MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL, 50 OHMS, UNARMORED M17/74-RG213, AND ARMORED M17/74-RG215

| 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.

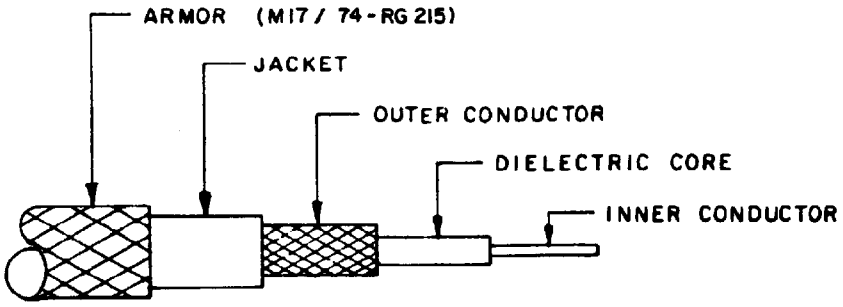


FIGURE 1. Configuration.

© denotes changes

FSC 6145

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

TABLE I. Description.

Component	Construction details
Inner conductor	Seven strands of bare copper wire, each strand 0.0296 inch diameter. Overall diameter: 0.0888 inch ±0.0010.
Dielectric core	Type A-1: Solid polyethlyene. Diameter: 0.285 inch ±0.007.
Outer conductor	Single braid of AWG No. 33 bare copper wire. Diameter: 0.340 inch maximum. Coverage : 95.3% nominal Carriers : 24 Ends : 8 Picks/inch: 6.5 ±10%
Jacket	Type IIa: PVC. Diameter: 0.405 inch ±0.007.
Armor (M17/74-RG215)	Single braid of aluminum-alloy wire. Diameter: 0.475 inch maximum.

ENGINEERING INFORMATION:

Continuous working voltage: 3,700 V rms, maximum.

Operating frequency: 1 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power rating: See figure 2.

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

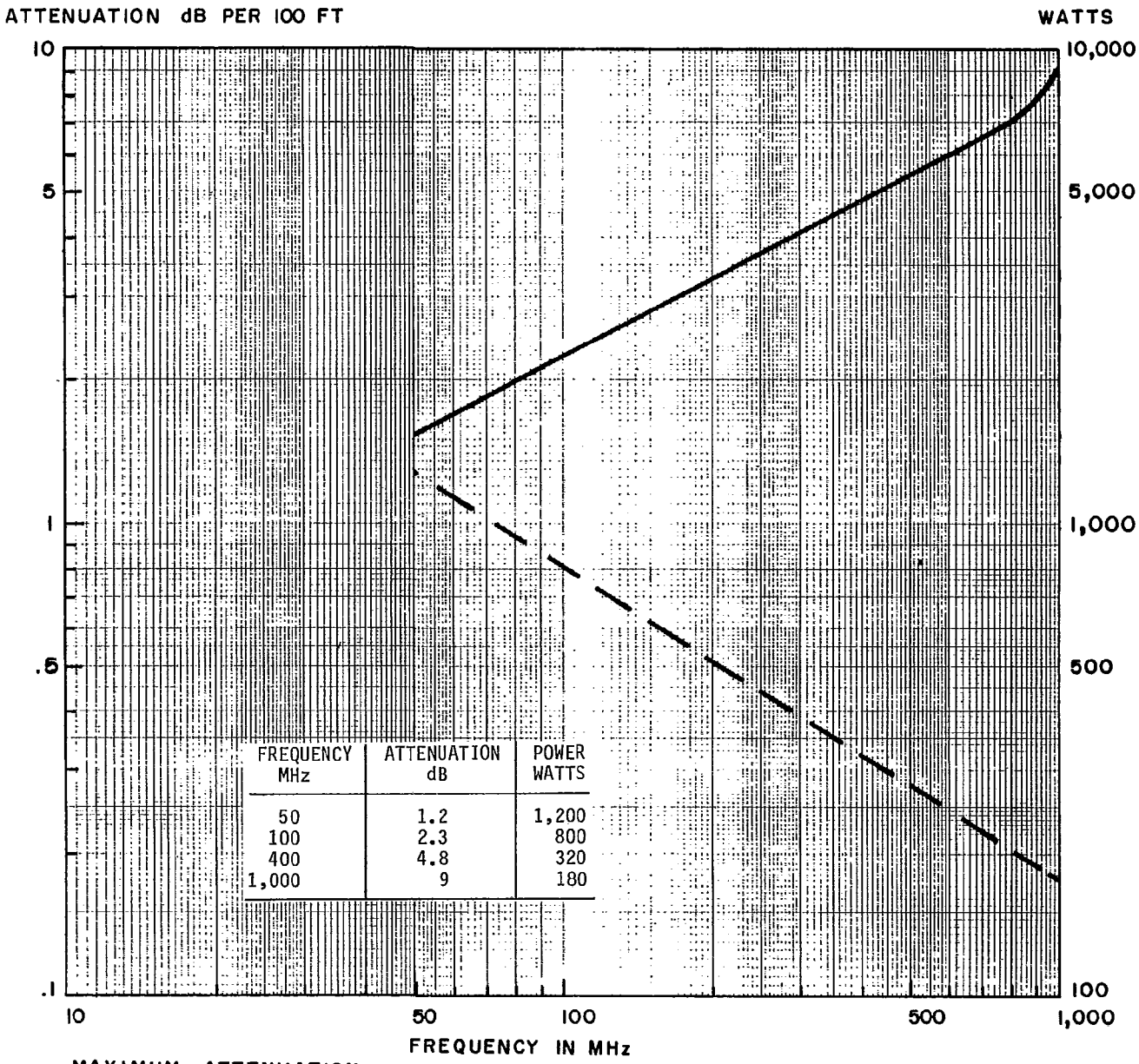
Inner conductor properties:

(C) DC resistance (maximum at 20°C): 0.176 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. For M17/74-RG213, NATO preferred type NWR-1; for M17/74-RG215, NATO preferred type NWR-17.)



