

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
50 OHMS, M17/28-RG058

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.

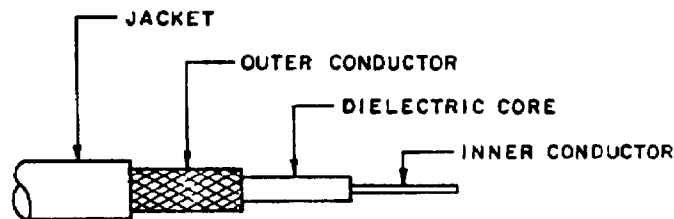


FIGURE 1. Configuration.

© denotes changes

FSC 6145

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

TABLE I. Description.

Component	Construction details
Inner conductor	Nineteen strands of tinned copper wire, each strand 0.0072 inch diameter. Overall diameter: 0.0355 inch $\pm$ 0.0020.
Dielectric core	Type A-1: Solid polyethylene Diameter: 0.116 inch $\pm$ 0.004.
Outer conductor	Single braid of AWG No. 36 tinned copper wire. Diameter: 0.150 inch maximum. <u>Alternate</u> Coverage : 92.8% nominal 94.2% nominal Carriers : 12 16 Ends : 9 7 Picks/inch: 7.7 $\pm$10% 10.3 $\pm$10%
Jacket	Type IIa: PVC. Diameter: 0.195 inch $\pm$ 0.004.

ENGINEERING INFORMATION:

Continuous working voltage: 1,400 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.

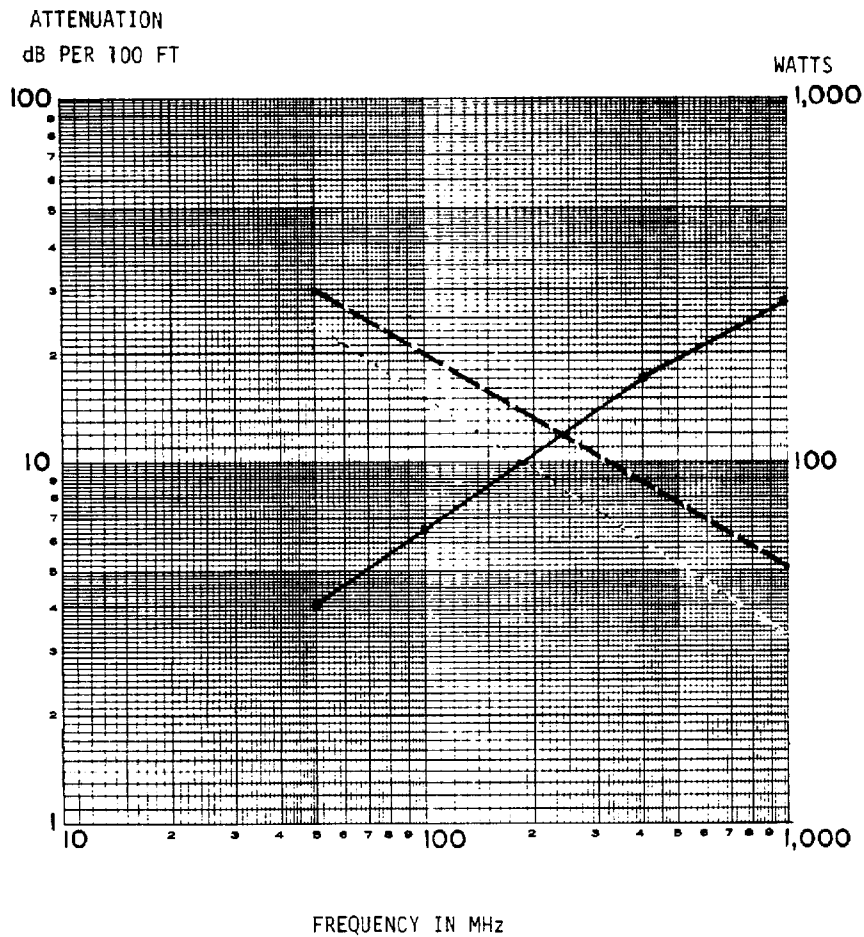
Inner conductor properties:

Ⓒ DC resistance (maximum at 20°C): 1.240 ohms per 100 feet.

Elongation: 10 percent, minimum.

Tensile strength: Not applicable.

Engineering note: This cable is useful in general purpose low temperature applications. (See connector series "TNC", "BNC", and "SMA" per MIL-C-39012. NATO preferred type NWR-2.)



MAXIMUM POWER _ _ _ _ _ AT 25°C SEA LEVEL

MAXIMUM ATTENUATION _____

Tabulated values are for reference only.

The values on the chart represent the requirements.

