

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, TWIN,
95 OHMS, UNARMORED, M17/15-RG022
AND ARMORED, M17/15-RG111

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 cables described herein shall
consist of this specification and the latest issue of MIL-C-17.

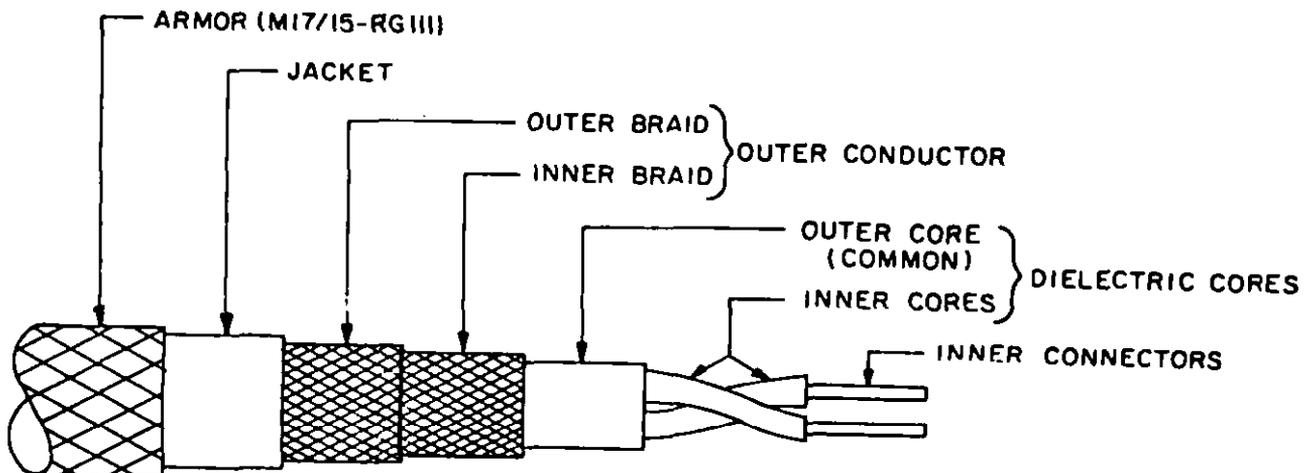


FIGURE 1. Configuration.

ⓑ denotes changes

FSC 6145

TABLE I. Description.

Component	Construction details
Inner conductors	Two conductors. Seven strands of bare copper wire, each strand .0152 inch each diameter. One strand of one conductor shall be tinned copper for identification. Overall diameter of each conductor: 0.0456 ±0.0010.
Dielectric cores:	Two individual cores, under a common core.
Inner cores (individual)	Two cores, twisted together with a right-hand lay of 4-1/4 ±1/2 inches. Type A-2: Solid polyethylene, talc-coated each core. Diameter of each inner core: 0.090 inch ±0.002.
Outer core (common)	Type A-1: Solid polyethylene, filled-to-round. Diameter: 0.285 inch ±0.006.
Outer conductor:	Double braid of AWG No. 34 tinned copper wire. Diameter: 0.355 inch maximum.
Inner braid	Coverage : 94.1% nominal Carriers : 24 Ends : 8 Picks/inch: 9.1 ±10%
Outer braid	Coverage : 96.0% nominal Carriers : 24 Ends : 8 Picks/inch: 12.0 ±10%
Jacket	Type IIa: PVC. Diameter: 0.420 inch ±0.010.
Armor (M17/15-RG111)	Single braid of aluminum-alloy wire. Diameter: 0.490 inch maximum.

ENGINEERING INFORMATION:

Continuous working voltage: 750 V rms, maximum.

Operating frequency: 200 MHz, maximum.

ⓑ Velocity of propagation: 65.9 percent, nominal.

Power rating: See figure 2.

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

Inner conductor properties:

DC resistance (maximum at 20°C): 0.68 ohm per 100 feet (each conductor).

Elongation: 20 percent, minimum.

Tensile strength: Not applicable.

