ±2°C.

Stress crack resistance: Not applicable.

Dimensional stability: +85°C ±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: 57.2 pounds per 100 feet, maximum.

Electrical:

Spark test: 8,000 V rms, minimum.

Voltage withstanding: 22,000 V rms, minimum.

Insulation resistance: Not applicable.

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

Characteristic impedance: 50 ohms ± 2 .

Attenuation: 2.7 dB/100 ft maximum at 400 MHz.

Structural return loss: Not applicable.

Capacitance: 32.2 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): 417/212-00001.

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 85

Review activities:

Army - AR, AT, ME, MI
Navy - AS, MC, OS, SH
Air Force - 11, 19, 80, 99
DLA - ES, IS

Preparing activity:

Navy - EC

Agent:

DLA - ES

(Project 6145-2040-07)