

MIL-C-17/47C
18 July 1985
~~SUPERSEDING~~
MIL-C-17/47B
18 May 1981

MILITARY SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
185 OHMS, M17/47-RG114

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.

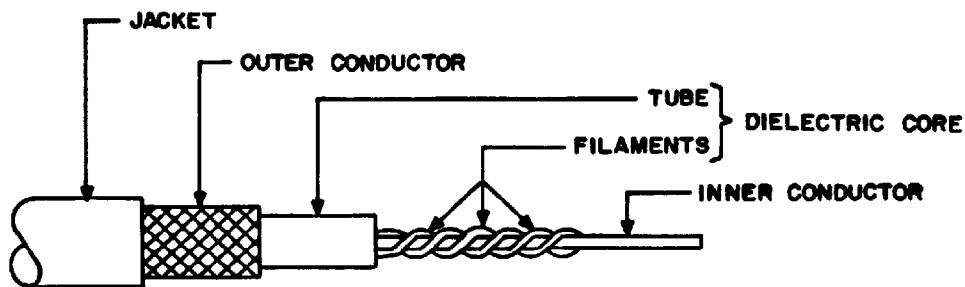


FIGURE 1. Configuration.

© denotes changes

FSC 6145

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

TABLE I. Description.

Component	Construction details
Inner conductor	Solid copper-covered steel wire. Diameter: .007 inch $\pm$.001.
Dielectric core	Type A-3: Air-spaced polyethylene. A braid of 24 polyethylene filament threads, .020 inch approximate diameter each, with 2 picks/inch approximate, under an extruded tube. Diameter: .285 inch $\pm$.010. <u>Alternate</u> Type A-3: Air-spaced polyethylene. A braid of 8 polyethylene filament threads, .035 inch approximate diameter each, with 2 picks/inch approximate, under an extruded tube. Diameter: .285 inch $\pm$.010. <u>Alternate</u> Type A-4: Air-space polyethylene. Foamed polyethylene Diameter: .285 inch $\pm$.010
Outer conductor	Single braid of AWG size 34, bare copper wire. Diameter: .340 inch maximum. Coverage : 91.1%, nominal Carriers : 24 Ends : 8 Picks/inch : 7.0 $\pm$.010%.
Jacket	Type IIa: PVC. Diameter: .405 inch $\pm$.010.

ENGINEERING INFORMATION:

Continuous working voltage: 1,000 V rms, maximum

Operating frequency: 1 GHz, maximum.

Velocity of propagation: 88 percent, nominal.

Power rating: See figure 2.