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

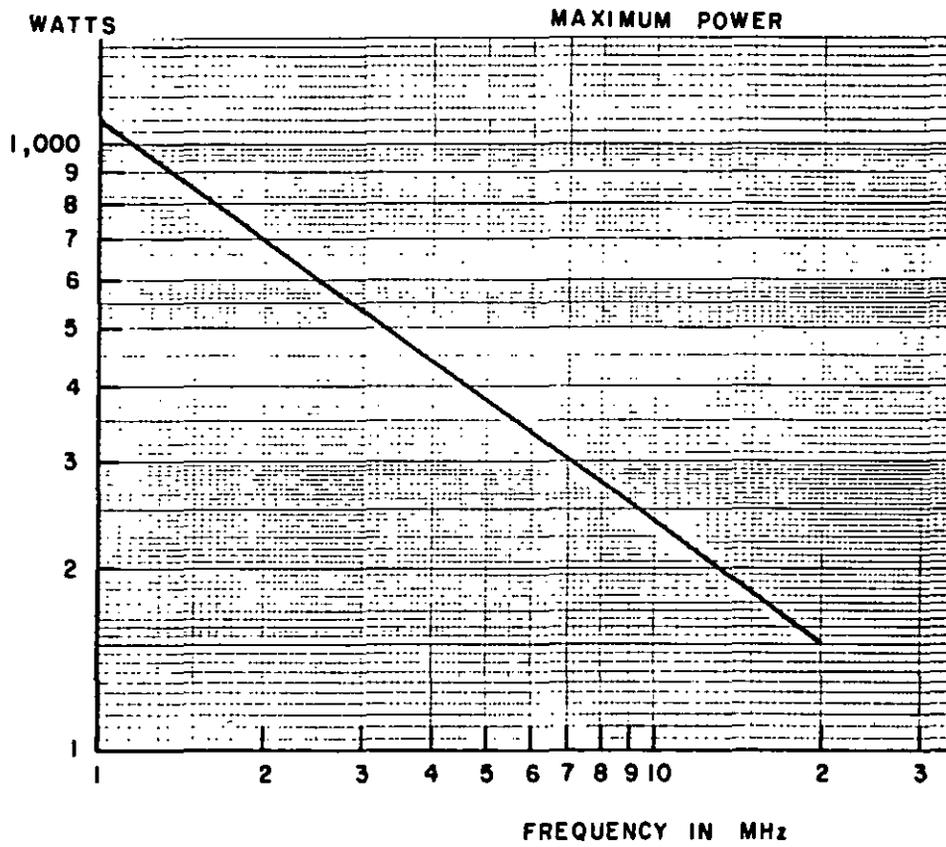


FIGURE 2. Power rating at 25°C sea level.

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. 1/

Adhesion of conductors:

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

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

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

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

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

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:

M17/15-RG022: 0.134 pound per foot, maximum.

M17/15-RG111: 0.161 pound per foot, maximum.

Electrical:

Continuity: Applicable.

ⓑ Spark test: 5,000 V rms, +10%, -0%.

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

Insulation resistance: Not applicable.

Corona extinction voltage: Not applicable.

Characteristic impedance: 95 ohms ± 5 .

Attenuation: 4 dB at 100 MHz to 6 dB at 200 MHz per 100 feet, maximum.

1/ ($T_{\max} - T_{\min}$) shall be interpreted as the difference in total wall thickness measured (1) along a line through the centers of the conductors between the edge of each conductor and the nearest surface of the core and (2) between a line tangent to the two conductors and a parallel line tangent to the surface of the core on both sides of the conductors. The eccentricity corresponding to the larger measured value of ($T_{\max} - T_{\min}$) shall be reported.

Structural return loss: Not applicable.

Ⓑ Capacitance: 17.4 pF per foot, maximum.

Capacitance stability: Not applicable.

Capacitance unbalance: 5 percent maximum.

Transmission unbalance: 10 percent, maximum, on a 100 foot length when measured between 100 and 160 MHz.

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
M17/15-RG022	RG-228/U
M17/15-RG111	RG-111A/U

Custodians:
 Army - CR
 Navy - EC
 Air Force - 95

Preparing activity:
 Army - CR
 (Project 6145-0911-1)

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