

MIL-DTL-17/126B
w/AMENDMENT 1
09 May 2019
SUPERSEDING
MIL-C-17/126B
10 December 1980

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL, LOW NOISE,
72 OHMS, M17/126-RG391 (UNARMORED), M17/126-RG392 (ARMORED)

Inactive for new design after 6 October 2000. For new design, use (MIL-DTL-17/211).

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.

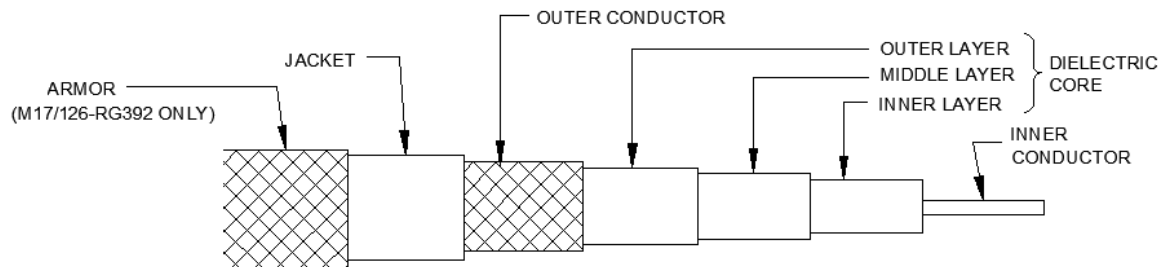


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Seven strands of tinned, copper wire. Each strand .0159 inch diameter. Overall diameter: .0477 inch $\pm$.0020 concentric stranding centered within 10 percent of dielectric diameter.
Dielectric core	Composite of three layers. Diameter: .295 inch $\pm$.007.
Inner layer	Type A-5: Semiconducting polyethylene; .003 inch nominal thickness.
Middle layer	Type A-1: Solid polyethylene.
Outer layer	Type A-5: Semiconducting polyethylene; .005 inch nominal thickness.
Outer conductor	Single braid of AWG size 34, tinned copper wire. Diameter: .340 inch, maximum. Coverage: 97.7%, nominal. Carriers: 24 Ends: 7 Picks/inch: 16.3 $\pm$ 10%
Jacket	Type IIa, Diameter: .405 inch $\pm$.010.
Armor M17/126-RG392 (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: 62 percent, nominal.

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

Inner conductor properties:

DC resistance, maximum, at 20°C: 0.65 ohms per 100 feet.

Elongation: 15 percent, minimum.

Tensile strength: 60 klb/inch², minimum.

Engineering notes: This cable useful in low noise temperature applications (see connector series "N" and "SC" per MIL-PRF-39012)

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Diameter: Applicable.

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 7 pounds, minimum; 50 pounds maximum.

Electrical and mechanical:

Continuity: Applicable.

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

Voltage withstanding: 10,000 V rms, minimum.

Insulation resistance: 1,000,000 megohms, minimum.

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

Characteristic impedance: 72 ±3 ohms.

RF transmission loss (attenuation): 15 dB per 100 feet, maximum at 400 MHz.

Standing wave ratio (return loss): Not applicable.

Capacitance: 23 $\pm$ 1 pF per foot, maximum.

Capacitance stability: Not applicable.
Capacitance unbalance: Not applicable.
Transmission unbalance: Not applicable.
Inductance: Not applicable.

Mechanically induced noise voltage: 320 microvolts peak to peak, maximum.

Time delay: Not applicable.

Aging stability: +98° $\pm$ 2°C.

Stress crack resistance: Not applicable.
Outer conductor integrity: Not applicable.

Cold bend: -40°C $\pm$ 2°C.

Dimensional stability: +85°C $\pm$ 2C.

Inner conductor from core: 0.062 inch, maximum.

Inner conductor from jacket: .125 inch, maximum.

Contamination: Not applicable.
Bendability: Not applicable.
Flammability: Not Applicable.

Flame propagation: Not applicable.
Acid gas generation: Not applicable.
Halogen: Not applicable.
Fluid immersion: Not applicable.
Smoke index: Not applicable.
Toxicity index: Not applicable.
Durometer hardness: Not applicable.
Weathering: Not applicable.
Abrasion resistance: Not applicable.
Tear strength: Not applicable.
Heat distortion: Not applicable.
Physicals: Not applicable.

Tensile strength and elongation: Not applicable.

Weight: 10 Lbs/100 ft, maximum. (M17/126-RG391)
12.5 Lbs/100 ft, maximum. (M17/126-RG392)

Workmanship: Applicable.

Part or Identifying Number (PIN): M17/126-RG391, M17/126-RG392.

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TABLE I. 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	N/A				
	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
	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	3.7.13	4.8.14	1	Per Table VIII	B

TABLE I. 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	Time delay	N/A				
	Aging stability	3.7.15	4.8.16	4	Per Table VIII	C
	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 tests	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 (aged)	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 where modifications from this amendment were made. 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: 6145-2019-013)

Review activities:

Army - AR, AT, CR4, MI
Navy - AS, MC, OS, SH
Air Force - 19, 71

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>.