

INCH-POUND

MIL-DTL-17/2B  
15 August 2014  
SUPERSEDING  
MIL-C-17/2A  
24 April 1978

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL,  
75 OHMS, M17/2-RG6

Inactive for new design after 13 August 1993. For new design use MIL-DTL-17/180.

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-17.

NOTE: This cable uses PVC material and is not to be used in enclosed environments or shipboard applications. The replacements that are to be used in enclosed areas or shipboard applications are referenced in the following table.

The Air Force has restricted use of PVC in aerospace and ground support applications.

Cables listed on the current QPL may continue to be manufactured and supplied for existing enclosed applications only for a period not to exceed 3 years from the date of the last amendment to this specification.

TABLE I. Cross-reference data.

Current Part or Identifying Number (PIN)	Replacement PIN
M17/2-RG6	M17/180-00001

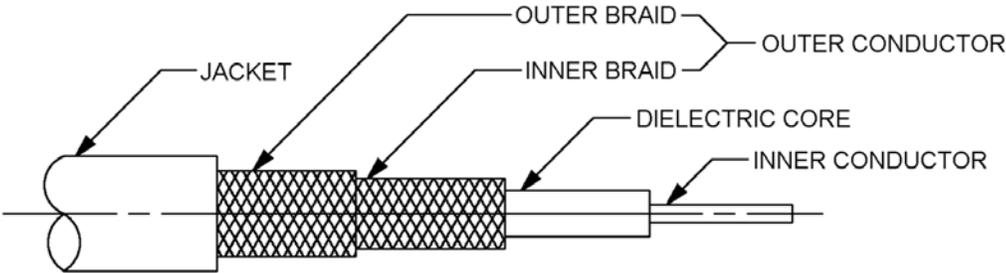


FIGURE 1. Configuration.

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TABLE II. Description.

Components	Construction details	
Inner conductor	Solid, copper-covered, steel wire Overall diameter: 0.0285 inch $\pm$ 0.0010	
Dielectric core	Type A-1: Solid, polyethylene Diameter: 0.185 inch $\pm$ 0.004	
Outer conductor	Double braid of AWG #34 copper wire Diameter: 0.264 inch maximum	
Inner braid	<u>Alternates</u>	
	Wire coating:	Silver-coated      Silver-coated
	Coverage:	95.0% nominal      95.0% nominal
	Carriers:	16                      24
	Ends:	9                        6
	Picks/inch:	5.9 $\pm$ 10%          8.8 $\pm$ 10%
Outer braid	Wire coating:	Bare                      Bare
	Coverage:	95.0% nominal      95.0% nominal
	Carriers:	16                      24
	Ends:	9                        6
	Picks/inch:	8.7 $\pm$ 10%          13.0 $\pm$ 10%
Jacket	Type IIa: PVC Diameter: 0.332 inch $\pm$ 0.004	

ENGINEERING INFORMATION

Continuous working voltage: 2,000 V rms, maximum.

Operating frequency: 3 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power rating: See figure 2.

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

Weight: 8.2 pounds per 100 feet, maximum.

Inner conductor properties:

DC resistance (maximum at 20°C): 4.4 ohms per 100 feet.

Elongation: 30 percent, minimum.

Tensile strength: 115 klb<sub>f</sub>/inch<sup>2</sup>, minimum.

Engineering notes: This cable useful in low temperature applications. (See connector series "N" and "SC" as specified in MIL-PRF-39012.)

REQUIREMENTS

Dimensions, configuration, and descriptions: See figure 1 and table II.

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 7 pounds, minimum; 25 pounds, maximum.

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

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.

Electrical:

Spark test: 5,000 V rms, minimum.

Voltage withstanding: 7,000 V rms, minimum.

Corona extinction voltage: 3,000 V rms, minimum.

Characteristic impedance: 75 ohms  $\pm 3$ .

Attenuation:

6.5 dB per 100 feet, maximum at .4 GHz.

26.5 dB per 100 feet, maximum at 3.0 GHz.

Capacitance: 22 pF per foot, maximum.

PIN: M17/2-RG6 (see table I).

Supersession data: See table III.

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TABLE III. Cross reference of PIN.

