

INCH-POUND

MIL-DTL-17/72C
w/AMENDMENT 2
14 July 2023
SUPERSEDING
MIL-C-17/72C
15 March 1977

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
50 OHMS, M17/72-RG211

Inactive for new design after 7 October 1991.

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.

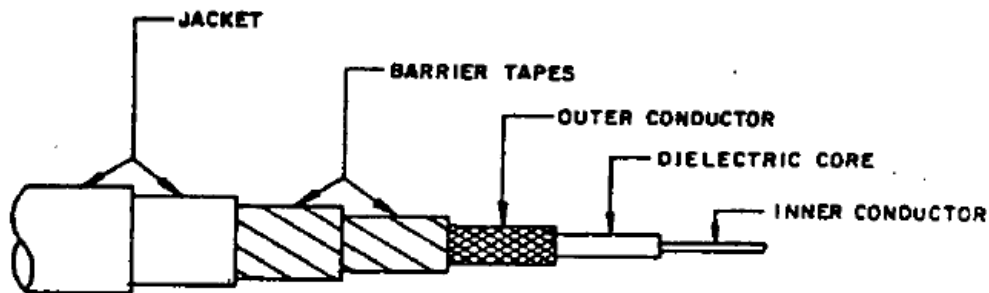


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details		
Inner conductor	Solid bare copper wire. Diameter: 0.192 inch ±0.002.		
Dielectric core	Type F-1: Solid extruded PTFE Diameter: 0.620 inch ±0.005		
Outer conductor	Single braid of AWG #34, bare copper wire. Diameter: 0.670 inch maximum.		
		<u>Alternate</u>	
	Coverage:	96.8% nominal.	97.1%
	Carriers:	36	48
	Ends:	10	8
	Picks/inch:	5.6 ± 10%	5.6 ± 10%
Barrier tapes	Type FF-2: Two wraps of PTFE tapes, 0.006 inch thick each, by 1 to 1-1/4 inch wide, with an approximate lay of 24 turns per foot and with ½ inch lap.		
Jacket	Type V: Double braid of fiberglass. Diameter: 0.730 inch ±0.015		

AMSC N/A

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FSC 6145



ENGINEERING INFORMATION

Capacitance: 29.3 pF per foot, nominal
Continuous working voltage: 5,200 Vrms, maximum.
Operating frequency: 1 GHz, maximum.
Velocity of propagation: 69.5 percent, nominal.
Power rating: See figure 2.
Operating temperature range: -55° to +250°C
Weight: 0.516 pound per foot, nominal.

Inner conductor properties:
DC resistance (maximum at 20°C): 0.0293 ohm per 100 feet.
Elongation: 25 percent, minimum

Engineering notes: This cable useful in general purpose, high temperature applications.
(see connector series "C" and "SC" per MIL-PRF-39012, NATO
preferred type NWR-13.)

REQUIREMENTS

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

Environmental and mechanical:

