INCH-POUND

MIL-DTL-17/6B
w/AMENDMENT 3
13 April 2010

SUPERSEDING
MIL-C-17/6B
AMENDMENT 2
18 May 1981

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL, 75 OHMS, M17/6-RG11 UNARMORED, M17/6-RG12 ARMORED

Inactive for new design after 13 August 1993. For new design use MIL-C-17/181.

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 this specification.

TABLE I. Cross-reference data.

Current Part or Identifying Number (PIN)	Replacement PIN
M17/6-RG11	M17/181-00001
M17/6-RG12	M17/181-00002

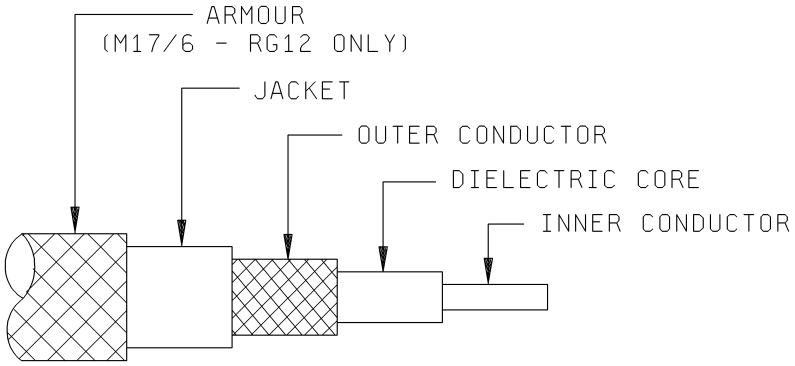

FIGURE 1. Configuration.

TABLE II. Description.

Components	Construction details
Inner conductor	Seven strands of tinned, copper wire, .0159 inch each. Overall diameter: 0.0477 inch ± 0.0020.
Dielectric core	Type A-1: Solid, polyethylene Diameter: 0.285 inch ± 0.007
Outer conductor	Single braid of AWG #33, bare copper wire. Diameter: 0.340 inch maximum. Coverage: 95.3% nominal Carriers: 24 Ends: 8 Picks/inch: 6.5 ± 10%
Jacket	Type IIa: PVC. Diameter: 0.405 inch ± 0.007.
Armor (M17/6-RG12 only)	Single braid of aluminum alloy wire. Diameter: .475 inch, maximum.

ENGINEERING INFORMATION

Continuous working voltage: 3,700 V rms, maximum.

Operating frequency: 1 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power rating: See figure 2.

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

Weight: 9.8 pounds per 100 feet, maximum (M17/6-RG11); 14.4 pounds per 100 feet, maximum (M17/6-RG12).

Inner conductor properties:

DC resistance (maximum at 20°C): .66 ohms per 100 feet.

Elongation: 15 percent, minimum.

Engineering notes: This cable useful in low temperature applications. (See connector series “N”, “C” and “SC”. In accordance with MIL-PRF-39012, NATO preferred type NWR3, M17/6-RG11, NATO preferred type NWR18, M17/6-RG12.)

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; 50 pounds, maximum.

Aging stability: +98ºC $\pm$ 2ºC.

Cold bend: -40ºC $\pm$ 2ºC.

Dimensional stability: +85°C $\pm$ 2°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: 10,000 V rms, minimum.

Corona extinction voltage: 5,000 V rms, minimum.

Characteristic impedance: 75 ohms $\pm$ 3.

Attenuation: 5.2 dB per 100 feet, maximum at .4 GHz; 9.4 dB per 100 feet, maximum at 1.0 GHz.

Structural return loss: Not applicable.

Capacitance: 22 pF per foot, maximum.

PIN: M17/6-RG11 and M17/6-RG12 (armored). See table I.

Supersession data: See table III.

TABLE III. Cross reference of PIN.

