

INCH-POUND

MIL-DTL-17/73B
w/AMENDMENT 2
20 April 2016
SUPERSEDING
MIL-DTL-17/73B
w/AMENDMENT 1
13 April 2010

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
50 OHMS, M17/73-RG212

Inactive for new design after 13 August 1993.
For new design use MIL-DTL-17/188.

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.

NOTE: This cable uses PVC material and is not to be used in enclosed environments or shipboard applications. The replacements that are to be used in enclosed areas or shipboard applications are referenced in the following table.

The Air Force has restricted use of PVC in aerospace and ground support applications.

Cables listed on the current QPL may continue to be manufactured and supplied for existing enclosed applications only for a period not to exceed 3 years from the date of this specification.

TABLE I. Cross-reference data.

Canceled Part or Identifying Number (PIN)	Replacement PIN
M17/73-RG212	M17/188-00001

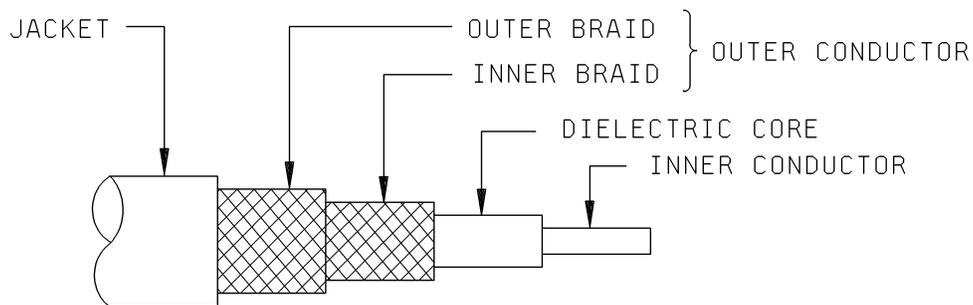


FIGURE 1. Configuration.



MIL-DTL-17/73B
w/AMENDMENT 2

TABLE II. Description.

Components	Construction details		
Inner conductor	Solid silver-coated copper wire. Overall diameter: 0.0556 inch \pm 0.0010.		
Dielectric core	Type A-1: Solid, polyethylene. Diameter: 0.185 inch \pm 0.004.		
Outer conductor	Double braid of AWG #34, silver coated copper wire. Diameter: 0.265 inch maximum.		
		<u>Alternate</u>	
Inner braid	Coverage:	95.0% nominal	95.0% nominal
	Carriers:	16	24
	Ends:	9	6
	Picks/inch:	5.9 \pm 10%	8.8 \pm 10%
Outer braid	Coverage:	95.0% nominal	95.0% nominal
	Carriers:	16	24
	Ends:	9	6
	Picks/inch:	8.7 \pm 10%	13.0 \pm 10%
Jacket	Type IIa: PVC. Diameter: 0.332 inch \pm 0.004.		

ENGINEERING INFORMATION

Continuous working voltage: 2,200 V rms, maximum.

Operating frequency: 11 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power rating: See figure 2.

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

Inner conductor properties:

DC resistance (maximum at 20°C): 0.348 ohm per 100 feet.

Elongation: 25 percent, minimum.

Tensile strength: Not applicable.

Engineering notes: This cable useful in general purpose medium low temperature applications.
(See connector series "N", "C" and "SC" in accordance with MIL-PRF-39012.)

MIL-DTL-17/73B
w/AMENDMENT 2

REQUIREMENTS

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

Environmental and mechanical:

Visual and mechanical examination:

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 5 pounds, minimum; 45 pounds, maximum.

Aging stability: $+98^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Cold bend: $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

Dimensional stability: $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

Inner from conductor core: 0.062 inch, maximum.

Inner conductor from jacket: 0.125 inch, maximum.

Contamination: Applicable.

Bendability: Not applicable.

Flammability: Not applicable.

Weight: 0.089 pound per foot, maximum.

Electrical:

Continuity: Applicable.

Spark test: 8,000 V rms, +10%, -0%.

Voltage withstanding: 7,000 V rms, +10%, -0%.

Insulation resistance: Not applicable.

Corona extinction voltage: 3,000 V rms, minimum.

Characteristic impedance: 50 ohms ± 2 .

Attenuation: See figure 2.

Structural return loss: See figure 3.

Capacitance: 32.2 pF per foot, maximum.

Capacitance stability: Not applicable.

Capacitance unbalance: Not applicable.