PIN	Superseded PIN or type designation
M17/2-RG6	RG6-A/U

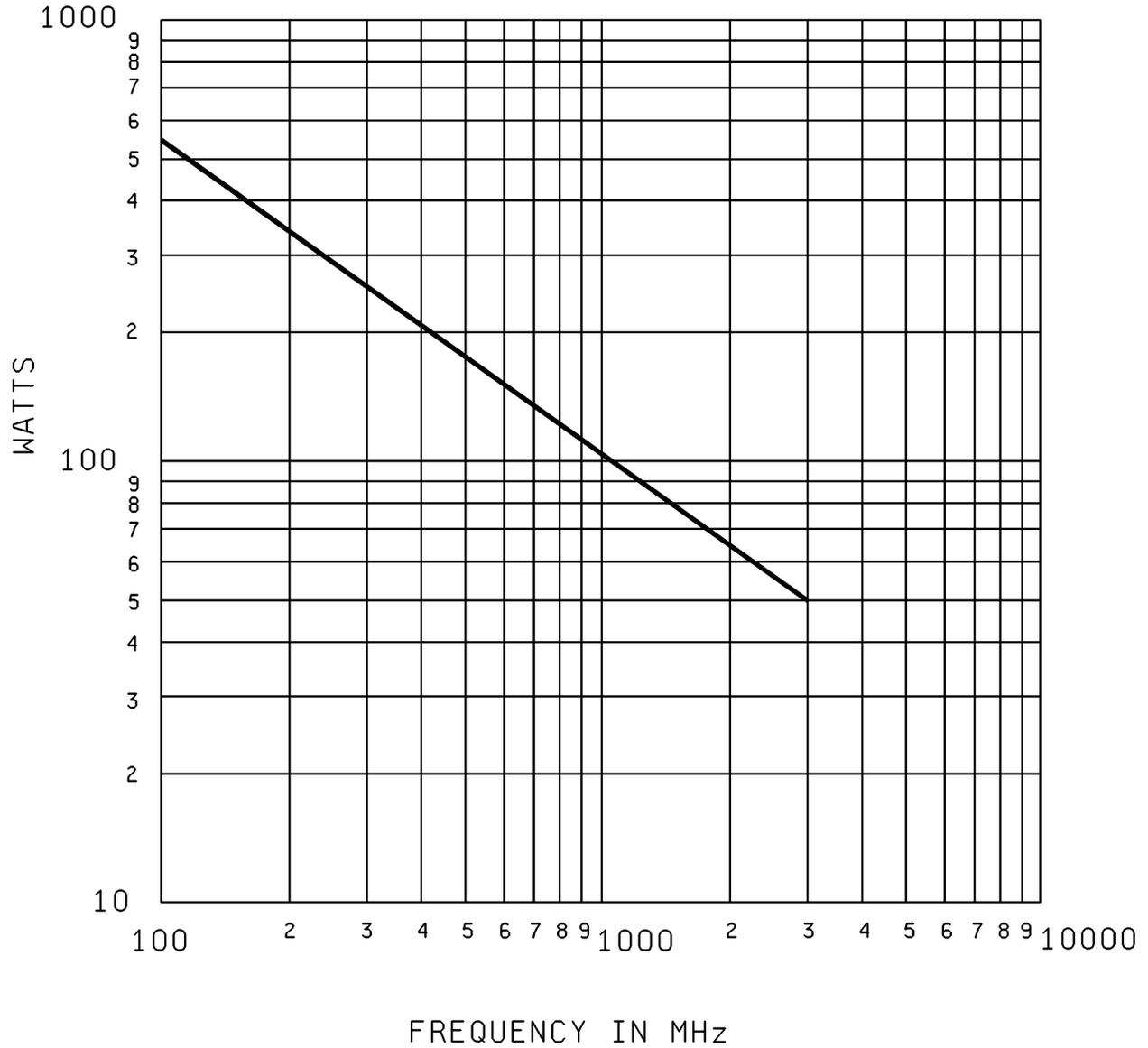


FIGURE 2. Power rating at sea level and 25°C.

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Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents. In addition to MIL-DTL-17, this document references the following:

MIL-DTL-17/180  
MIL-PRF-39012

CONCLUDING MATERIAL

Custodians:

Army – CR  
Navy – EC  
Air Force – 85  
DLA - CC

Preparing activity:  
DLA - CC

(Project 6145-2014-032)

Review activities:

Army – AT, CR4, MI  
Navy – AS, MC, OS, SH  
Air Force – 19, 99  
DLA - IS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.