

INCH-POUND

MIL-DTL-17/62D
w/AMENDMENT 1
13 May 2025
SUPERSEDING
MIL-DTL-17/62D
10 April 2015

MILITARY SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE COAXIAL, 75 OHMS, M17/62-RG144

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.

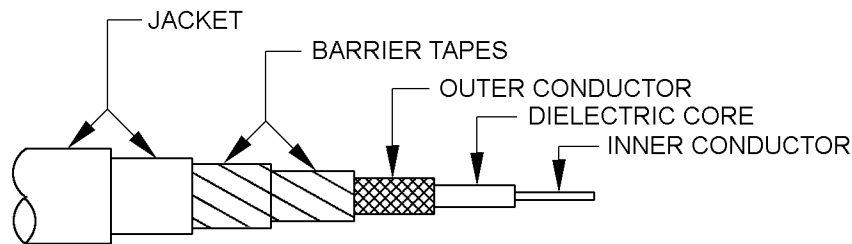


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Seven strands of silver-coated, copper-covered, steel wire of .0175 inch each. Overall diameter: .0525 inch $\pm$.0010.
Dielectric core	Type F-1: Solid extruded PTFE. Diameter: .285 inch $\pm$.005.
Outer conductor	Single braid of AWG no. 34 silver-coated copper wire. Diameter: .330 inch maximum. Coverage: 94.3% nominal Carriers: 24 Ends: 8 Picks/inch: 9.2 $\pm$ 10%
Barrier tapes	Type FF-2: Two wraps of PTFE tape, .005 inch thick each, by 1-inch wide. Each wrap of PTFE tape is to be applied with a 50 percent minimum overlap.
Jacket	Type V: Double braid. Diameter: .410 inch $\pm$.010.



ENGINEERING INFORMATION:

Continuous working voltage: 3,700 V rms, maximum.
Operating frequency: 3 GHz, maximum.
Velocity of propagation: 69.5 percent, nominal.
Power rating: See figure 2.
Operating temperature range: -55°C to 200°C.
Inner conductor properties:
DC resistance (maximum at 20°C): 1.39 ohms per 100 feet.
Elongation: 1 percent, minimum.
Tensile strength: 123 klb/in², minimum.

Engineering note: This cable is useful in high temperature applications. (See connector series "N" and "SC" per MIL-PRF-39012, NATO preferred type NWR-16).

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.
Out-of-roundness: Applicable.
Eccentricity: 10 percent, maximum.
Adhesion of conductors:
Inner conductor to core: 4 pounds, minimum; 18 pounds, maximum.

Aging stability: +250°C ± 5°C.
Stress crack resistance: Not applicable.
Outer conductor integrity: Not applicable.
Cold bend: -55°C ± 2°C.

Dimensional stability: +250°C ± 5°C.
Inner conductor from core: .250 inch, maximum.
Inner conductor from jacket: .312 inch, maximum.

Contamination: Not applicable.
Bendability: Not applicable.
Flammability: Applicable.
Weight: 14 pounds per 100 feet, maximum.

Electrical:

Continuity: Applicable.
Spark test: Not applicable.
Voltage withstanding: 10,000 V rms, minimum.
Insulation resistance: 5,000 megohms, minimum.
Corona extinction voltage: 5,000 V rms, minimum.
Characteristic impedance: 75 ohms, ± 3 ohms.
Attenuation: 4.5 dB per 100 feet, maximum at 400 MHz; 18 dB per 100 feet maximum at 3 GHz.
Structural return loss: Not applicable.
Capacitance: 22 pF per foot, maximum.
Capacitance stability: Not applicable.
Capacitance unbalance: Not applicable.
Transmission unbalance: Not applicable.
Mechanically induced noise voltage: Not applicable.
Time delay: Not applicable.

