



DEFENSE LOGISTICS AGENCY
WEAPONS SUPPORT
P.O. BOX 3990
COLUMBUS, OHIO 43218-3990

September 15, 2026

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Drafts of: MIL-DTL-17/178, /220 through /222, and /225 through /228
Project Numbers: 6145-2026-025 through 6145-2026-032

These initial drafts for these subject documents, are now available for viewing and downloading from the DLA Weapons Support (Columbus)-VA Web site:

<https://weaponssupportapps.dla.mil/programs/milspec/default.aspx>

Major changes to these documents include adding qualification tables for clarification, and updating documents to be in accordance with MIL-STD-961.

Concurrence or comments are required at this Center within 30 days from the date of this letter. Late comments will be held for the next coordination of the document. Comments from military departments must be identified as either "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians of this office, as applicable, in sufficient time to allow for consolidating the department reply. Lack of response to this draft will be construed as concurrence.

If these documents are of interest to you, please provide your comments or suggested changes. The point of contact for this document is Mr. Candelaria, phone number 614-693-3113, e-mail Eric.Candelaria@dlamail.mil.

Sincerely,

-/ Signed/-
MUHAMMAD AKBAR
Chief,
Interconnection Branch

NOTE: This draft, dated 15 September 2026, prepared by DLA – CC has not been approved and is subject to modification.
DO NOT USE PRIOR TO APPROVAL. (Project 6145-2026-025)

INCH-POUND
MIL-DTL-17/178B
w/AMENDMENT 1
DRAFT 2026
SUPERSEDING
MIL-DTL-17/178B
28 MAY 2016

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, TRIAXIAL,
95 OHMS, M17/178-00001

This specification is approved for use by all Departments
and Agencies of the department of Defense.

The requirements for acquiring the cable described herein shall consist
of this specification and MIL-DTL-17.

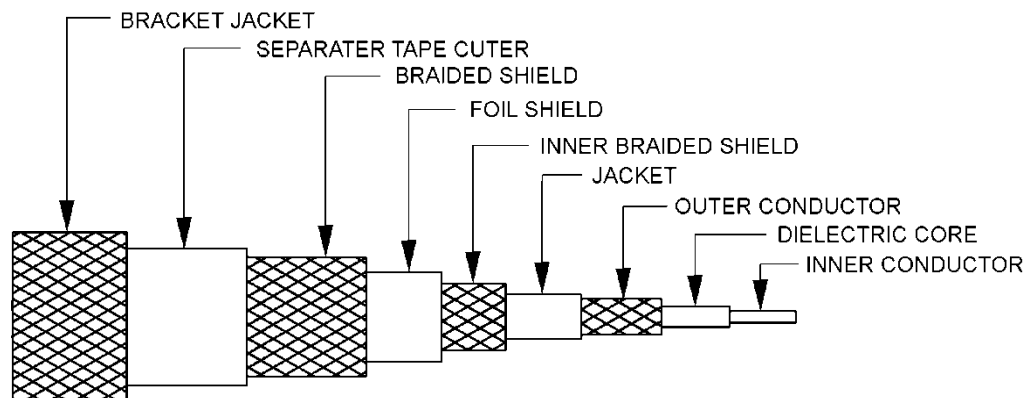


FIGURE 1. Configuration.



