MILITARY SPECIFICATION SHEET

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

| THIS CABLE USES PVC MATERIAL AND IS NOT TO BE USED IN AEROSPACE APPLICATIONS. |

| NOTE: THE AIR FORCE HAS RESTRICTED THE USE OF PVC IN AEROSPACE AND GROUND SUPPORT APPLICATIONS. CABLES WITH PVC JACKETING SHALL BE USED FOR RETROFIT PURPOSES ONLY UNTIL AN ALTERNATE JACKET IS APPROVED. |

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

The complete requirements for acquiring the cable described herein shall consist of this specification and the latest issue of MIL-C-17.

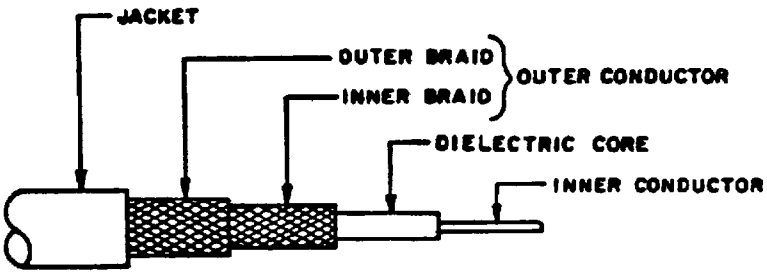


FIGURE 1. Configuration.

Ⓑ denotes changes FSC 6145

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

TABLE I. Description.

Component	Construction details		
Inner conductor	Solid silver-coated copper wire. Diameter: 0.0556 inch ±0.0010.		
Dielectric core	Type A-1: Solid polyethylene Diameter: 0.185 inch ±0.004.		
Outer conductor:	Double braid of AWG No. 34 silver-coated copper wire. Diameter: 0.265 inch maximum.		
			Alternate
Inner braid	Coverage :	95.0% nominal	95.0% nominal
	Carriers :	16	24
	Ends :	9	6
	Picks/inch:	5.9 ±10%	8.8 ±10%
Outer braid	Coverage :	95.0% nominal	95.0% nominal
	Carriers :	16	24
	Ends :	9	6
	Picks/inch:	8.7 ±10%	13.0 ±10%
Jacket	Type IIa: PVC. Diameter: 0.332 inch ±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.

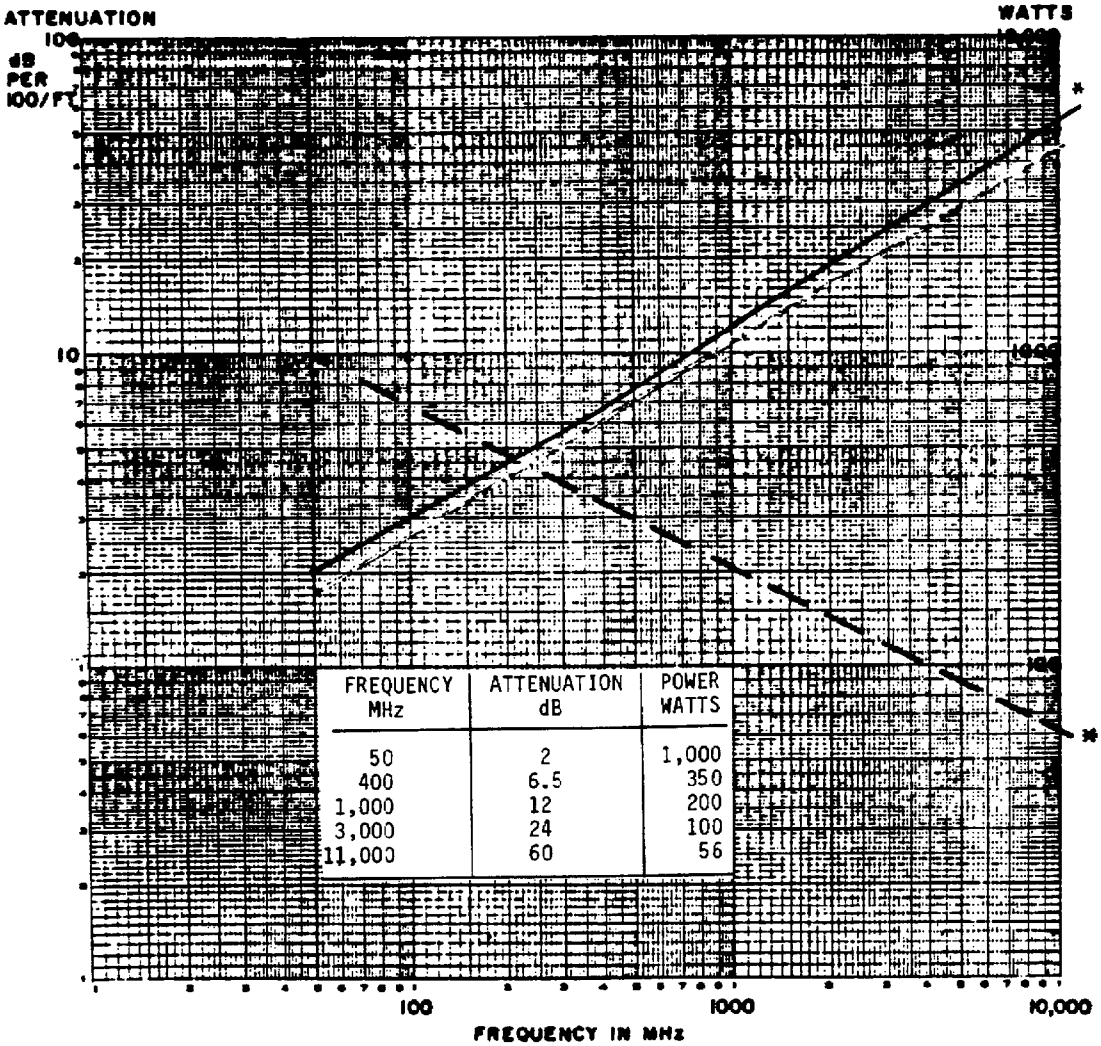
Inner conductor properties:

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

Elongation: 25 percent, minimum.

