

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
50 OHMS, M17/230-00001

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the cable described herein shall consist of this specification and MIL-DTL-17.

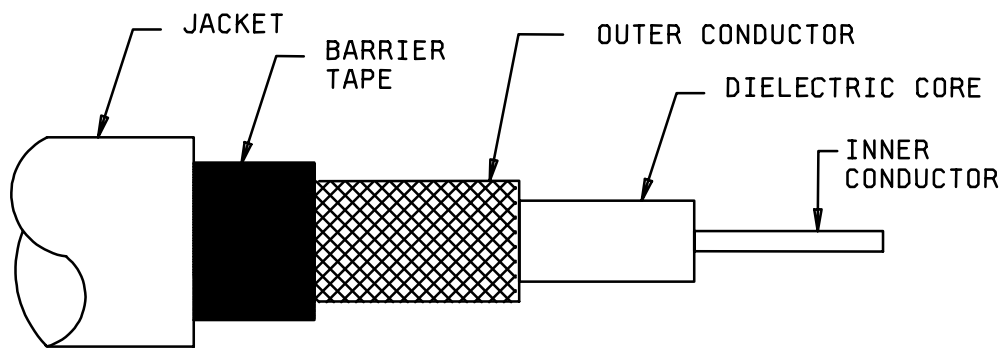


FIGURE 1. Configuration.

TABLE I. Description.

Component	Construction details
Inner conductor	Seven strands of bare copper wire, each strand .0296 inch diameter. Overall diameter .0888 inch \pm .0010.
Dielectric core	Type A-1: Solid polyethylene. Diameter: .285 inch \pm .007.
Outer conductor	Single braid of AWG No. 33 bare copper wire. Diameter: .340 inch maximum. Coverage: 95.3 percent, nominal Carriers: 24 Ends: 8 Picks/inch: 6.5 \pm 10 percent.
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 percent lap, aluminum face toward the outer conductor. Diameter: .350 inch maximum.
Jacket	Type XIV, crosslinked polyolefin Diameter: .405 inch \pm .007.

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: 3,700 V rms, maximum.

Velocity of propagation: 65.9 percent, nominal.

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

Inner conductor properties:

DC resistance, (maximum, at 20°C): 0.176 ohms per 100 feet.

Elongation: 25 percent, minimum.

Tensile strength: Not applicable.

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

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical:

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 9 pounds, minimum; 90 pounds maximum.

Aging stability: +98°C \pm 2°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

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

Dimensional stability: $+85^{\circ}\text{C} \pm 2\text{C}$.

Inner conductor from core: .62 inch, maximum.

Inner conductor from jacket: .125 inch, maximum.

Contamination: Not applicable.

Bendability: Not applicable.

Flammability: 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: .117 pound per foot, maximum.

Electrical:

Continuity: Applicable.
Spark test: 5,000 V rms, +10%, -0%.
Voltage withstanding: 10,000 V rms, +10%, -0%.
Insulation resistance: Not applicable.
Corona extinction voltage: 5,000 V rms, minimum.
Characteristic impedance: 50 ± 2 ohms.
Attenuation: 4.7 dB/100 ft maximum at 400 MHz.
Structural return loss: Not applicable.
Capacitance: 32.2 pF per foot, maximum.
Capacitance stability: Not applicable.
Capacitance unbalance: Not applicable.
Transmission unbalance: Not applicable.
Mechanically induced noise voltage: Not applicable.
Time delay: Not applicable.
Part or Identifying Number (PIN): M17/230-00001.

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC
(Project: 6145-2283-01)

Review activities:
Army - AR, AT, CR4, MI
Navy - AS, MC, OS, SH, TD
Air Force - 19, 99
DLA - IS