| Marking: applicable

Marking Durability: 125 cycles (250 strokes), 1 pound
Workmanship: applicable

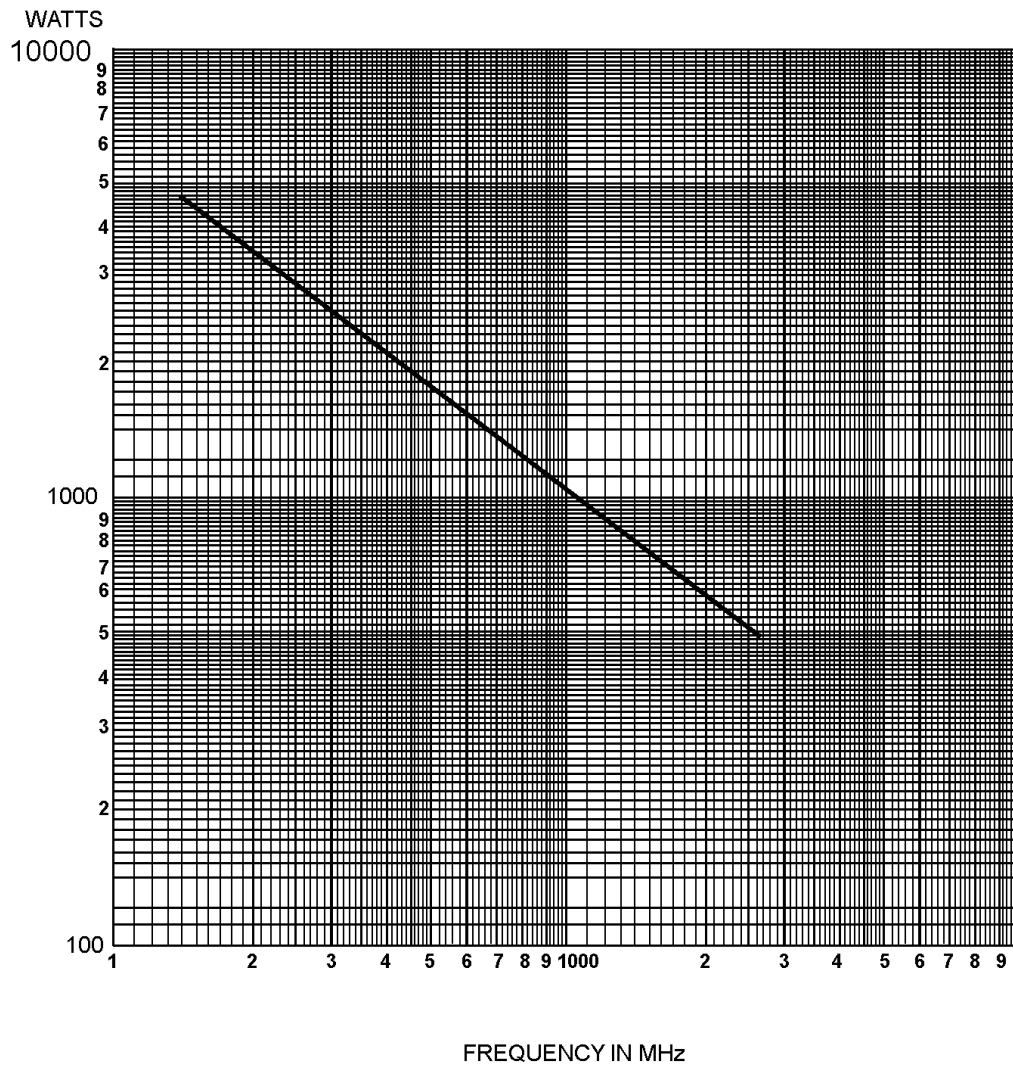


FIGURE 2. Power rating at 25°C sea level.

Part or Identifying Number (PIN): See table II.

Supersession data: See table II.

TABLE II. Cross reference of part number.

PIN	Superseded PIN or type designation
M17/62-RG144	RG-144/U

TABLE III. Qualification and Group A, B, and C Table.

Group	Qualification inspection	Requirement paragraph	Test paragraph	Qual- # of Specimens	Conf - # of Specimens	Conformance inspection
I	In-process inspection:		4.5	Entire sample		
	Continuity	3.7.1	4.8.2	Entire sample		
	Spark test	N/A				
	Voltage withstanding	3.7.3	4.8.4	Entire sample		
	Insulation resistance	3.7.4	4.8.5	Entire Sample		A
	Visual and mechanical inspection	3.6	4.8.1	Entire sample	Per Table VIII	A
	Diameter measurements.	3.6.1	4.8.1.1	Entire sample	Per Table VIII	A
	Out-of-roundness	3.6.2	4.8.1.2	Entire Sample		
	Eccentricity of inner conductor	3.6.3	4.8.1.3	2	Per Table VIII	A
	Adhesion of conductors	3.6.4	4.8.1.4	4	Per Table VIII	A
	Marking	3.8	4.8.1	Entire sample	Per Table VIII	A
	Marking Durability	3.8.2	4.8.39	3	Per Table VIII	A
	Workmanship	3.10	4.8.1	Entire sample	Per Table VIII	A
II	Corona extinction voltage	3.7.5	4.8.6	1	Per Table VIII	B
	Characteristic impedance	3.7.6	4.8.7	1	Per Table VIII	A
	RF transmission loss (attenuation)	3.7.7	4.8.8	2	Per Table VIII	A
	Standing wave ratio (return loss)	3.7.8	4.8.9	2	Per Table VIII	A
	Capacitance	3.7.9	4.8.10	1	Per Table VIII	B
	Capacitance stability	N/A				
	Capacitance unbalance	N/A				
	Transmission unbalance	N/A				
	Inductance	N/A				
	Mechanically induced noise voltage	N/A				
	Time delay	N/A				
	Aging stability	3.7.15	4.8.16	4	Per Table VIII	C

TABLE III. Qualification and Group A, B, and C Table – Continued.

Group	Qualification inspection	Requirement paragraph	Test paragraph	Qual- # of Specimens	Conf - # of Specimens	Conformance inspection
II	Stress crack resistance	N/A				
	Outer conductor integrity	N/A				
	Cold bend	3.7.18	4.8.19	3	Per Table VIII	B
	Dimensional stability	3.7.19	4.8.20	1	Per Table VIII	C
	Contamination	N/A				
	Bendability	3.7.22	4.8.23	1	Per Table VIII	C
	Flammability	N/A				
	Flame propagation	N/A				
	Acid gas generation	N/A				
	Halogen content	N/A				
	Immersion	N/A				
	Smoke index	N/A				
	Toxicity index	N/A				
	Durometer hardness	N/A				
	Weathering	N/A				
	Abrasion resistance	N/A				
	Tear strength	N/A				
	Heat distortion	N/A				
	Physicals	N/A				
	Tensile strength and elongation	N/A				
	Weight	3.9	4.8.24	1	Per Table VIII	B

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-PRF-39012

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 6145-2025-012)

Review activities:

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

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>.