

INCH-POUND

MIL-DTL-17/211A
w/AMENDMENT 1
8 June 2026
SUPERSEDING
MIL-DTL-17/211A
24 September 2009

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL, 72 OHMS,
LOW NOISE, LOW SMOKE, M17/211-00001 (UNARMORED), M17/211-00002 (ARMORED),
M17/211-00003 (SPECIFIED INSULATION RESISTANCE, UNARMORED), AND M17/211-00004 (SPECIFIED INSULATION
RESISTANCE, ARMORED)

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.

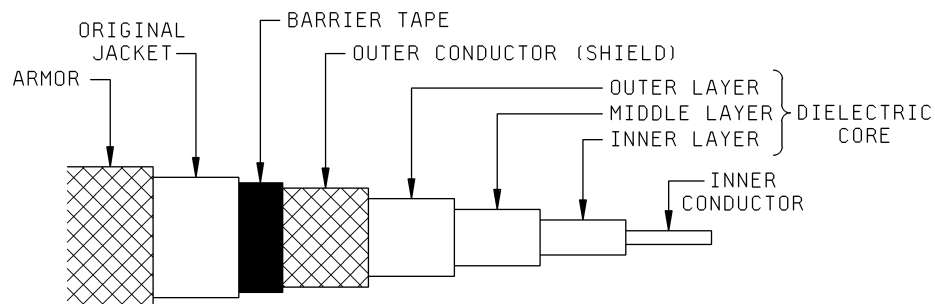


FIGURE 1. General configuration.

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% inch, maximum. Carriers: 24 Ends: 7 Picks/inch: 16.3 $\pm$ 10%



TABLE I. Description – Continued.

Barrier tape	A .001 inch thick polyester tape faced with a .002 inch thick layer of aluminum. The tape will be applied with a 50% lap, minimum. Aluminum face toward the outer conductor. Diameter: .350 inch, maximum.
Jacket	Type XIV, Cross-linked polyolefin Diameter: .405 inch $\pm$.010.
Armor M17/211-00002 and M17/211-00004	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: -30° 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 applications where electrical noise generated within the coaxial cable, due to flexure or vibration, must be limited..

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

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

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 $\pm$ 2°C.

Inner conductor from core: 0.062 inch, maximum.

Inner conductor from jacket: .125 inch, maximum.

Contamination: Not applicable.

Flame propagation: Applicable.

Acid gas generation: 2.0 percent, maximum.

Halogen content: 0.2 percent, maximum.

Immersion test:

Tensile strength, percent of unaged minimum: 50.

Elongation, percent of unaged minimum: 50.

Smoke index: 25 maximum.

Toxicity index: 5 maximum.

Durometer hardness (type A) 80 minimum.

Weathering: Applicable.

Abrasion resistance: 75 cycles minimum (jacket only).

Tear strength: 35 pounds per inch.

Heat distortion: 30 percent maximum.

Physical tests on unaged jacket:

Tensile strength: 1,300 psi, minimum.

Elongation: 160 percent, minimum.

Physical tests on aged jacket:

Air oven:

Tensile strength, percent minimum: 60.

Elongation: percent minimum: 60.

Hot oil immersion:

Tensile strength, percent minimum: 50.

Elongation, percent minimum: 50.

Tensile strength and elongation: 1,300psi, 160 percent minimum.

Weight: 12.5 Lbs/100 ft, maximum.

Electrical:

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

Voltage withstanding: 10,000 V rms, minimum.

Insulation resistance: Not applicable to M17/211-00001 and M17/211-00002.

Applicable to M17/211-00003 and M17211-00004 only:

300,000 megohms, minimum per 1,000 feet (center conductor to outer conductor) at 1,000 V dc.

1,500,000 megohms, minimum per 200 feet (center conductor to outer conductor) at 1,000 V dc.

10 megohms, minimum per 1,000 feet (outer conductor to jacket) at 500 V dc.

50 megohms, minimum per 200 feet (outer conductor to jacket) at 500 V dc.

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

Characteristic impedance: 72 ± 3 ohms.

Attenuation: 15 dB per 100 feet, maximum at 400 MHz.

Structural return loss: Not applicable.

Capacitance: 23 ± 1 pF per foot, maximum.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

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

Time delay: Not applicable.

Part or Identifying Number (PIN): M17/211-00001, -00002, -00003 and -00004.

TABLE II. 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
	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	3.7.13	4.8.14	1	Per Table	B
	Time delay	N/A				
	Aging stability	3.7.15	4.8.16	4	Per Table VIII	C

TABLE II. 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	N/A				
	Flammability	N/A				
	Flame propagation	3.7.23	4.8.25	1		
	Acid gas generation	3.7.24	4.8.26	1		
	Halogen content	3.7.25	4.8.27	1		
	Immersion	3.7.26	4.8.28	1		
	Smoke index	3.7.27	4.8.29	1		
	Toxicity index	3.7.28	4.8.30	1		
	Durometer hardness	3.7.29	4.8.31	1		
	Weathering	3.7.30	4.8.32	1		
	Abrasion resistance	3.7.31	4.8.33	5		
	Tear strength	3.7.32	4.8.34	6	Per Table VIII	B
	Heat distortion	3.7.33	4.8.35	1	Per Table VIII	C
	Physicals	3.7.34	4.8.36	1	Per Table VIII	C
	Tensile strength and elongation	3.7.35	4.8.37	1	Per Table VIII	C
	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. This document references MIL-DTL-17.

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project: 6145-2026-017)

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 <http://assist.daps.dla.mil>.