PIN	Superseded PIN or Type designation
M17/6-RG11	RG11-A/U
M17/6-RG12	RG12-A/U

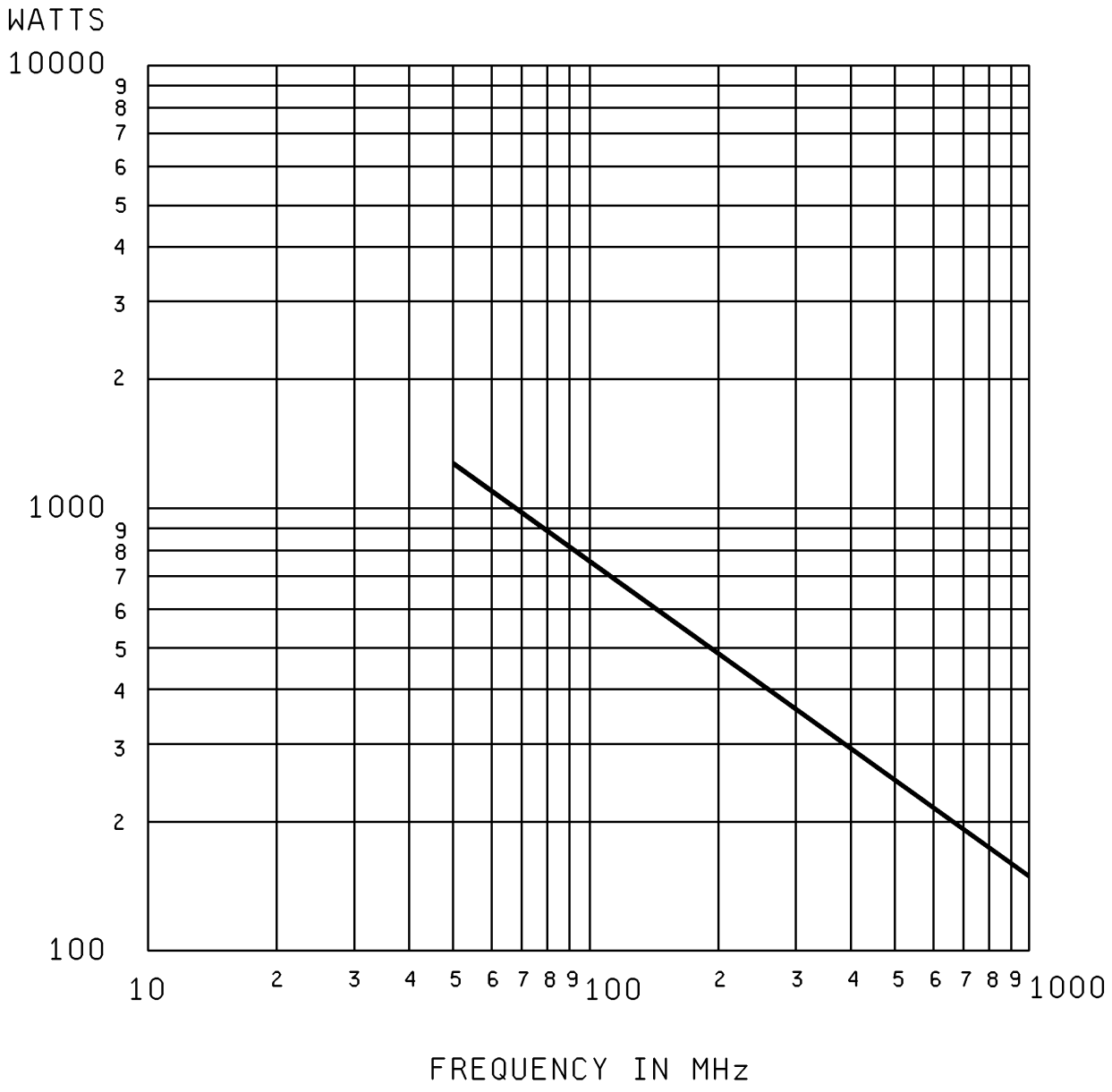

FIGURE 2. Power rating at 25ºC at sea level.

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

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

MIL-C-17/181
MIL-PRF-39012

CONCLUDING MATERIAL

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

Preparing activity:
DLA - CC

(Project 6145-2010-020)

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.daps.dla.mil.