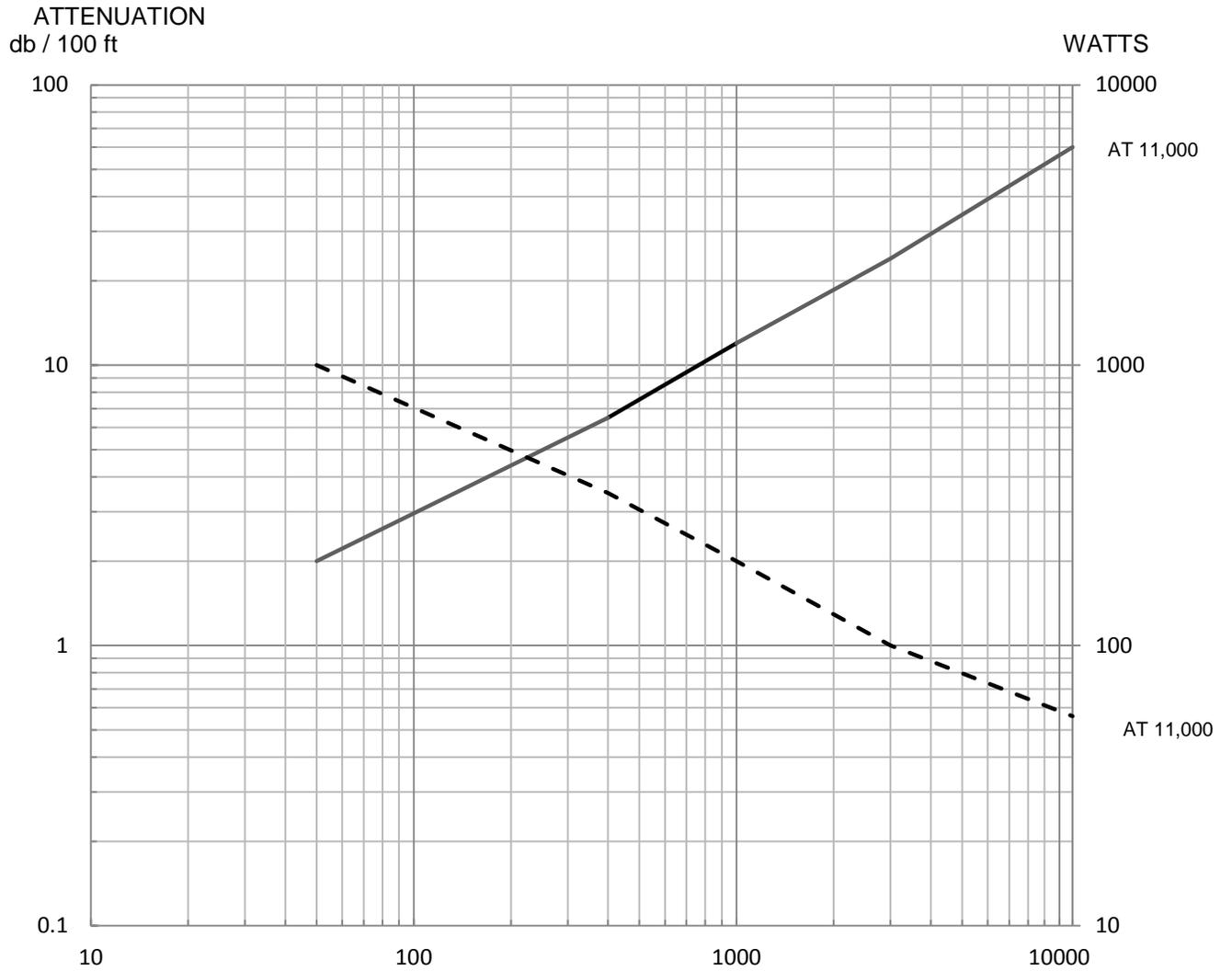
Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

PIN: M17/73-RG212. See table I.

MIL-DTL-17/73B
w/AMENDMENT 2



FREQUENCY MHz	ATTENUATION dB	POWER WATTS
50	2	1000
400	6.5	350
1,000	12	200
3,000	24	100
11,000	60	56

FREQUENCY IN MHz

MAXIMUM ATTENUATION **—————**

MAXIMUM POWER **-----**

AT 25°C SEA LEVEL

Tabulated values are for reference only.

