

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE COAXIAL,
50 OHMS, M17/216-00001.

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.

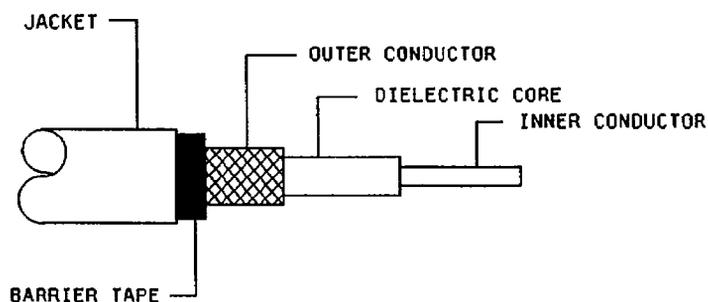


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Solid bare copper wire. Diameter: 0.195 inch ±.002.
Dielectric core	Type A-1: Solid polyethylene. Overall diameter: 0.680 inch ±0.010.

TABLE I. Description - Continued.

Outer conductor	Single braid of AWG#30, bare, copper wire. Diameter: .760 inch maximum.			
	<u>Alternates</u>			
	Coverage:	97.7% nominal	97.8% nominal	97.2% nominal
	Carriers:	24	36	48
	Ends:	14	9	7
	Picks/inch:	3.1 ±10%	4.0 ±10%	5.6 ±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: .870 inch ±.010.			

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: 1 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

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

Inner conductor properties:

DC resistance (maximum at +20°C): 0.0278 ohm 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', 'C', and 'SC' per MIL-C-39012 for M17/216-00001. Use this cable in all new designs in-lieu-of MIL-C-17/166 cable.

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:

Inner conductor from core: 0.200 inch, maximum.

Inner conductor from jacket: 0.400 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: 52.1 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 \pm 2.
Attenuation: 2.75 dB per 100 feet, maximum at .4 GHz.
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): M17/216-00001.

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 6145-2040-11)