

INCH-POUND

MIL-DTL-17/87B
w/AMENDMENT 1
13 May 2025
SUPERSEDING
MIL-DTL-17/87B
10 April 2015

MILITARY SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE COAXIAL, 50 OHMS, M17/87-00001

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.

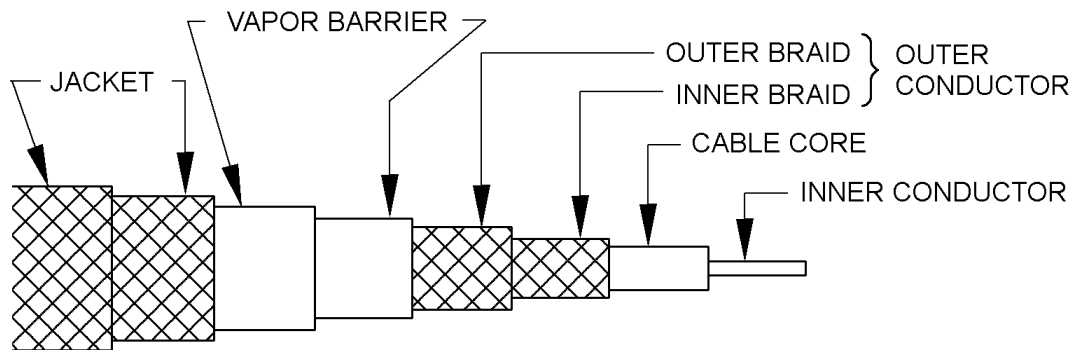


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Nineteen strands of silver-coated copper wire, each strand .0234 inch.
Cable core	Type F-2. Overall diameter: .370 inch $\pm$.005.
Outer conductor	Double braid, AWG size 34 bare copper wire. Overall diameter: .440 inch maximum.
Inner braid	Carriers: 24 Ends: 10 Picks/inch: 10.5 $\pm$ 10%
Outer braid	Carriers: 24 Ends: 8 Picks/inch: 10.5 $\pm$ 10%
Vapor barrier	A vapor barrier, consisting of two wraps of .005 inch $\pm$.001 by 1-inch polytetrafluoroethylene tape, with an approximate lay of 24 turns per foot and with a 50 percent to 62.5 percent overlap, shall be applied over the center conducting braid. The vapor barrier shall be applied tightly and in the best commercial manner.
Jacket	Type V double braid. Overall diameter: .500 inch $\pm$.010.



ENGINEERING INFORMATION:

Continuous working voltage: 5,200 V rms, maximum.

Velocity of propagation: 69.0 percent, nominal.

Operating temperature range: -55°C to +200°C.

Inner conductor properties:

DC resistance (maximum at 20°C): 0.173 ohm per 100 feet, maximum.

Elongation: 25 percent, minimum.

Engineering notes: This cable is useful in general purpose medium low temperature applications.

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical inspection: Applicable.

Out-of-roundness: Applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 7 pounds, minimum; 70 pounds, maximum.

Aging stability: +250°C ± 5°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Cold bend: -35°C ± 2°C.

Dimensional stability: +250°C ± 5°C.

Inner conductor from core: .125 inch, maximum.

Inner conductor from jacket: .250 inch, maximum.

Contamination: Not applicable.

Weight: .448 pounds per feet, maximum.

Electrical:

Continuity: Applicable.

Spark test: 8,000 V rms, minimum.

Voltage withstanding: 12,000 V rms, minimum.

Insulation resistance: 5,000 megohms, minimum.

Corona extinction voltage: 7,000 V rms, minimum.

Characteristic impedance: 50 ± 2 ohms.

Attenuation: 3.8 dB per 100 feet maximum at 400 MHz.

Structural return loss: Not applicable.

Capacitance: 31.7 pF per foot, maximum.

Capacitance stability: Not applicable.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Phase stability: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

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

Marking: applicable

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

Workmanship: applicable

Supersession data: See table II.

TABLE II. Cross reference of part number.

PIN	Superseded PIN or type designation
M17/87-00001	RG-226/U

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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	3.7.2	4.8.3	Entire sample		
	Voltage withstanding	3.7.3	4.8.4	Entire sample		
	Insulation resistance	3.7.4	4.8.5	Entire Sample		
	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)	N/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	N/A				

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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
027877II	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	N/A				
	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

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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. This document references MIL-DTL-17.

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 6145-2025-014)

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>.