

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL,  
50 OHMS, M17/84-RG223

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 Depart-  
ments 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.

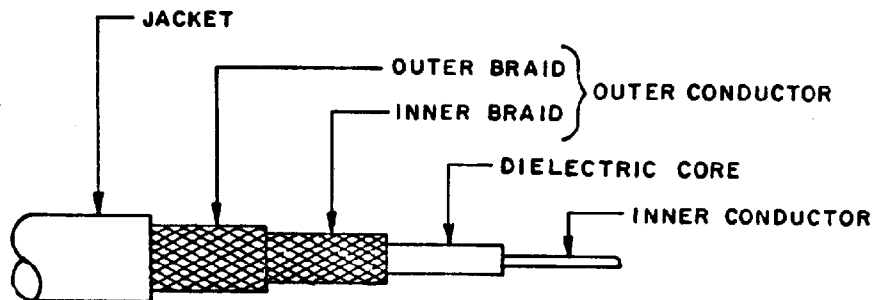


FIGURE 1. Configuration.

ⓑ denotes changes

FSC 6145

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

TABLE 1. Description.

Components	Construction details		
Inner conductor	Solid silver-coated copper wire Diameter: 0.035 inch $\pm$ 0.001		
Dielectric core	Type A-1: Solid polyethylene. Diameter: 0.116 inch $\pm$ 0.004		
Outer conductor:	Double braid of AWG size 36, silver-coated copper wire. Diameter: 0.176 inch maximum.		
Inner braid	Coverage:	94.8% nominal	Alternate 95.0% nominal
	Carriers:	16	16
	Ends:	5	7
	Picks/inch:	23.3 $\pm$ 10%	11.5 $\pm$ 10%
Outer braid	Coverage:	95% nominal	94.2% nominal
	Carriers:	16	16
	Ends:	6	7
	Picks/inch:	19.2 $\pm$ 10%	15.0 $\pm$ 10%
Jacket	Type IIa: PVC. Diameter: 0.212 inch $\pm$ 0.004		

## ENGINEERING INFORMATION:

Continuous working voltage: 1,400 V rms, maximum

Operating frequency: 12.4 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): 0.897 ohm per 100 feet.

- ⑧ Elongation: 25 percent, minimum.

Tensile strength: Not applicable.

Engineering note: This cable is useful in general purpose, medium low temperature applications (see connector series "TNC", "BNC" and "SMA" per MIL-C-39012).

REQUIREMENTS:

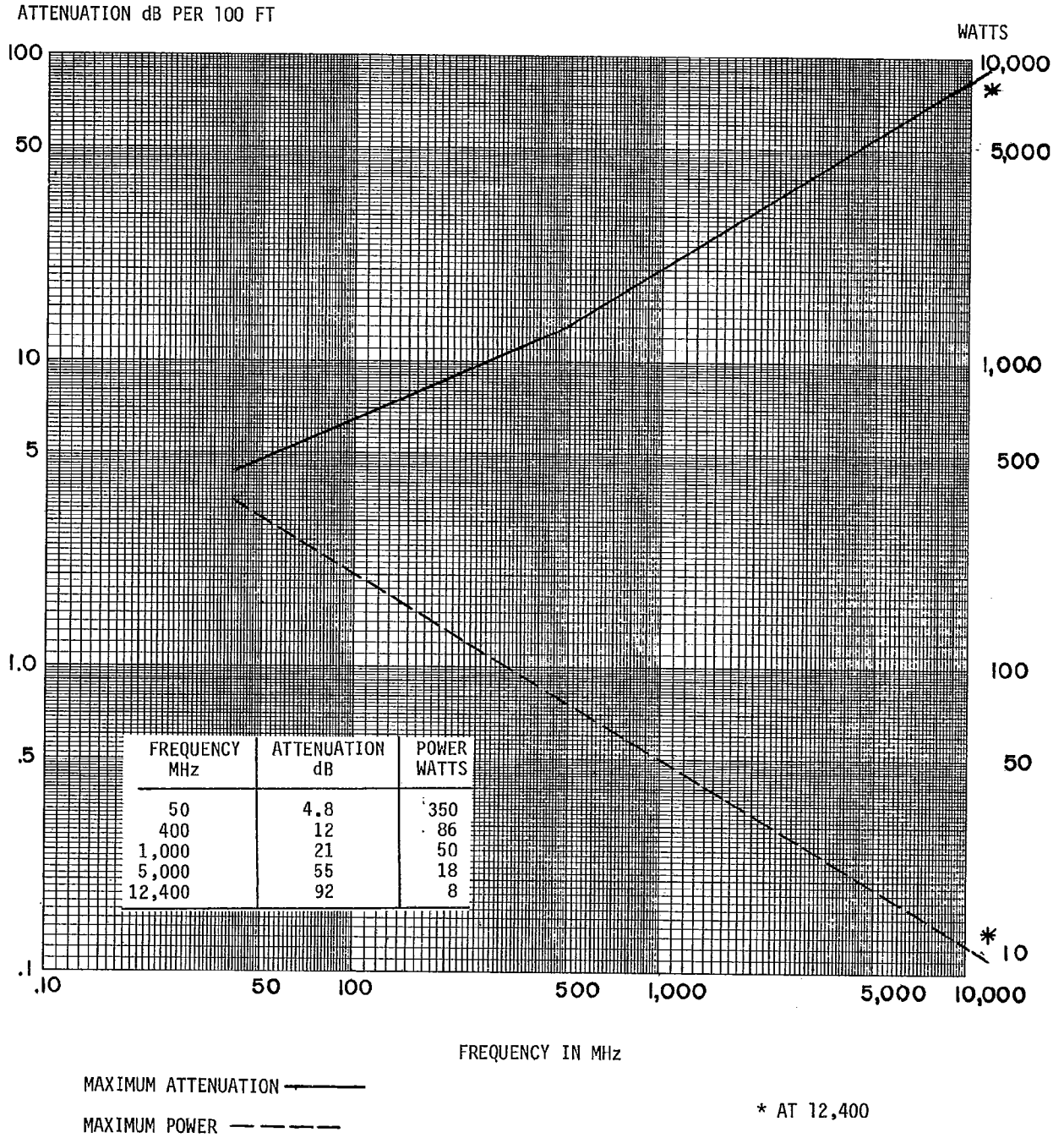
Dimensions, configuration, and description: See figure 1 and table I.