Tensile strength: Not applicable.

Engineering note: This cable is useful in general purpose medium low temperature applications. (See connector series "N", "C", and "SC" per MIL-C-39012.)



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

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

* AT 11,000

Tabulated values are for reference only.
The values on the chart represent the requirements.

FIGURE 2. Power rating and attenuation.

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination:

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

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

Aging stability: +98°C ±2°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

(B) Cold bend: -40°C ±2°C.

Dimensional stability: +85°C ±2°C.

Inner conductor from 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.

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

(B) 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.

(B) Capacitance: 32.2 pF per foot, maximum.

Capacitance stability: Not applicable.

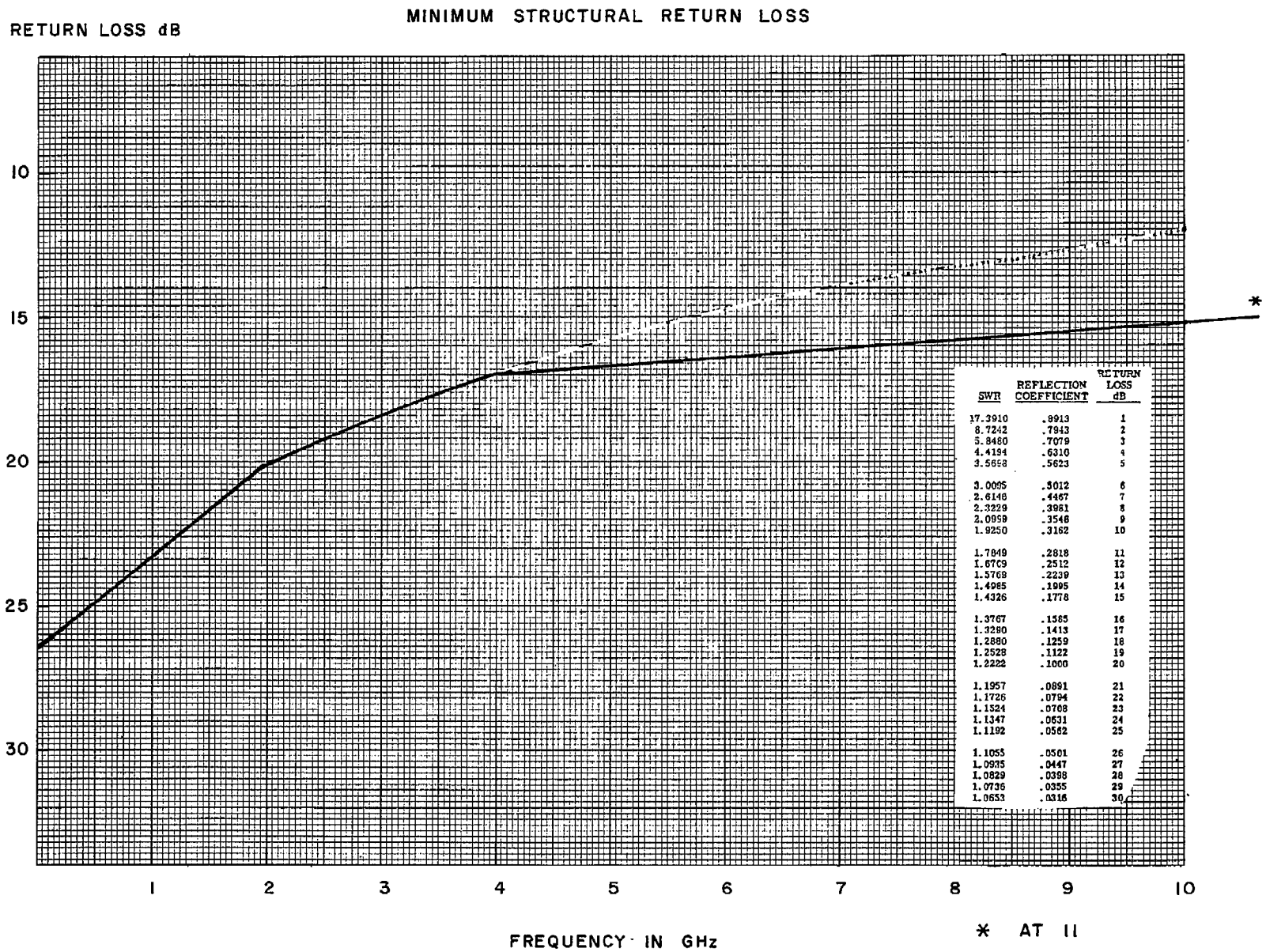
Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

Part number: M17/73-RG212.



SWR	REFLECTION COEFFICIENT	RETURN LOSS dB
17.3910	.9913	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
2.0959	.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.

Custodians:
Army - CR
Navy - EC
Air Force - 85

Review activities:
Army - MI
Navy - SH, TD
Air Force - 11, 17, 99
DLA - ES, IS

User activities:
Army - AR, AT, ME
Navy - AS, MC, OS
Air Force - 19

Agent:
DLA - ES

Preparing activity:
Army - CR

(Project 6145-0911-12)