

INCH-POUND

MIL-DTL-17/214A  
 05 October 2014  
 SUPERSEDING  
 MIL-C-17/214  
 29 September 1993

DETAIL SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL,  
 50 OHMS, M17/214-00001

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 MIL-DTL-17.

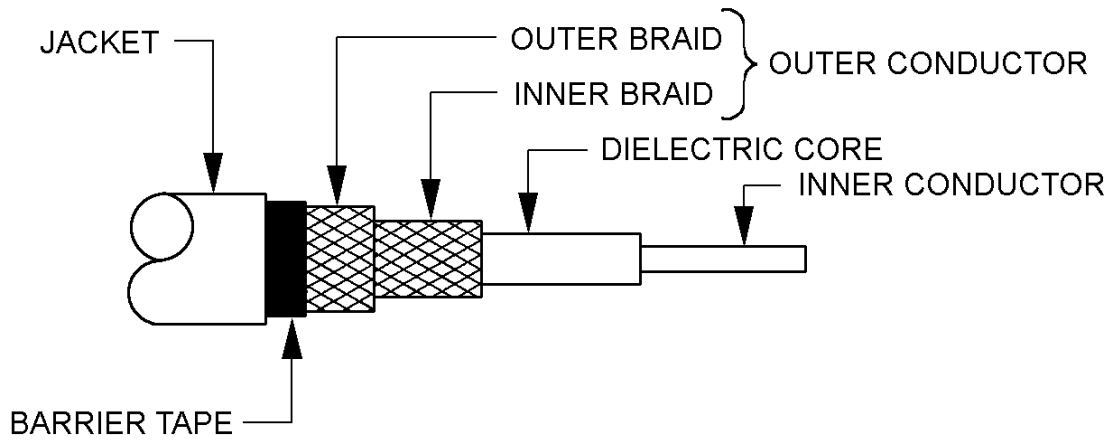


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Seven strands of silver-coated copper wire, each strand .0296 inch diameter. Diameter: 0.0888 inch $\pm$ .0010.
Dielectric core	Type A-1: Solid polyethylene. Overall diameter: .285 inch $\pm$ .007.
Outer conductor	Double braid of AWG#34, silver-coated copper wire. Diameter: .355 inch maximum.
Inner braid	Coverage: 95.7% Carriers: 24 Ends: 6 Picks/inch: 16.6 $\pm$ 10%
Outer braid	Coverage: 98.0% Carriers: 24 Ends: 7 Picks/inch: 15.4 $\pm$ 10%

TABLE I. Description – Continued.

Components	Construction details
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: .365 inch, maximum.
Jacket	Cross-linked polyolefin. Diameter: .425 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.

Operating frequency: 11 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

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

Inner conductor properties:

DC resistance (maximum at +20°C): .173 ohms per 100 feet.

Elongation: 25 percent, minimum.

Tensile strength: Not applicable.

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: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 10 pounds, minimum; 50 pounds, maximum.

Aging stability: +98°  $\pm$  2°C.

Cold bend: -40°C  $\pm$  2°C.

Stress crack resistance: Not applicable.

Dimensional stability:

Inner conductor from core: .062 inch, maximum.

Inner conductor from jacket: .125 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: 15.4 pounds per 100 feet, maximum.

Electrical:

Spark test: 5,000 V rms, minimum.

Voltage withstanding: 10,000 V rms, minimum.

Insulation resistance: Not applicable.

Corona extinction voltage: 5,000 V rms, minimum.

Characteristic impedance: 50 ohms  $\pm$  2.

Attenuation: 5.5 dB per 100 feet, 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): M17/214-00001.

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 6145-2014-006)

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>.