

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, TRIAXIAL, 75 OHMS, M17/116-RG307

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.

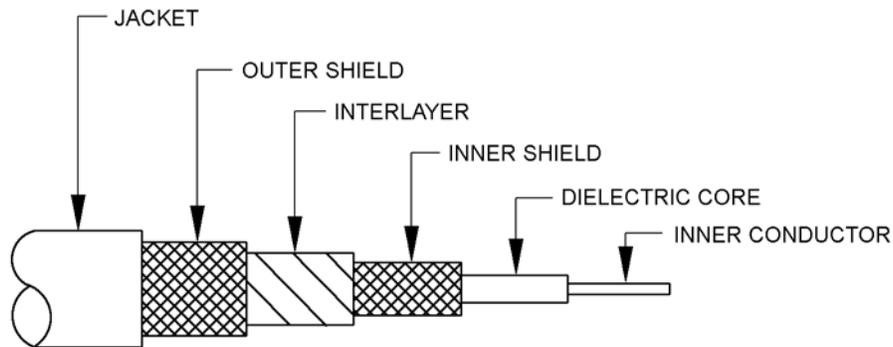


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Nineteen strands of silver-coated, copper wire each strand 0.0058 inch. Overall diameter: .029 inch \pm .001.
Dielectric core	Type A-4: Foamed polyethylene. Diameter: .146 inch \pm .003.
Inner shield	Single braid of AWG #34, silver-coated, copper wire. Diameter: .176 inch, maximum. Coverage: 94.6%, nominal. Carriers: 16 Ends: 7 Picks/inch: 8.2 \pm 10%.
Interlayer	Urethane elastomer. Diameter: .205 inch \pm .005.
Outer shield	Single braid of AWG #34, silver-coated, copper wire. Diameter: .237 inch maximum. Coverage: 91.5%, nominal. Carriers: 16 Ends: 8 Picks/inch: 9.0 \pm 10%
Jacket	Type IIIa. Diameter: .265 inch \pm .005.



ENGINEERING INFORMATION:

Continuous working voltage: 600 V rms, maximum.
Operating frequency: 1 GHz, maximum.
Velocity of propagation: 79 percent, nominal.
Power rating: See figure 2.
Operating temperature range: -55°C to +80°C.
Inner conductor properties:
DC resistance (maximum at 20°C): 1.75 ohms per 100 feet.
Elongation: 10 percent, minimum.

Engineering notes: This cable is useful in pulse applications (see connector per MIL-DTL-3607).

REQUIREMENTS:

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

Environmental and mechanical:

Adhesion of conductors:

Inner conductor to core: 4 pounds, minimum; 8 pounds, maximum.

Aging stability: +90° ± 2°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Cold bend: -55° ± 2°C.

Dimensional stability: +85° ± 2°C.

Inner conductor from core: .062 inch, maximum.

Inner conductor from jacket: .125 inch, maximum.

Contamination: Not applicable.

Bendability: Not applicable.

Weight: 8 pounds per 100 feet, maximum.

Electrical:

Continuity: Applicable

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

Voltage withstanding: 1,000 Vrms, minimum.

Insulation resistance: 500 megohms. (voltage to be applied between the center conductor and inner shield only)

Corona extinction voltage: Not applicable.

Characteristic impedance: 75 ohms ± 4.

Attenuation: 7.5 dB per 100 feet maximum at 400 MHz.

Structural return loss: Not applicable.

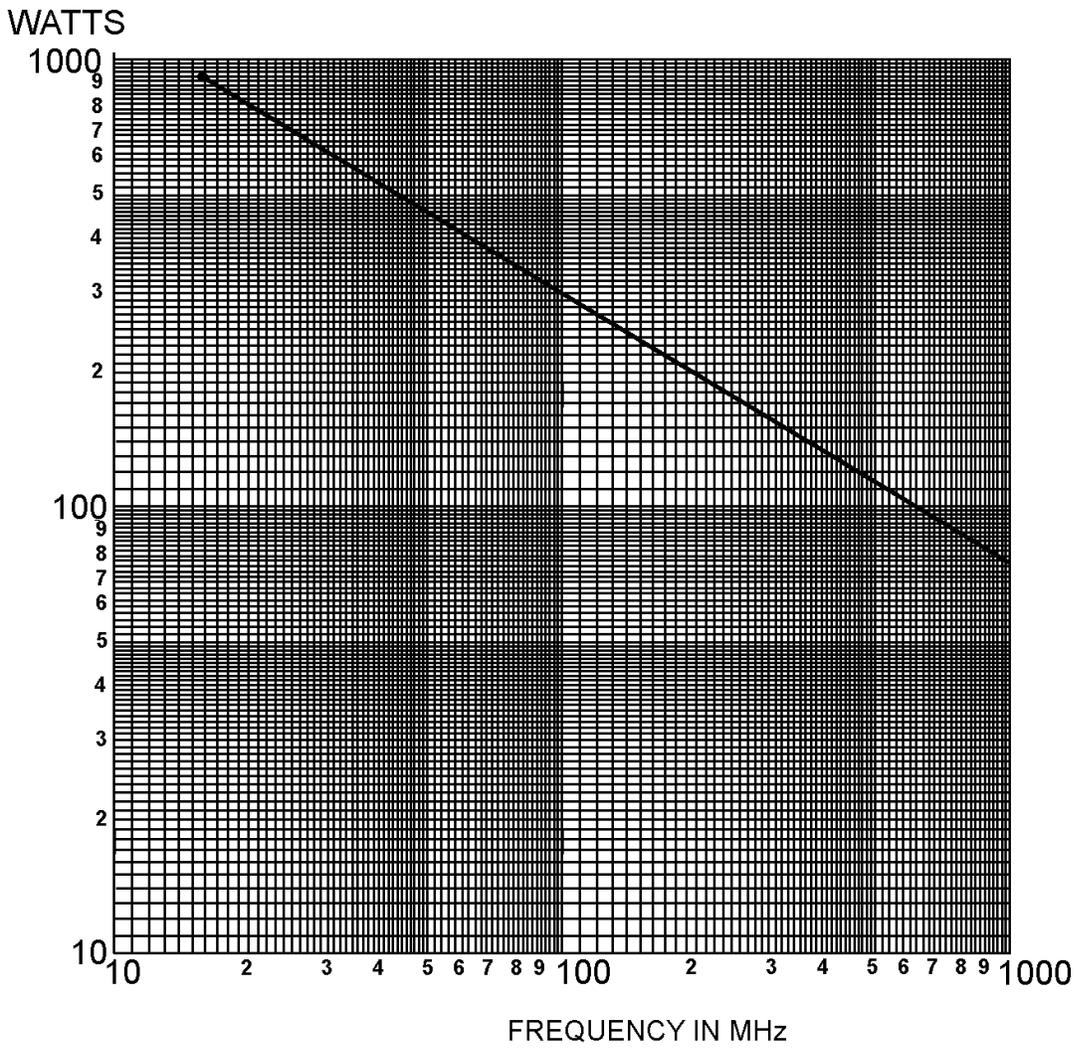
Capacitance: 19.7 pF per foot, maximum.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.



MHz	Watts
50	460
100	300
400	130
1000	75

FIGURE 2. Maximum power at 25°C sea level.

MIL-DTL-17/116D
W/AMENDMENT 2

Part or Identifying Number (PIN): M17/116-RG307.

Supersession data: See table II.

TABLE II. Cross reference of part number.

PIN	Superseded PIN or type designation
M17/116-RG307	RG307/U

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-DTL-3607

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 6145-2016-047)

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>.