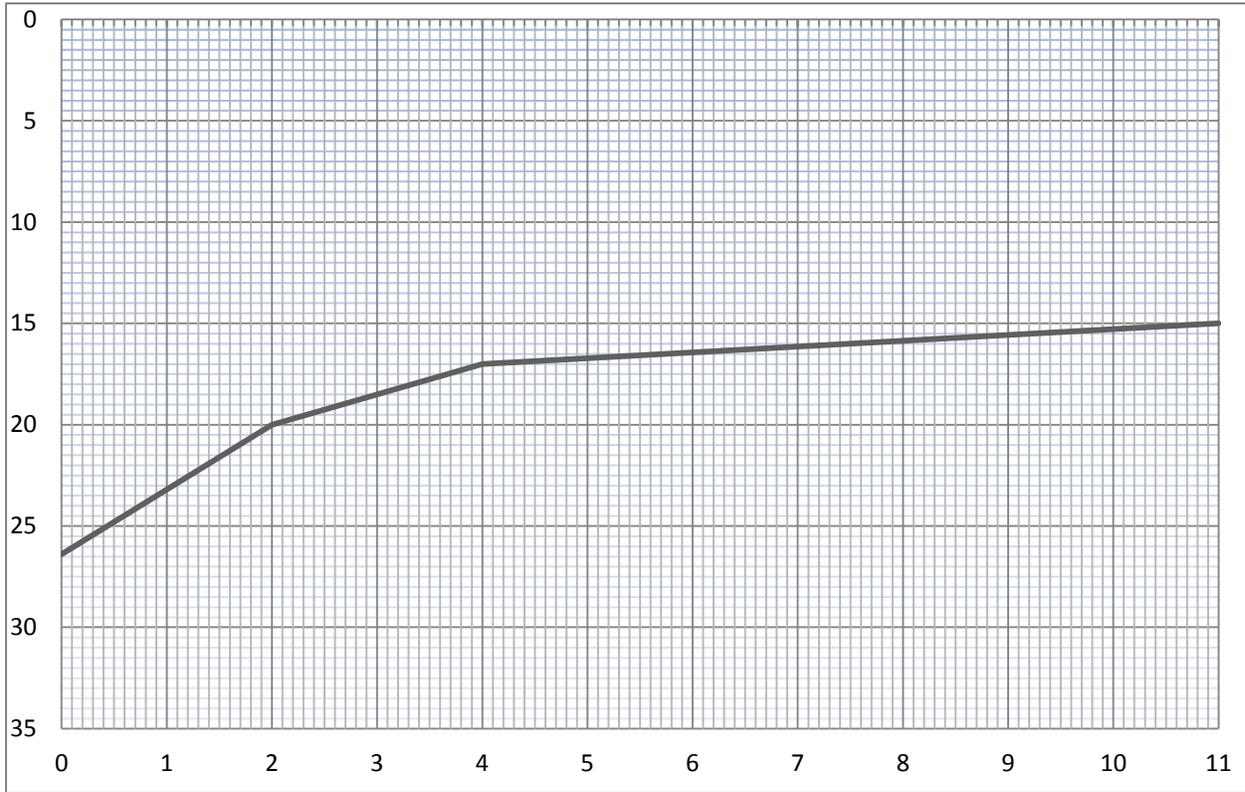
The values on the chart represent to requirements.

FIGURE 2. Power rating and attenuation.

MIL-DTL-17/73B
w/AMENDMENT 2

Return Loss db

MINIMUM STRUCTURAL RETURN LOSS



FREQUENCY IN GHZ

SWR	REFLECTION COEFFICIENT	RETURN LOSS dB	SWR	REFLECTION COEFFICIENT	RETURN LOSS dB
17.3910	.8913	1	1.3767	.1585	16
8.7242	.7943	2	1.3290	.1413	17
5.8480	.7079	3	1.2880	.1259	18
4.4194	.6310	4	1.2528	.1122	19
3.5698	.5623	5	1.2222	.1000	20
3.0095	.5012	6	1.1957	.0891	21
2.6146	.4467	7	1.1726	.0794	22
2.3229	.3981	8	1.1524	.0708	23
2.0999	.3548	9	1.1347	.0631	24
1.9250	.3162	10	1.1192	.0562	25
1.7849	.2818	11	1.1055	.0501	26
1.6709	.2512	12	1.0935	.0447	27
1.5769	.2239	13	1.0829	.0398	28
1.4985	.1995	14	1.0736	.0355	29
1.4326	.1778	15	1.0653	.0316	30

FIGURE 3. Structural return loss.

MIL-DTL-17/73B
w/AMENDMENT 2

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
MIL-DTL-17/188

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 6145-2016-005)

Review activities:

Army – 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>.