

MIL-DTL-17/90B  
 19 June 2015  
 SUPERSEDING  
 MIL-C-17/90A  
 9 October 1979

MILITARY SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, COAXIAL, 93 OHMS, M17/90-RG71

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.

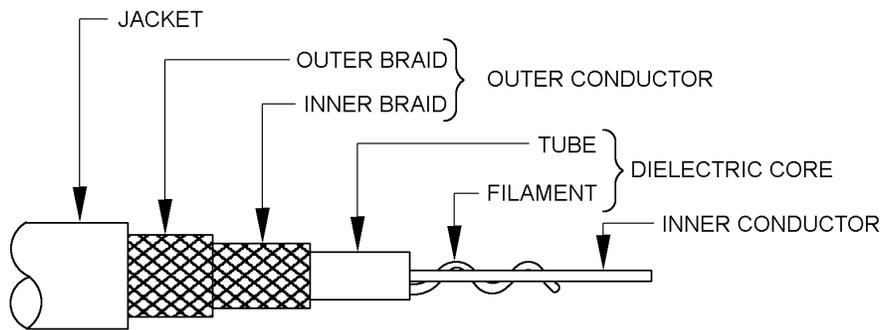


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details	
Inner conductors	Solid, copper-covered, steel wire. Diameter: .0253 ± .0010.	
Dielectric core	Type A-3: Air-spaced polyethylene. A monofilament thread, .035 inch approximate diameter with a lay of 1/2 inch approximate, under an extruded tube. Diameter: .146 inch ± .005. Alternate: A continuous tube, .003 inch thick maximum, under two continuous spiral fins, with a lay of 1-1/4 inches approximate, under an extruded tube.	
Outer conductor	Double braid of copper wire. Diameter: .208 inch, maximum.	
Inner braid	Wire gauge: AWG #34 Wire coating: Bare Coverage: 94.3% nominal Carriers: 16 Ends: 7 Picks/inch: 8.2 ± 10%	Alternate AWG #36 Tinned 95.2% nominal 24 6 12.0 ± 10%
Outer braid	Wire gauge: AWG #36 Wire coating: Tinned Coverage: 93.8% nominal Carriers: 16 Ends: 9 Picks/inch: 10.6 ± 10%	AWG #36 Tinned 94.6% nominal 24 6 16.0 ± 10%
Jacket	Type IIIa. Diameter: .245 inch ± .005.	



ENGINEERING INFORMATION:

Continuous working voltage: 750 V rms, maximum.

Operating frequency: 1 GHz, maximum.

Velocity of propagation: 84 percent, nominal.

Power rating: See figure 2.

Operating temperature range: -55° to +85°C.

Inner conductor properties:

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

Elongation: 1 percent, minimum.

Tensile strength: 110 klb<sub>f</sub>/inch<sup>2</sup>, minimum.

Engineering notes: This cable useful in low temperature applications (see connector series TNC or BNC per MIL-PRF-39012).

REQUIREMENTS:

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

Environmental and mechanical:

Adhesion of conductors: Not applicable.

Aging stability: +90° ± 2°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Cold bend: -55 ± 2°C.

Dimensional stability: Not applicable.

Contamination: Not applicable.

Bendability: Not applicable.

Flammability: Not applicable.

Weight: 5 pounds per 100 feet, maximum.

Electrical:

Test frequency: 50 MHz to 1 GHz.

Spark test: 5,000 V rms, +25%, -0%.

Voltage withstanding: 3,000 Vrms, minimum.

Insulation resistance: Not applicable.

Corona extinction voltage: Not applicable.

Characteristic impedance: 93 ohms ± 5.

Attenuation: 8.0 dB per 100 feet at 400 MHz.

Structural return loss: Not applicable.

Capacitance: 14.5 pF per foot, maximum.

