

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL,  
50 OHMS, M17/164-00001 AND M17/164-00002

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

The complete requirements for acquiring the cables described herein shall consist of this specification and the latest issue of MIL-C-17.

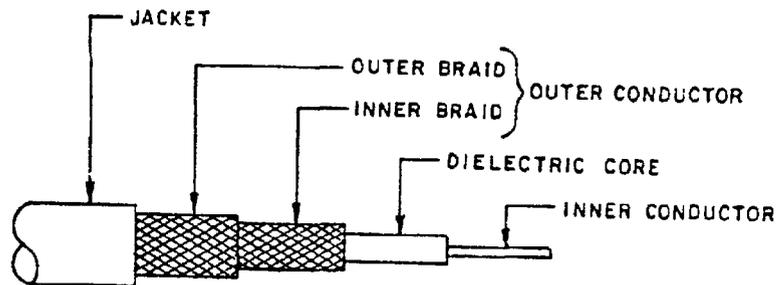


FIGURE 1. Configuration.

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.

TABLE 1. Description.

Components	Construction details
Inner conductor	Seven strands of silver-coated 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	Double braid of AWG #34 silver-coated copper wire. Diameter: .360 inch maximum.
Inner braid	Coverage : 95.7%, nominal Carriers : 24 Ends : 6 Picks/inch: 16.6 $\pm$ 10%
Outer braid	Coverage : 98.0%, nominal Carriers : 24 Ends : 7 Picks/inch: 15.4 $\pm$ 10%
Jacket	M17/164-00001 type IIa: PVC. Diameter: .425 inch $\pm$ .007.  M17/164-00002 - Low temperature, light weight, styrene block copolymer, or equivalent, thermoplastic elastomer (TPE). Diameter: .425 inch $\pm$ .007.

## ENGINEERING INFORMATION:

Continuous working voltage: 3,700 Vrms, maximum.

Velocity of propagation: 65.9 percent, nominal.

Operating temperature range:

M17/164-00001: -40° to +85°C.

M17/164-00002: -55° to +85°C.

Inner conductor properties:

DC resistance (maximum at 20°C): 0.173 ohm 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" per MIL-C-39012.)

## 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:  $+98^{\circ} \pm 2^{\circ}\text{C}$ .

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Cold bend:

M17/164-00001:  $-40^{\circ} \pm 2^{\circ}\text{C}$ .

M17/164-00002:  $-55^{\circ} \pm 2^{\circ}\text{C}$ .

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

Inner conductor from core: 0.062 inch, maximum.

Inner conductor from jacket: 0.125 inch, maximum.

Contamination: Applicable.

Bendability: Not applicable.

Flammability: Not applicable.

Weight: 0.140 pound per foot, maximum.

## Electrical:

Continuity: Applicable.

Spark test: 5,000 Vrms, +25 percent, -0 percent.

Voltage withstanding: 10,000 Vrms, minimum.

Insulation resistance: Not applicable.

Corona extinction voltage: 5,000 Vrms, minimum.

Characteristic impedance:  $50 \pm 2$  ohms.

Attenuation: 5.5 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.

Phase stability: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

Part number: See table II.

Supersession data: See table II.

TABLE II. Cross reference of part number.

Part number	Superseded part number
M17/164-00001	RG-214/U per MIL-C-17D; RG-98/U per MIL-C-17/4 (canceled)
M17/164-00002	RG-365/U per MIL-C-17D

Custodians:

Army - CR  
Navy - EC  
Air Force - 85

Preparing activity:

Army - CR

(Project 6145-0814-10)

Review activities:

Army - MI  
Navy - SH  
Air Force - 11, 17, 99  
DLA - ES, IS

User activities:

Army - AR, AT, ME  
Navy - AS, MC, OS  
Air Force - 19

Agent:

DLA - ES