FREQUENCY MHz	ATTENUATION dB	POWER WATTS
50	1.2	1,200
100	2.3	800
400	4.8	320
1,000	9	180

MAXIMUM ATTENUATION ———

MAXIMUM POWER — — —

AT 25°C SEA LEVEL

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:

(C) Inner conductor to core: 9 pounds, minimum; 90 pounds, maximum.

Aging stability: +98°C ±2°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

(C) Cold bend: -40°C ±2°C.

Dimensional stability:

Inner conductor from core: 0.062 inch, maximum.

Inner conductor from jacket: 0.125 inch, maximum.

Contamination: Applicable.

Bendability: Not applicable.

Flammability: Not applicable.

(C) Weight:

M17/74-RG213: 0.111 pound per foot, maximum.
M17/74-RG215: 0.138 pound per foot, maximum.

Electrical:

Continuity: Applicable.

(C) Spark test: 5,000 V rms, +10%, -0%.

(C) Voltage withstanding: 10,000 V rms, +10%, -0%.

Insulation resistance: Not applicable.

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

Characteristic impedance: 50 ohms ±2.

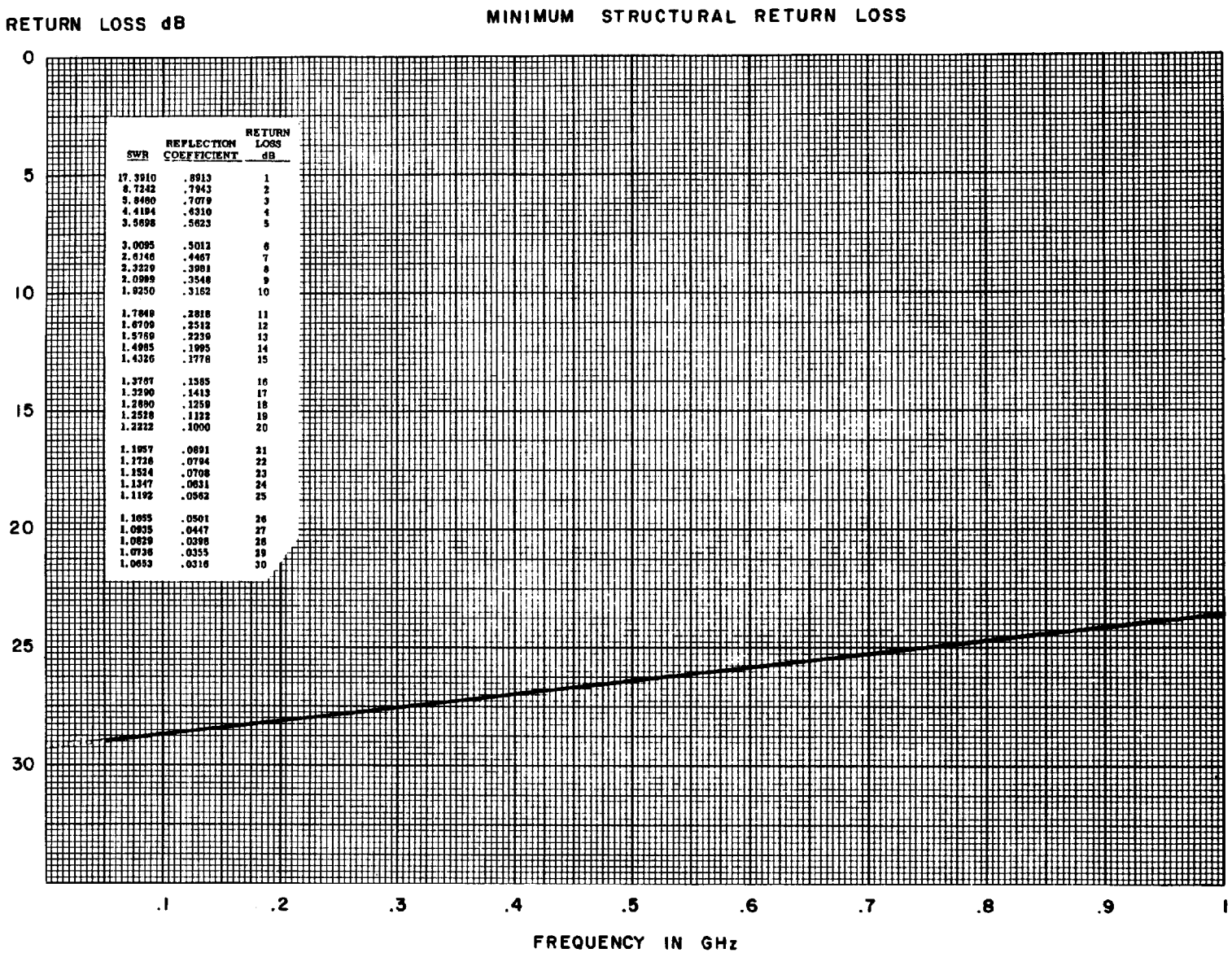
Attenuation: See figure 2.

Structural return loss: See figure 3.

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

Capacitance stability: Not applicable.

Capacitance unbalance: Not applicable.



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
2.0989	.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.

Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

Part number: See table II.

Supersession data: See table II.

TABLE II. Cross-reference of part number.

Part number	Superseded part number or type designation
M17/74-RG213	
M17/74-RG215	RG-215/U; RG-10A/U per MIL-C-17/5 (canceled)

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 6145-0911-13)