

MIL-C-17/45E  
18 July 1985  
~~SUPERSEDING~~  
MIL-C-17/45D  
15 March 1977

MILITARY SPECIFICATION SHEET  
CABLES, RADIO FREQUENCY, FLEXIBLE, TWIN,  
78 OHMS, M17/45-RG108

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.

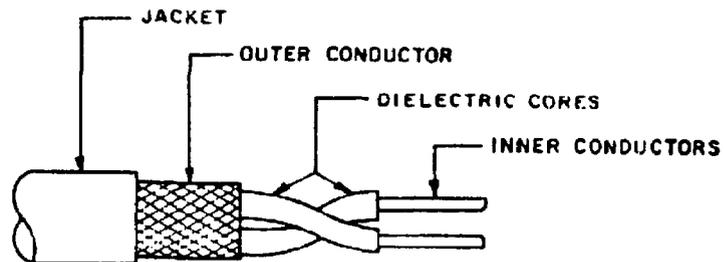


FIGURE 1. Configuration.

Ⓔ denotes changes

FSC 6145

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

TABLE I. Description.

Component	Construction details
Inner conductors	Two conductors. Seven strands of tinned copper wire, each strand .0126 inch diameter. One strand of one conductor shall be bare copper for identification. Overall diameter of each conductor: 0.0378 $\pm$ 0.0020.
Dielectric cores	Two cores, twisted together with a right-hand lay of 2-1/2 $\pm$ 1/2 inches. Type A-1: Solid polyethylene, each core. Fill-to-round not applicable. Diameter of each core: 0.079 inch $\pm$ 0.003.
Outer conductor	Single braid of AWG No. 36 tinned copper wire. Diameter: 0.177 inch nominal.  Coverage : 86.8% nominal Carriers : 16 Ends : 6 Picks/inch: 10.8 $\pm$ 10%
Jacket	Type IIa: PVC. Diameter of major axis: 0.235 inch $\pm$ 0.010. Jacket thickness: 0.020 inch minimum.

**ENGINEERING INFORMATION:**

Continuous working voltage: 750 V rms, maximum.

Operating frequency: 10 MHz maximum.

Velocity of propagation: 65.9 percent, nominal.

Operating temperature range: -40°C to +85°C.

Inner conductor properties:

DC resistance (maximum at 20°C): 1.055 ohms per 100 feet (each conductor).

Elongation: 15 percent, minimum.

Tensile strength: Not applicable.

Engineering note: This cable is useful in balance cables applications.

**REQUIREMENTS:**

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

Environmental and mechanical:

Visual and mechanical examination:

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 2 pounds, minimum; 20 pounds, maximum.

Aging stability: +98°C ±2°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Ⓔ Cold bend: -55°C ±2°C.

Dimensional stability: +85°C ±2°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: 0.035 pound per foot, maximum.

Electrical:

Continuity: Applicable.

Ⓔ Spark test: 2,000 V rms, +10%, -0%.

Ⓔ Voltage withstanding: 2,000 V rms, +10%, -0%.

Insulation resistance: Not applicable.

Corona extinction voltage: Not applicable.

Ⓔ Characteristic impedance: 78 ohms ±7 at 1 MHz. 1/

Attenuation: 2.8 dB per 100 feet at 10 MHz.

Structural return loss: Not applicable.

Capacitance: 24.5 pF per foot, maximum.

Capacitance stability: Not applicable.

Capacitance unbalance: 5 percent maximum.

Transmission unbalance: Not applicable.

1/ Measure inductance of a 10 foot ±2 inch test cable at 1 MHz using any suitable test instrument. The shield shall be floated and the conductors shall be shorted at the far end. Calculate the impedance (Z) from the measured inductance (L) and the measured capacitance (C), using the formula:

$$Z = \sqrt{\frac{L}{C}} \text{ ohms.}$$

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
M17/45-RG108	RG-108A/U

Custodians:

Army - CR  
Navy - EC  
Air Force - 85

Preparing activity:

Army - CR

(Project 6145-0911-8)

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