

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY FLEXIBLE, COAXIAL, 50 OHMS  
 UNARMORED M17/79-RG218, AND ARMORED M17/79-RG219

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

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

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

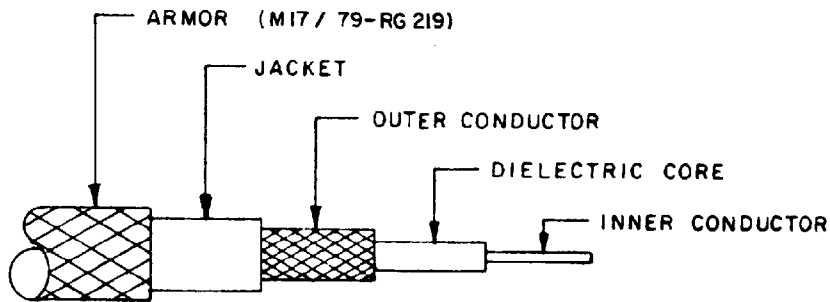


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details																				
Inner conductor	Solid bare copper wire. Diameter: .195 inch $\pm$ .002.																				
Dielectric core	Type A-1: Solid polyethylene. Diameter: .680 inch $\pm$ .010.																				
Outer conductor	Single braid of AWG size #30 bare copper wire. Diameter: .760 inch, maximum.  <table style="width: 100%; border: none;"> <tr> <td></td> <td colspan="3" style="text-align: center;">Alternates</td> </tr> <tr> <td>Coverage:</td> <td>97.7%, nominal</td> <td>97.8%, nominal</td> <td>97.2%, nominal</td> </tr> <tr> <td>Carriers:</td> <td>24</td> <td>36</td> <td>48</td> </tr> <tr> <td>Ends:</td> <td>14</td> <td>9</td> <td>7</td> </tr> <tr> <td>Picks/inch:</td> <td>3.1 <math>\pm</math>10%</td> <td>4.0 <math>\pm</math>10%</td> <td>5.6 <math>\pm</math>10%</td> </tr> </table>		Alternates			Coverage:	97.7%, nominal	97.8%, nominal	97.2%, nominal	Carriers:	24	36	48	Ends:	14	9	7	Picks/inch:	3.1 $\pm$ 10%	4.0 $\pm$ 10%	5.6 $\pm$ 10%
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Jacket	Type IIa: PVC. Diameter: .870 inch $\pm$ 0.010.																				
Armor (M17/79-RG219 only)	Single braid of aluminum-alloy wire. Diameter: .945 inch maximum.																				

Ⓓ denotes changes.

## ENGINEERING INFORMATION:

Continuous working voltage: 8,000 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): 0.314 ohm per 100 feet.

Elongation: 15 percent, minimum.

Engineering notes: This cable is useful in general purpose, medium low temperature applications (for M17/79-RG218, see connector series "N", "C", and "SC" per MIL-C-39012; for M17/79-RG219, see connector series "LC" per MIL-C-3650 and "LT" per MIL-C-26637).

## REQUIREMENTS:

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

## Environmental and mechanical:

## Visual and mechanical examination:

Out-of-roundness: Applicable.

Eccentricity: 5 percent, maximum.

## Adhesion of conductors:

Ⓓ Inner conductor to core: 60 pounds, minimum; 600 pounds, maximum.

Aging stability: +98°C ±2°C.

Ⓓ Dimensional stability: +85°C ±2°C.

Inner conductor from core: .200 inch, maximum.

Inner conductor from jacket: .400 inch, maximum.

Ⓓ Weight: 0.575 pound per foot, maximum (M17/79-RG218).  
0.635 pound per foot, maximum (M17/79-RG219).

## Electrical:

Test frequency: 50 MHz to 1 GHz.

Spark test: 8,000 V rms, minimum.

Voltage withstanding: 22,000 V rms, minimum.