FREQUENCY MHz	ATTENUATION dB	POWER WATTS
50	4.0	300
100	6.5	200
400	17.0	90
1000	28.0	55

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:

- ③ Inner conductor to core: 5 pounds, minimum; 15 pounds, maximum.

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

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

- ③ 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.

- ③ Weight: 0.026 pound per foot, maximum.

Electrical:

Continuity: Applicable.

- ③ Spark test: 5,000 V rms, +10%, -0%.

- ③ Voltage withstanding: 5,000 V rms, +10%, -0%.

Insulation resistance: Not applicable.

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

Characteristic impedance: 50 ohms ± 2 .

Attenuation: See figure 2.

Structural return loss: See figure 3.

- 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.

Part number: M17/28-RG058.

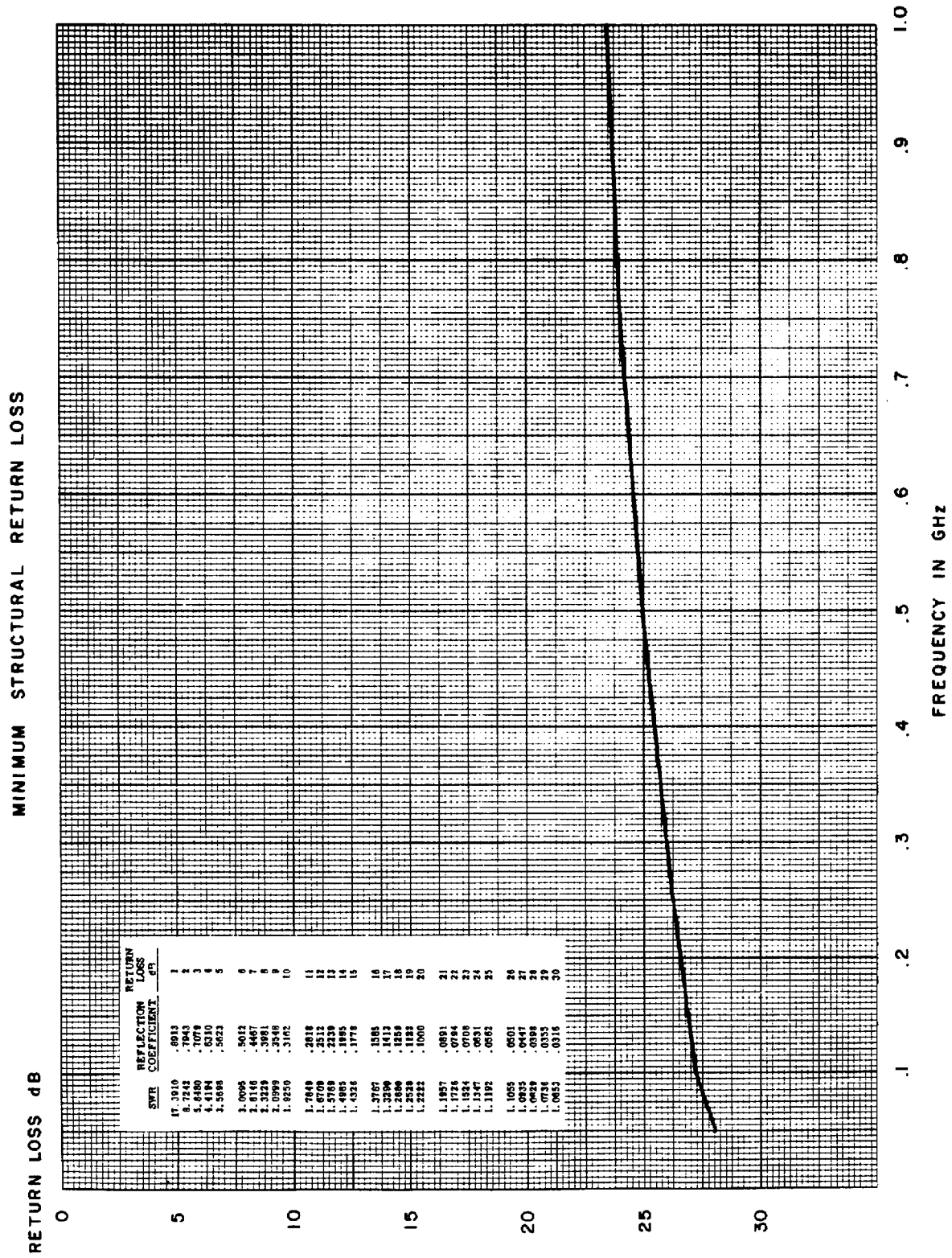


FIGURE 3. Structural return loss.

Custodians:

Army - CR
Navy - EC
Air Force - 85

Preparing activity:
Army - CR

(Project 6145-0911-5)

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