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

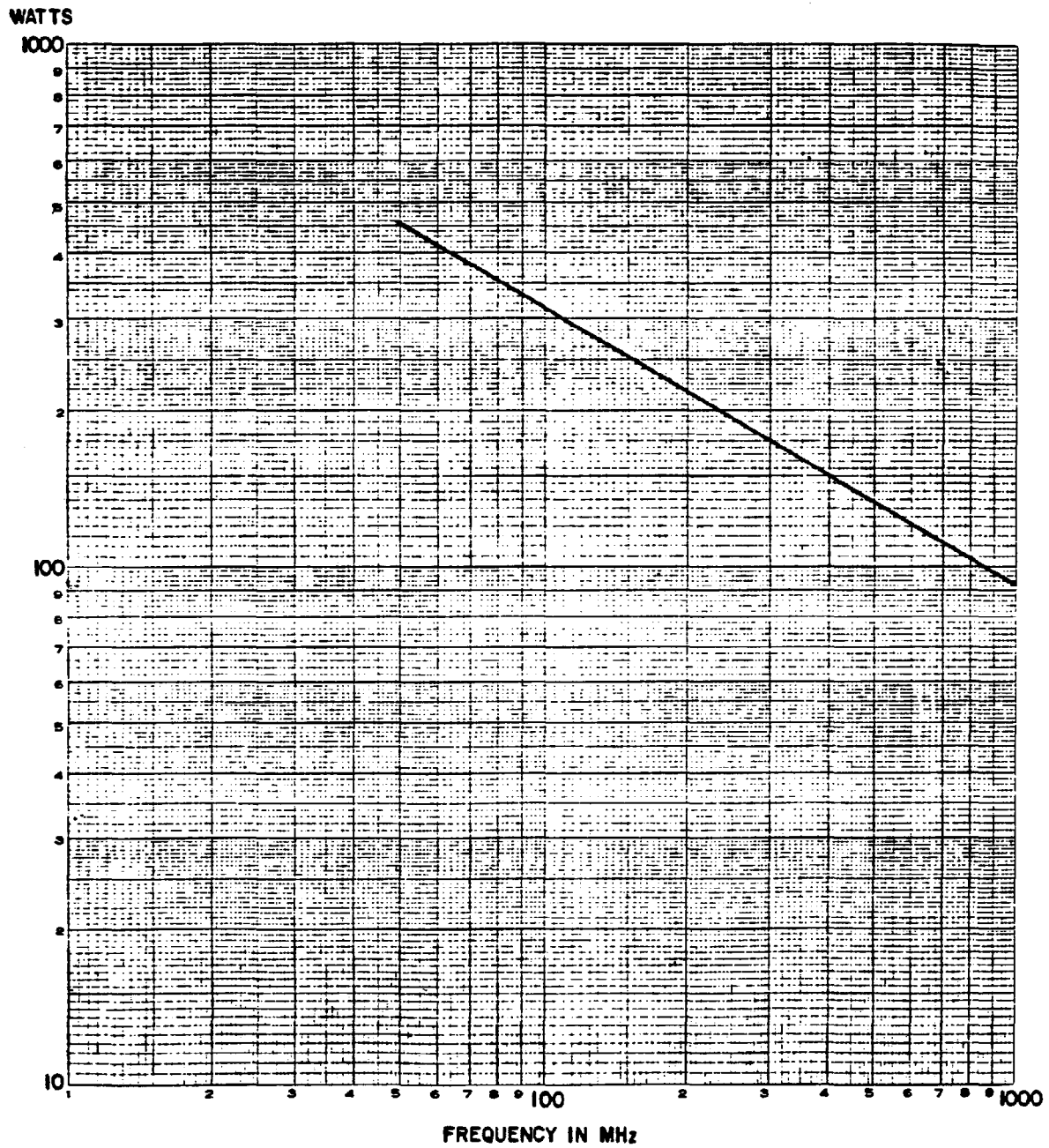
Inner conductor properties:

DC resistance (maximum at 20°C): 54.4 ohms per 100 feet.

Elongation: 2 percent, minimum.

Tensile strength: 110 klbf/inch², minimum.

Engineering note: This cable useful in low capacitance, medium low temperature applications (see connector series "N", "C", and "SC" per MIL-C-39012).

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

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination:

- ③ Out-of-roundness: Not applicable.
- Eccentricity: 10 percent, maximum.
- ③ Adhesion of conductors (not applicable to type A-3 core):
 - Inner conductor to core: .4 pound, minimum; 3.5 pounds, maximum (type A-4 core).
- Aging stability: $+98^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
- ③ Stress crack resistance: Not applicable.
- ③ Outer conductor integrity: Not applicable.
- ③ Cold bend: $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
- Dimensional stability: Not applicable.
- ③ Contamination: Applicable.
- ③ Bendability: Not applicable.
- ③ Flammability: Not applicable.
- Weight: 8.9 pounds per 100 feet, maximum.

Electrical:

Continuity: Applicable.

- ③ Spark test: 5,000 V rms, +10%, -0%.
- ③ Voltage withstanding: 5,000 V rms, +10%, -0%.
- ③ Insulation resistance: Not applicable.
- Corona extinction voltage: Not applicable.
- Characteristic impedance: 185 ohms ± 10 .
- Attenuation: 8.5 dB per 100 feet, maximum, at 0.4 GHz.
- Structural return loss: Not applicable.
- Capacitance: 6.8 pF per foot, maximum.
- Capacitance stability: ± 5 percent.
- Capacitance unbalance: Not applicable.
- Transmission unbalance: Not applicable.
- Mechanically induced noise voltage: Not applicable.
- Time delay: Not applicable.

Part number: M17/47-RG114.

Supersession data: See table II.

TABLE II. Cross-reference of part number.

Part number	Superseded part number or type designation
M17/47-RG114	RG-114A/U

Custodians:

Army - CR
Navy - EC
Air Force - 85

Preparing activity:

Army - CR

(Project 6145-0911-9)

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