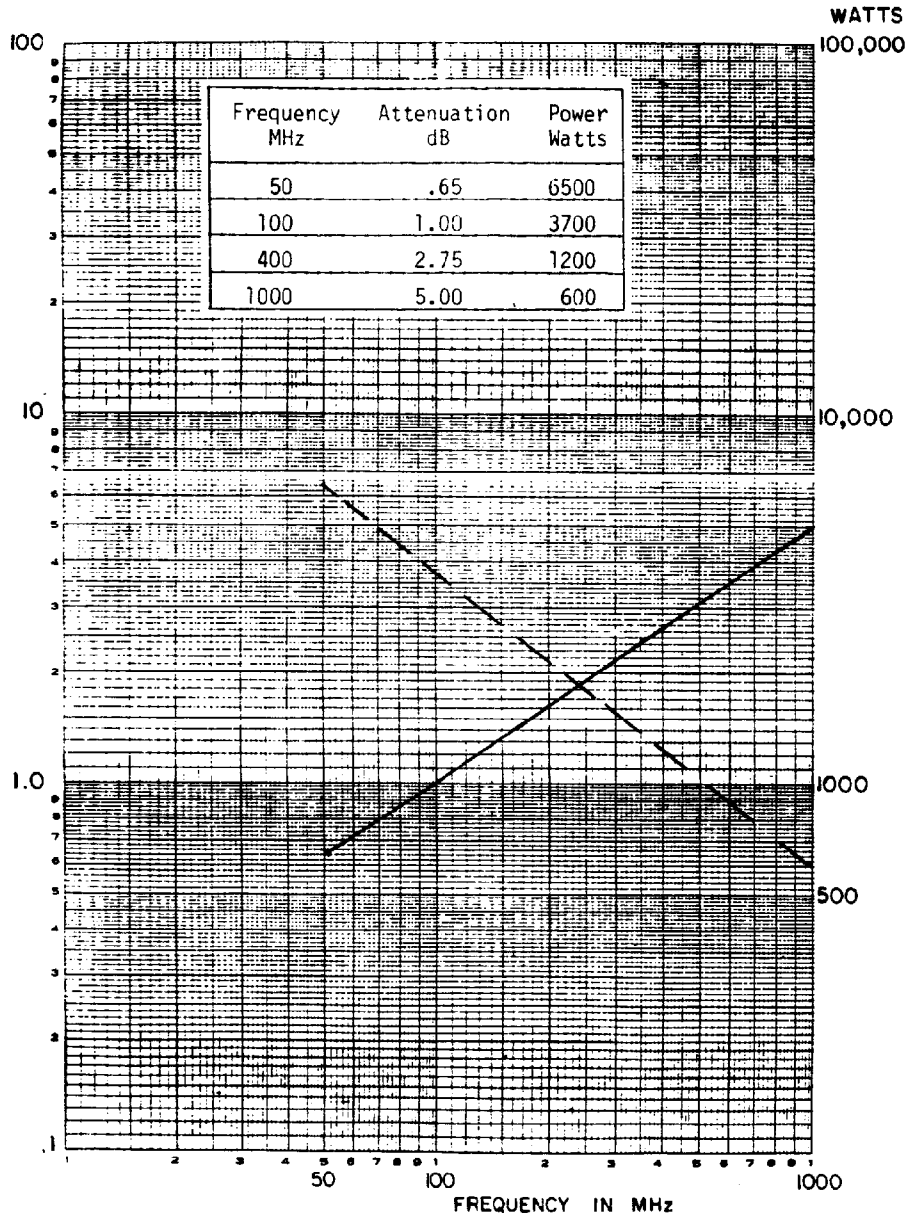
Corona extinction voltage: 11,000 V rms, minimum.

Characteristic impedance: 50 ±2 ohms.

Attenuation: See figure 2.

Ⓓ Structural return loss: See figure 3.