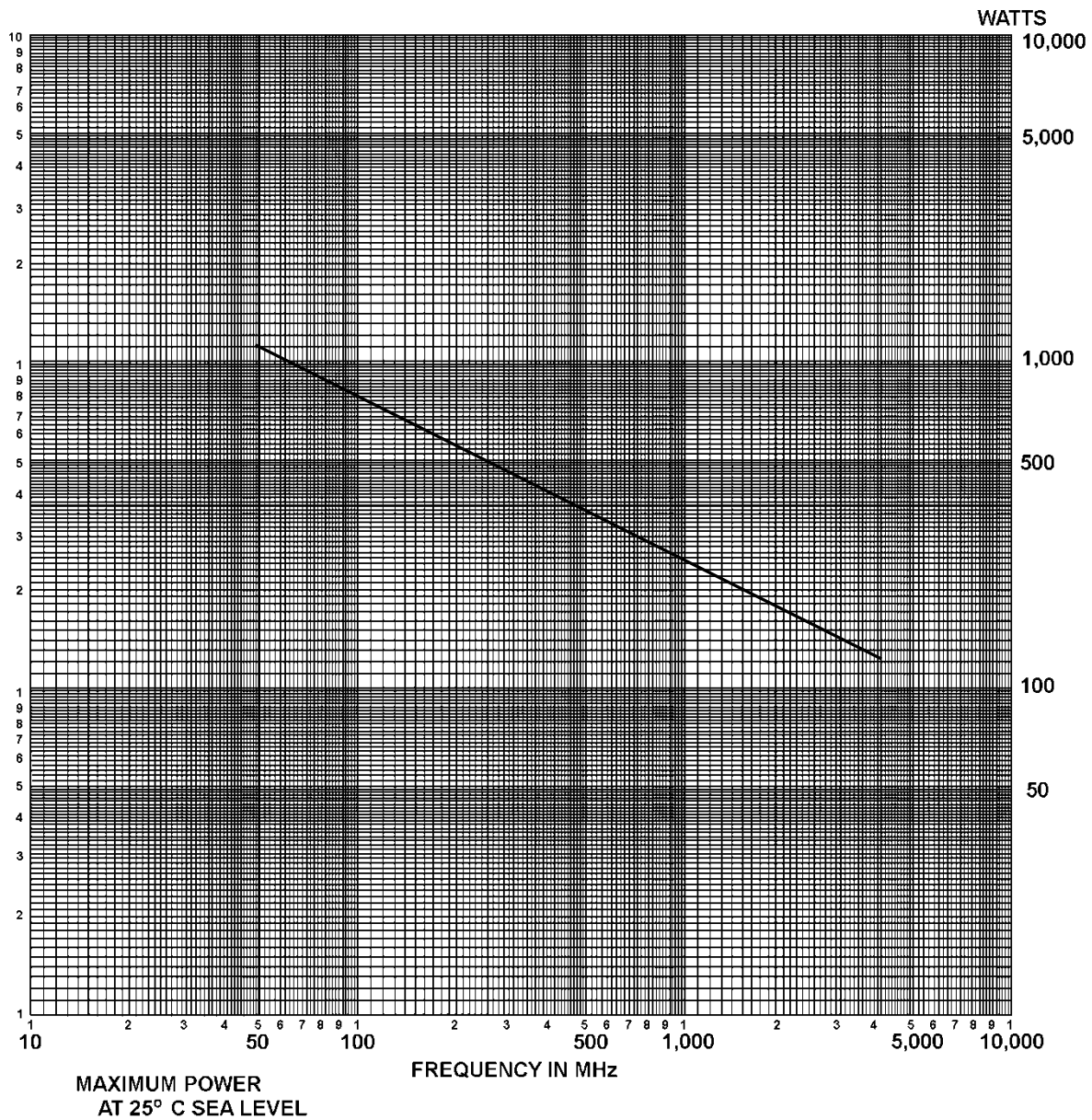


FIGURE 2. Power rating.

ENGINEERING INFORMATION:

Continuous working voltage: 1.100 V rms, maximum.

Operating frequency: 3 GHz, maximum.

MIL-DTL-17/178B
w/AMENDMENT 1 DRAFT DATED 15 September 2026

Velocity of propagation: 69.5 percent, nominal.

Power rating: See figure 2.

Operating temperature range: -55°C to +150°C.

Inner conductor properties:

DC resistance (maximum at +20°C): 24.45 ohms per 100 feet.

Elongation: 10 percent, minimum.

Tensile strength: 50 klb/inch² minimum.

Notes: This cable is useful in shield critical medium high temperature applications (see connector series "TRB" and "TRT" in accordance with MIL-PRF-49142).

REQUIREMENTS:

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

TABLE I. Description.

