

MIL-C-17/81C
~~18 July 1985~~
~~SUPERSEDING~~
MIL-C-17/81B
12 August 1983

MILITARY SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE COAXIAL,
50 OHMS, M17/81-00001 AND M17/81-00002 (ARMORED)

INACTIVE FOR NEW DESIGN

THIS CABLE USES PVC MATERIAL AND IS NOT
TO BE USED IN AEROSPACE APPLICATIONS.

NOTE: THE AIR FORCE HAS RESTRICTED THE USE OF PVC IN
AEROSPACE AND GROUND SUPPORT APPLICATIONS. CABLES
WITH PVC JACKETING SHALL BE USED FOR RETROFIT PURPOSES
ONLY UNTIL AN ALTERNATE JACKET IS APPROVED.

This specification is approved for use by all Depart-
ments and Agencies of the Department of Defense.

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

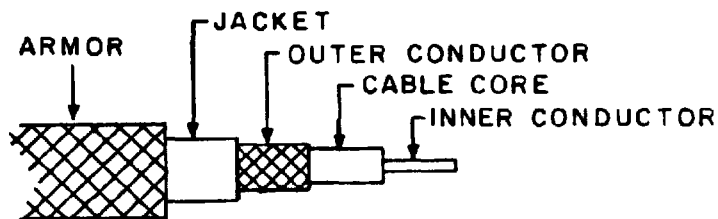


FIGURE 1. Configuration.

© denotes changes

FSC 6145

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

TABLE I. Description.

Component	Construction details								
Inner conductor	Bare copper wire. Overall diameter: .260 inch $\pm$.003.								
Cable core	Solid type A. Overall diameter: .910 inch $\pm$.015.								
Outer conductor	Single braid, AWG size 30. Bare copper wire. Overall diameter: .990 inch maximum.								
Braid	<table> <tr> <td></td><td>Alternate</td></tr> <tr> <td>Carriers: 36</td><td>48</td></tr> <tr> <td>Ends: 12</td><td>9</td></tr> <tr> <td>Picks/inch 3.5 $\pm$10%</td><td>4.2 $\pm$10%</td></tr> </table>		Alternate	Carriers: 36	48	Ends: 12	9	Picks/inch 3.5 $\pm$ 10%	4.2 $\pm$ 10%
	Alternate								
Carriers: 36	48								
Ends: 12	9								
Picks/inch 3.5 $\pm$ 10%	4.2 $\pm$ 10%								
Jacket M17/81-00001	Type IIa: PVC. Overall diameter: 1.120 inches $\pm$.015.								
M17/81-00002	Armored O.D. 1.195 inches maximum								

ENGINEERING INFORMATION:

- Ⓒ Continuous working voltage: 10,500 V rms, maximum.

Velocity of propagation: 65.9 percent, nominal.

Operating temperature range: -40°C to $+85^{\circ}\text{C}$.

Inner conductor properties:

- Ⓒ DC resistance (maximum at 20°C): 0.0157 ohm per 100 feet, maximum.

Elongation: 30 percent, minimum.

Tensile strength: Not applicable.

Engineering notes: For use in medium low temperature applications. (See connector series "QL".)

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical inspection:

Out-of-roundness: Applicable.

Eccentricity: 5 percent, maximum.

Adhesion of conductors:

- Ⓒ Inner conductor to core: 100 pounds, minimum; 1,000 pounds, maximum.

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

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

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③ Cold bend: $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

③ Dimensional stability:

Inner conductor from core: .200 inch, maximum.

Inner conductor from jacket: .400 inch, maximum.

Contamination: Applicable.

Bendability: Not applicable.

③ Flammability: Not applicable.

③ Weight:

M17/81-00001: 0.820 pound per foot, maximum.

M17/81-00002: 0.880 pound per foot, maximum.

Electrical:

Continuity: Applicable.

③ Spark test: 8,000 V rms, +10%, -0%.

③ Voltage withstanding: 30,000 V rms, +10%, -0%.

Insulation resistance: 5,000 megohms, minimum.

Corona extinction voltage: 14,000 V rms, minimum.

Characteristic impedance: 50 ohms ± 2 .

Attenuation: 2.3 dB per 100 feet, maximum, at 400 MHz.

Structural return loss: Not applicable.

③ 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 number: See table II.

Supersession data: See table II.

TABLE II. Cross-reference of part number.

Part number	Superseded part number or type designation
M17/81-00001	RG-220/U RG-19A/U
M17/81-00002	RG-221/U (armored) canceled per MIL-C-17/82A

Custodians:

Army - CR
Navy - EC
Air Force - 85

Preparing activity:

Army - CR

(Project 6145-0911-17)

Review activities:

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

User activities:

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

Agent:

DLA - ES