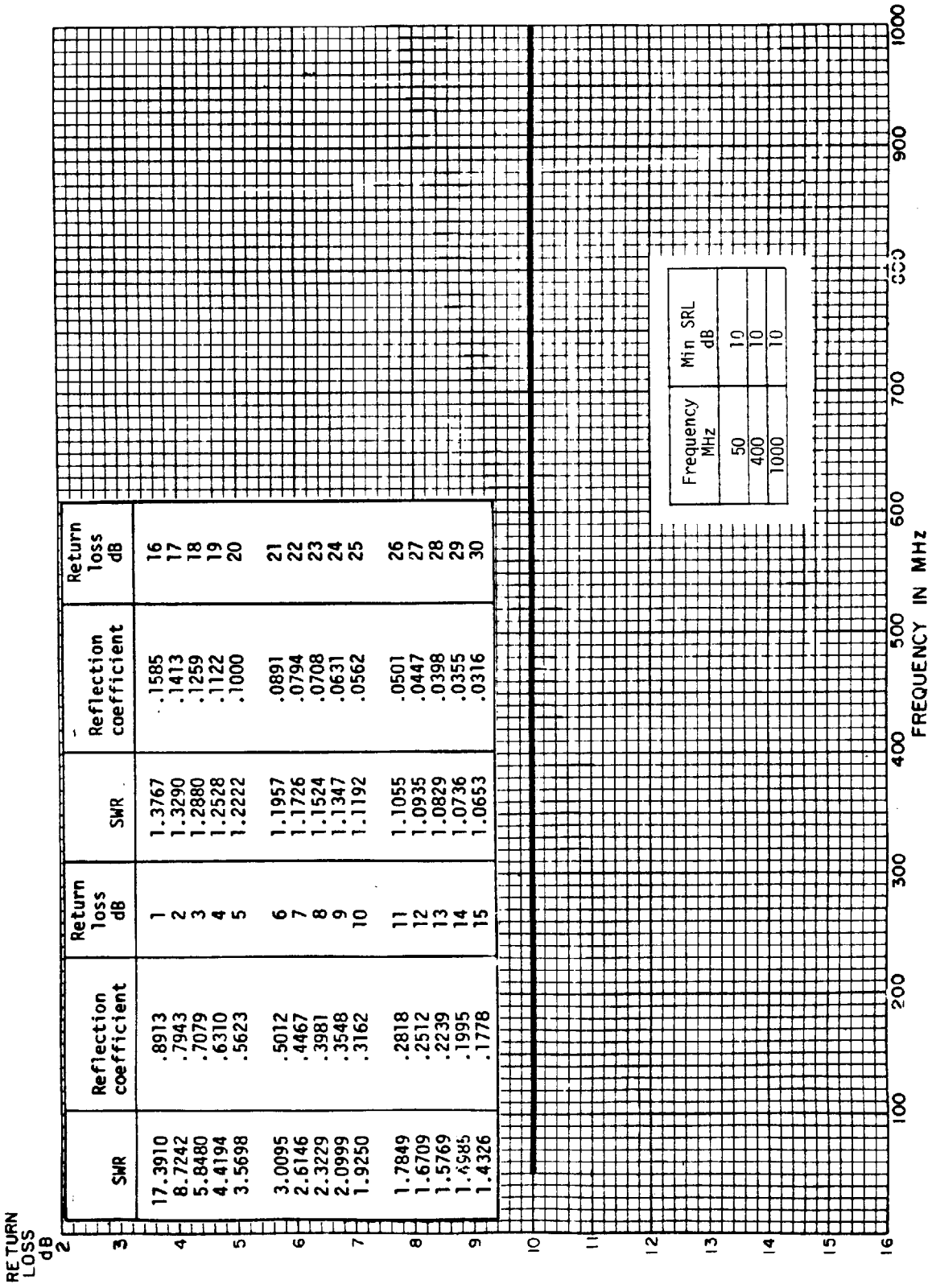
Ⓓ Capacitance: 32.2 pF per foot, maximum.



Maximum power - - - - - at 25°C sea level

Maximum attenuation \_\_\_\_\_

FIGURE 2. Power rating and attenuation.



① FIGURE 3. Structural return loss.

Capacitance unbalance: Not applicable.  
 Transmission unbalance: Not applicable.  
 Mechanically induced noise voltage: Not applicable.  
 Time delay: Not applicable.  
 Contamination: Applicable.

Ⓓ Part number: M17/79-RG218 (NATO preferred type NWR-5).  
 M17/79-RG219 (NATO preferred type NWR -19).

Supersession data: See table II.

TABLE II. Cross reference of part number.

Part number	Superseded part number or type designation
M17/79-RG218	- - -
M17/79-RG219	- - -

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

Preparing activity:  
 Army - CR

{Project 6145-0887-2}

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

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

Agent:  
 DLA - ES