

INCH-POUND

MIL-DTL-17/79D
w/AMENDMENT 3
13 April 2010

SUPERSEDING
MIL-C-17/79D
AMENDMENT 2
23 May 2002

DETAIL SPECIFICATION SHEET

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

Inactive for new design after 2 February 2010. For
new design use MIL-C-17/193.

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

The requirements for acquiring the product described herein shall consist of this specification sheet and
MIL-DTL-17.

NOTE: This cable uses PVC material and is not to be used in enclosed environments or shipboard
applications. The replacements that are to be used in enclosed areas or shipboard applications are
referenced in the following table.

The Air Force has restricted use of PVC in aerospace and ground support applications.

Cables listed on the current QPL may continue to be manufactured and supplied for existing
enclosed applications only for a period not to exceed 3 years from the date of this specification.

TABLE I. Cross-reference data.

Canceled Part or Identifying Number (PIN)	Replacement PIN
M17/79-RG218	M17/193-00001
M17/79-RG219	M17/193-00002

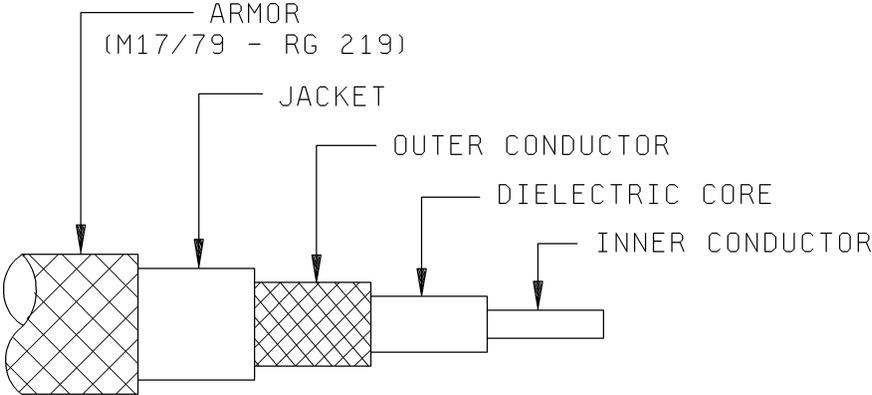


FIGURE 1. Configuration.

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TABLE II. Description.

Components	Construction details																
Inner conductor	Solid bare copper wire. Overall diameter: 0.195 inch \pm 0.002.																
Dielectric core	Type A-1: Solid, polyethylene Diameter: 0.680 inch \pm 0.010																
Outer conductor	Single braid of AWG #30, bare copper wire. Diameter: 0.760 inch, maximum. <div style="text-align: right; padding-right: 20px;">Alternates</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td>Coverage:</td> <td style="text-align: center;">97.7% nominal</td> <td style="text-align: center;">97.8%, nominal</td> <td style="text-align: center;">97.2%, nominal</td> </tr> <tr> <td>Carriers:</td> <td style="text-align: center;">24</td> <td style="text-align: center;">36</td> <td style="text-align: center;">48</td> </tr> <tr> <td>Ends:</td> <td style="text-align: center;">14</td> <td style="text-align: center;">9</td> <td style="text-align: center;">7</td> </tr> <tr> <td>Picks/inch:</td> <td style="text-align: center;">3.1 \pm 10</td> <td style="text-align: center;">4.0 \pm 10%</td> <td style="text-align: center;">5.6 \pm 10%</td> </tr> </table>	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: 0.870 inch \pm 0.010.																
Armor (M17/79-RG219 only)	Single braid of aluminum alloy wire. Diameter: .945 inch, maximum.																

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): 0.278 ohm per 100 feet.

Elongation: 30 percent, minimum.

Tensile strength: Not applicable.

Engineering notes: This cable useful in general purpose, medium low temperature applications.
(For M17/79-RG218, see connector series "N", "C", and "SC" in accordance with MIL-PRF-39012
M17/79-RG219, see connector series "LC" in accordance with MIL-DTL-3650.)

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REQUIREMENTS

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

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

Cold bend: $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

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

Inner conductor from core: 0.200 inch, maximum.

Inner conductor from jacket: 0.400 inch, maximum.

Weight: 0.510 pound per foot, maximum (M17/79-RG218).
0.550 pound per foot, maximum (M17/79-RG219).

Electrical:

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

Voltage withstanding: 22,000 V rms, +10%, -0%.

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

Characteristic impedance: 50 ohms ± 2 .

Attenuation: See figure 2.

Structural return loss: See figure 3.