Environmental and mechanical:

Visual and mechanical examination:

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.



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

FIGURE 2. Power rating and attenuation.

⑧ Adhesion of conductors:

Inner conductor to core: 2 pounds, minimum; 20 pounds, maximum.

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

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

⑧ Cold bend:  $-55^{\circ}\text{C} \pm 2^{\circ}\text{C}$ .

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

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: 0.041 pound per foot, maximum.

Electrical:

Continuity: Applicable.

⑧ Spark test: 5,000 V rms, +10%, -0%.

⑧ Voltage withstanding: 5,000 V rms, +10%, -0%.

Insulation resistance: Not applicable.

Corona extinction voltage: 1,900 V rms, minimum.

Characteristic impedance: 50 ohms  $\pm 2$ .

Attenuation: See figure 2.

Structural return loss: See figure 3.

⑧ Capacitance: 32.2 pF per foot, maximum.

Capacitance stability: Not applicable.

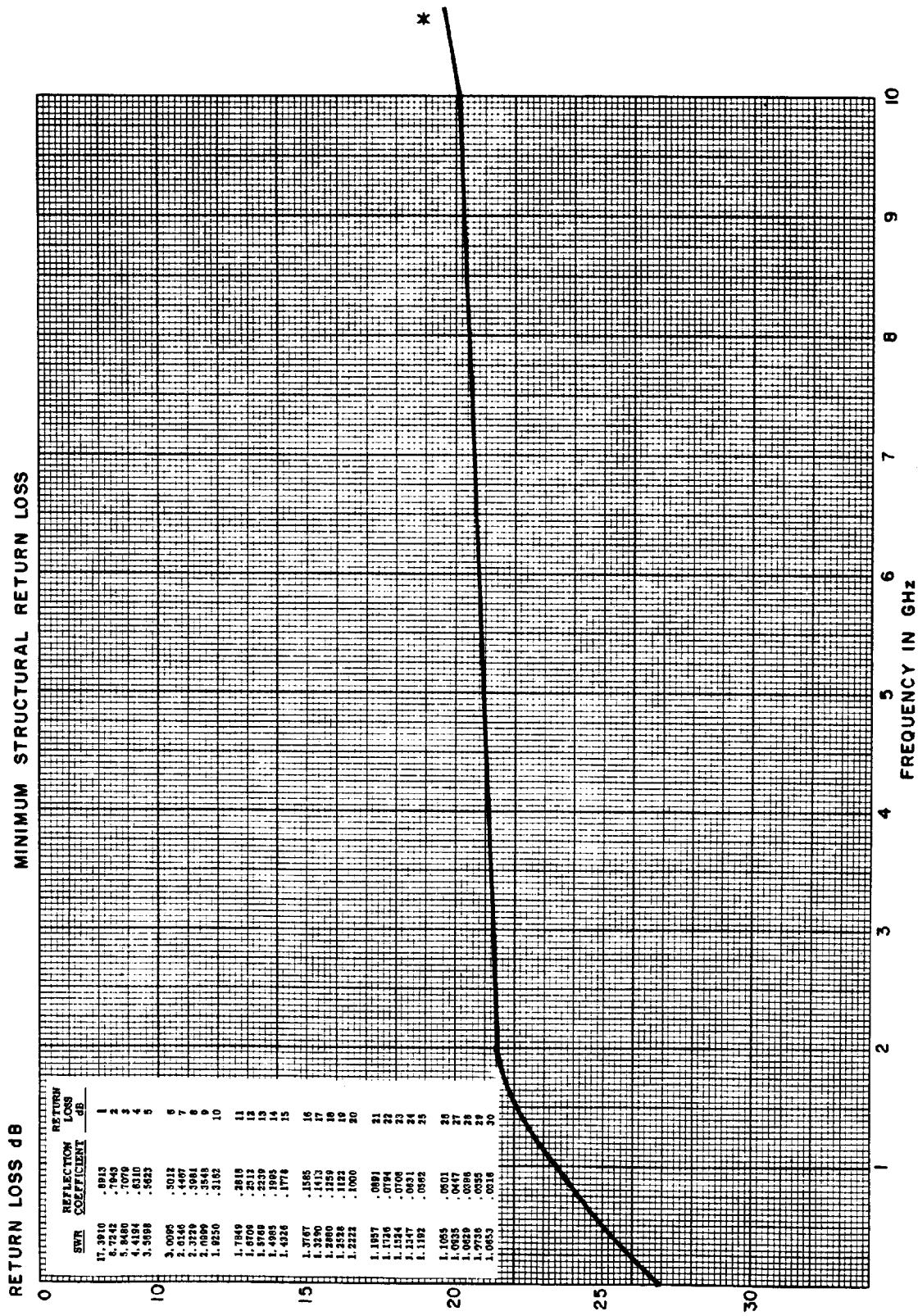
Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

Part number M17/84-RG223.



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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 6145-0911-18)