Components	Construction details
Inner conductor	Seven strands of silver-coated, annealed-copper-covered, steel wire, each strand .004 inch diameter. Overall diameter: 0.012 inch $\pm$ 0.001.
Dielectric core	Type F-1: Solid, extruded PTFE. Diameter: 0.102 inch $\pm$ 0.003
Outer conductor	Single braid of AWG #38, silver-coated copper wire. Diameter: 0.124 inch maximum. Coverage: 91.0 percent nominal. Carriers: 16 Ends: 7 Picks/inch: 12.0 $\pm$ 10 percent.
Jacket	Type IX: FEP Diameter: 0.141 inch $\pm$ 0.004.
Inner braid shield	AWG #34 nickel coated copper wire conforming to ASTM-B355. Outer diameter: .175 maximum. Coverage: 95.2 percent nominal. Braid angle: 20.5° nominal Carriers: 16 Ends: 7 Picks/inch: 6.3 $\pm$ 5 percent
Foil shield	Copper-polyester-copper laminate, 0.0024 inch thick O.D., 0.0007 inch copper each side of 0.001 inch polyester film conforming to MIL-I-631, type G, subform Tr, class I. Overlap shall be 20 to 40 percent of tape width. Elongation: 3 percent minimum. Outer diameter: .190 maximum.

TABLE I. Description – Continued.

Components	Construction details
Outer braid shield	AWG #34 nickel coated copper wire conforming to ASTM-B355. Outer diameter: .225 maximum. Coverage: 91.1 percent nominal. Braid angle: 31° nominal Carriers: 16 Ends: 7 Picks/inch: 8.2 ± 5 percent.
Separator tape	0.001 inch polyester film conforming to MIL-I-631, type G, form T, subform T _f , class I. Tape shall be spirally applied with not less than one third nor more than two thirds lap. Outer diameter: .230 maximum.
Braided jacket	Single braid of polyester fiber braid with high temperature finishers, conforming to NEMA-WC27500. Diameter: .270 inch maximum.

REQUIREMENTS

Out-of-roundness: Not applicable.

Eccentricity: 10 percent maximum.

Adhesion of conductors:

Inner conductor to core: 1.5 pounds, minimum; 4 pounds, maximum.

Aging stability: Not applicable.

Stress crack resistance: $+230^{\circ}\text{C} \pm 5^{\circ}\text{C}$. 1/

Outer conductor integrity: Not applicable.

Cold bend: $-55^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

Dimensional stability: $+200^{\circ}\text{C} \pm 5^{\circ}\text{C}$. 1/

Inner conductor from core: 0.187 inch, maximum.

Inner conductor from any jacket: 0.250 inch, maximum.

Contamination: Not applicable.

Bendability: Not applicable.

Flammability: Applicable.

Weight: 60 pounds per 1,000 feet, maximum.

1/ Requirements are prior to adding shields over jacket.

Continuity: Applicable.

Spark test: 2,000 V rms + 10, -0 percent.

Voltage withstanding: 2,000 V rms, +10, -0 percent. 2/

2/ 2,000 V rms +10, -0 percent applied between the inner and outer conductor with the outer conductor grounded; 200 V dc minimum applied between the outer conductor and the outer shield with the outer shield grounded.

Insulation resistance: Not applicable.

Corona extinction voltage: 1,500 V rms minimum.

Characteristic impedance: 95 ± 5 ohms.

Attenuation: 17 dB per 100 feet maximum at 400 MHz.

Structural return loss: Not applicable.

Capacitance: 17.4 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.

Shielding effectiveness: To be determined.

Part or Identifying Number (PIN): M17/178-00001.

Marking: Applicable

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

Workmanship: Applicable

Qualification: Shall consist of the inspections specified in table II.

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	N/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	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)	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				

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	3.7.16	4.8.17	4	Per Table VIII	C
	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	3.7.22	4.8.23	1	Per Table VIII	C
	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 (aged)	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:

ASTM-B355
MIL-I-631
MIL-PRF-49142
NEMA-WC27500

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project: 6145-2026-025)

Review activities:

Army - AR, AT, CR4, MI
Navy - AS, MC, OS, SH
Air Force - 19, 99
DLA - IS

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>.