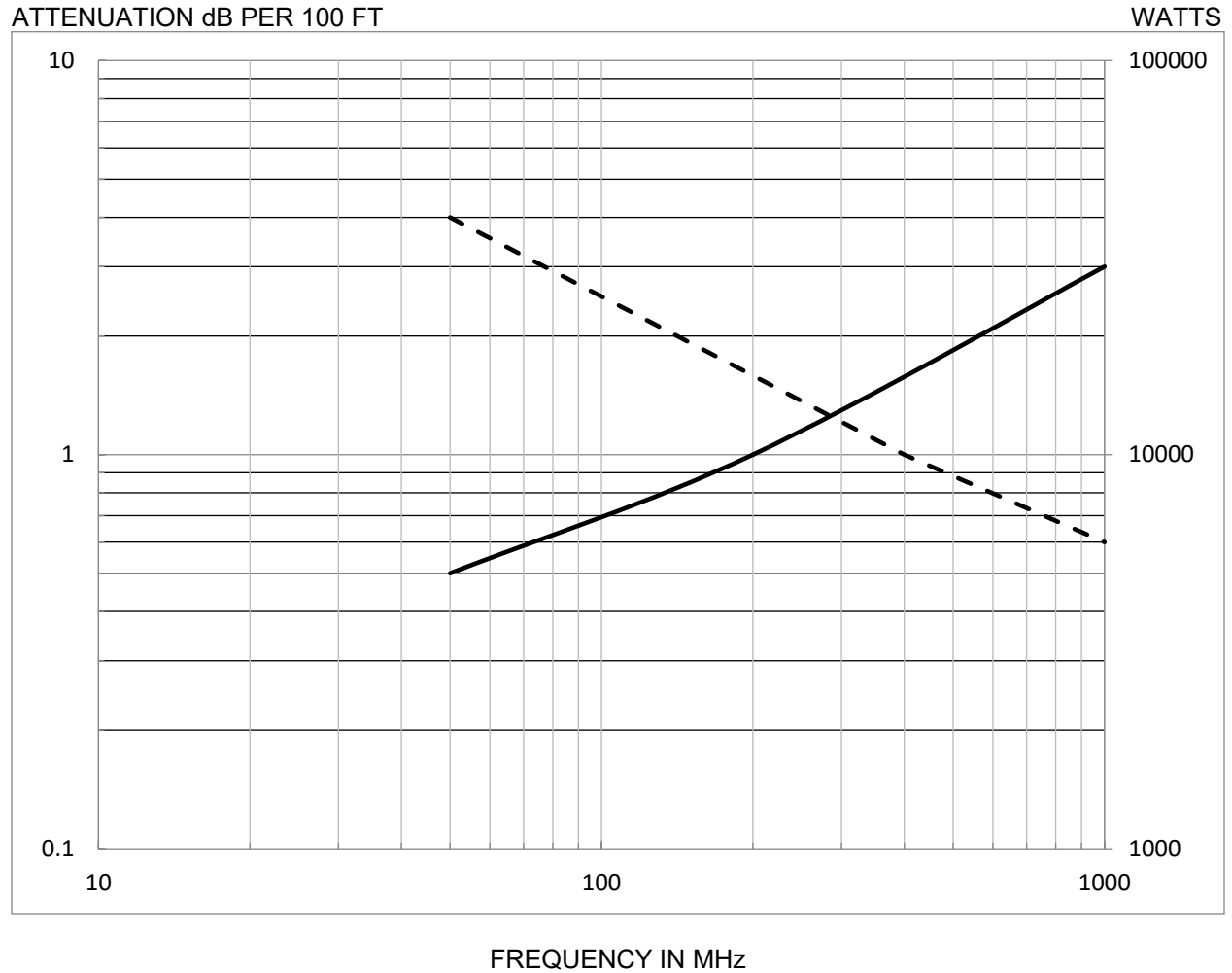
Visual and mechanical examination:
Eccentricity: 10 percent, maximum.
Adhesion of conductors:
Inner conductor to core: 4 pounds, minimum; 15 pounds, maximum.
Aging stability: +250° ±5°C.
Dimensional Stability: +250° ±5°C.
Inner conductor from core: 0.062 inch, maximum.
Inner conductor from jacket: 0.125 inch, maximum.
Flammability: applicable.

Electrical:

Test frequency: 50 MHz to 1 GHz.
Voltage withstanding: 10,000 Vrms, minimum.
Corona extinction voltage: 7,000 Vrms, minimum.
Characteristic impedance: 50 ohms ±2.
Attenuation: see figure 2.
Structural return loss: see figure 1

| Part number: M17/72-RG211.

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MAXIMUM ATTENUATION ———
MAXIMUM POWER - - - - -
AT 25°C SEA LEVEL

FIGURE 2. Power rating and attenuation.