Capacitance stability: ± 1.5 percent.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

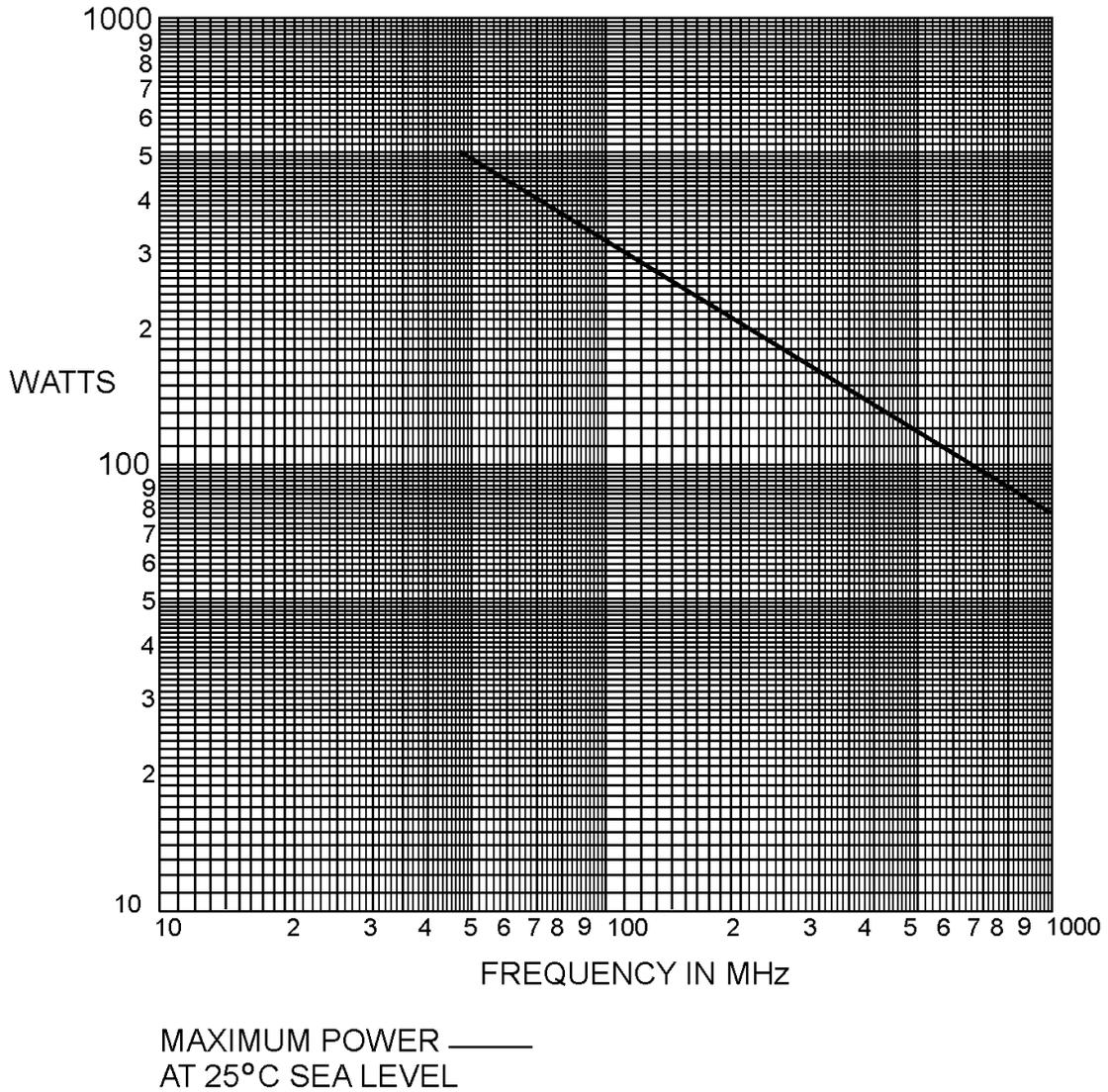


FIGURE 2. Power rating.

Part or Identifying Number (PIN): M17/90-RG71.

Supersession data: See table II.

TABLE II. Cross reference of part number.

PIN	Superseded PIN or type designation
M17/90-RG71	RG71B/U

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

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

MIL-PFR-39012

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:  
DLA - CC

(Project 6145-2015-010)

Review activities:

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

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>.