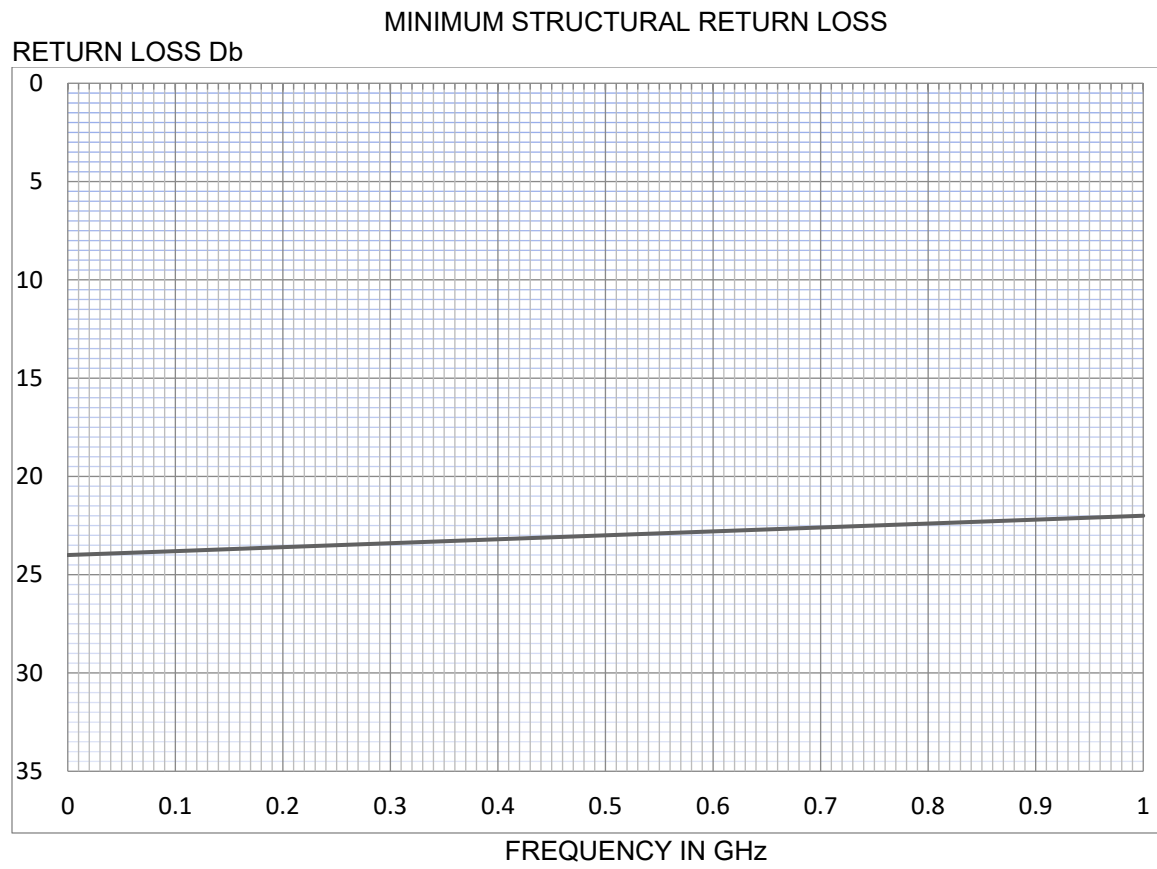


FIGURE 3. Structural return loss

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SWR	Reflection Coefficient	Return Loss dB
17.3910	.8913	1
8.7242	.7943	2
5.8480	.7079	3
4.4194	.6310	4
3.5698	.5623	5
3.0095	.5012	6
2.6146	.4467	7
2.3229	.3981	8
2.0998	.3548	9
1.9250	.3162	10
1.7849	.2818	11
1.6709	.2512	12
1.5769	.2239	13
1.4985	.1995	14
1.4326	.1778	15
1.3767	.1585	16
1.3290	.1413	17
1.2880	.1259	18
1.2528	.1122	19
1.2222	.1000	20
1.1957	.0891	21
1.1726	.0794	22
1.1524	.0708	23
1.1347	.0631	24
1.1192	.0562	25
1.1055	.0501	26
1.0935	.0447	27
1.0829	.0398	28
1.0736	.0355	29
1.0653	.0316	30

FIGURE 3. Structural return loss - Continued

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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. In addition to MIL-DTL-17, this document references the following:

MIL-PRF-39012

CONCLUDING MATERIAL

Custodians:

Army – CR

Navy – EC

Air Force – 85

Preparing activity:

DLA - CC

(Project 6145-2023-027)

Review activities:

Army – AR, AT, CR4, MD

Navy – AS, MC, OS

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>.