Capacitance: 32.2 pF per foot, maximum.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

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Time delay: Not applicable.

Contamination: Applicable.

PIN: M17/78-RG218 (NATO preferred type NWR -5.) See table I.

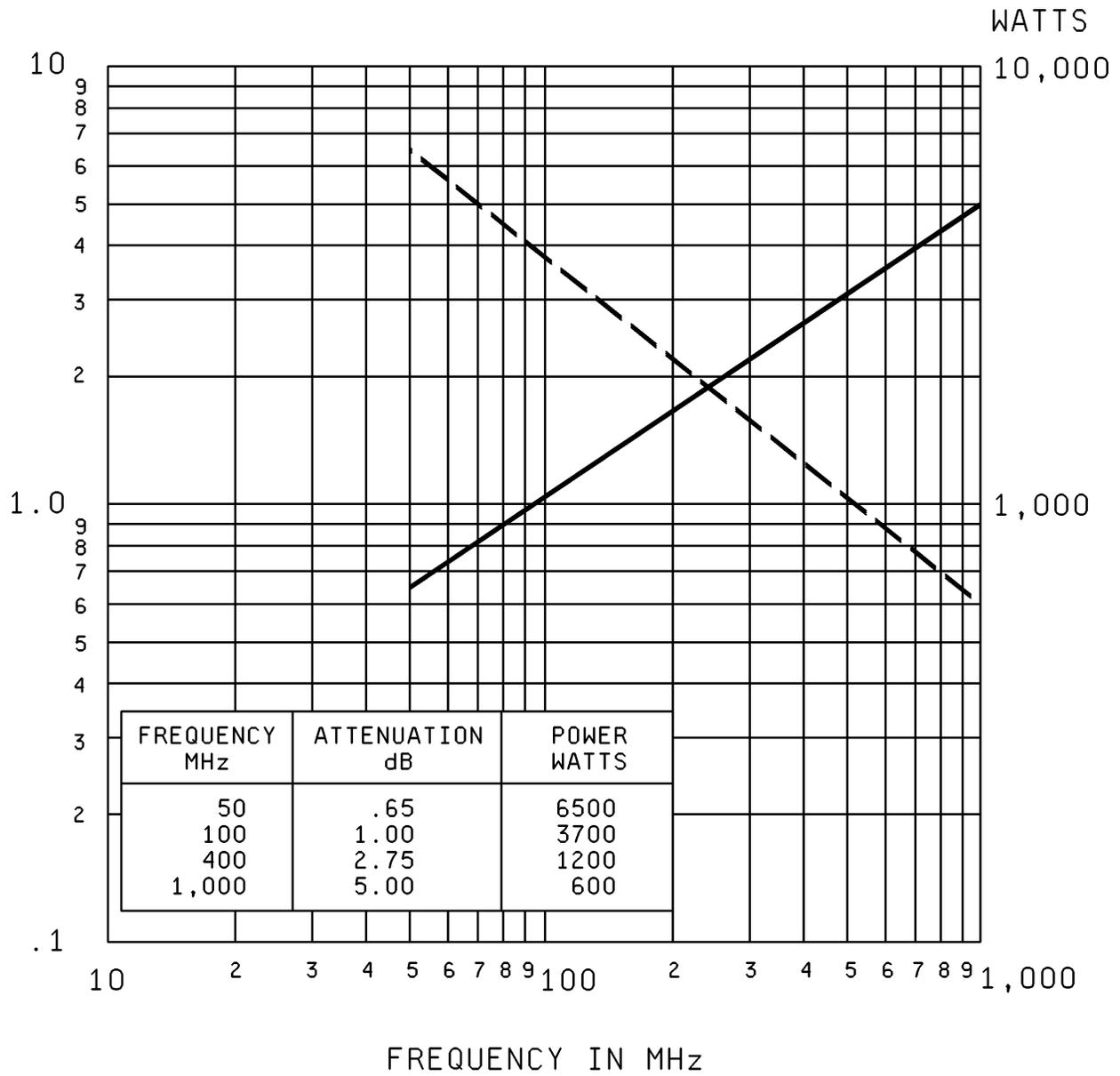
M17/79-RG219, armored. (NATO preferred type NWR -19.) See table I.

Supersession data: See table III.

TABLE III. Cross reference of PIN.

PIN	Superseded PIN or Type designation
M17/79-RG218	-----
M17/79-RG219	-----

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MAXIMUM ATTENUATION —————

MAXIMUM POWER - - - - -

AT 25°C SEA LEVEL

FIGURE 2. Power rating and attenuation.

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RETURN
LOSS dB

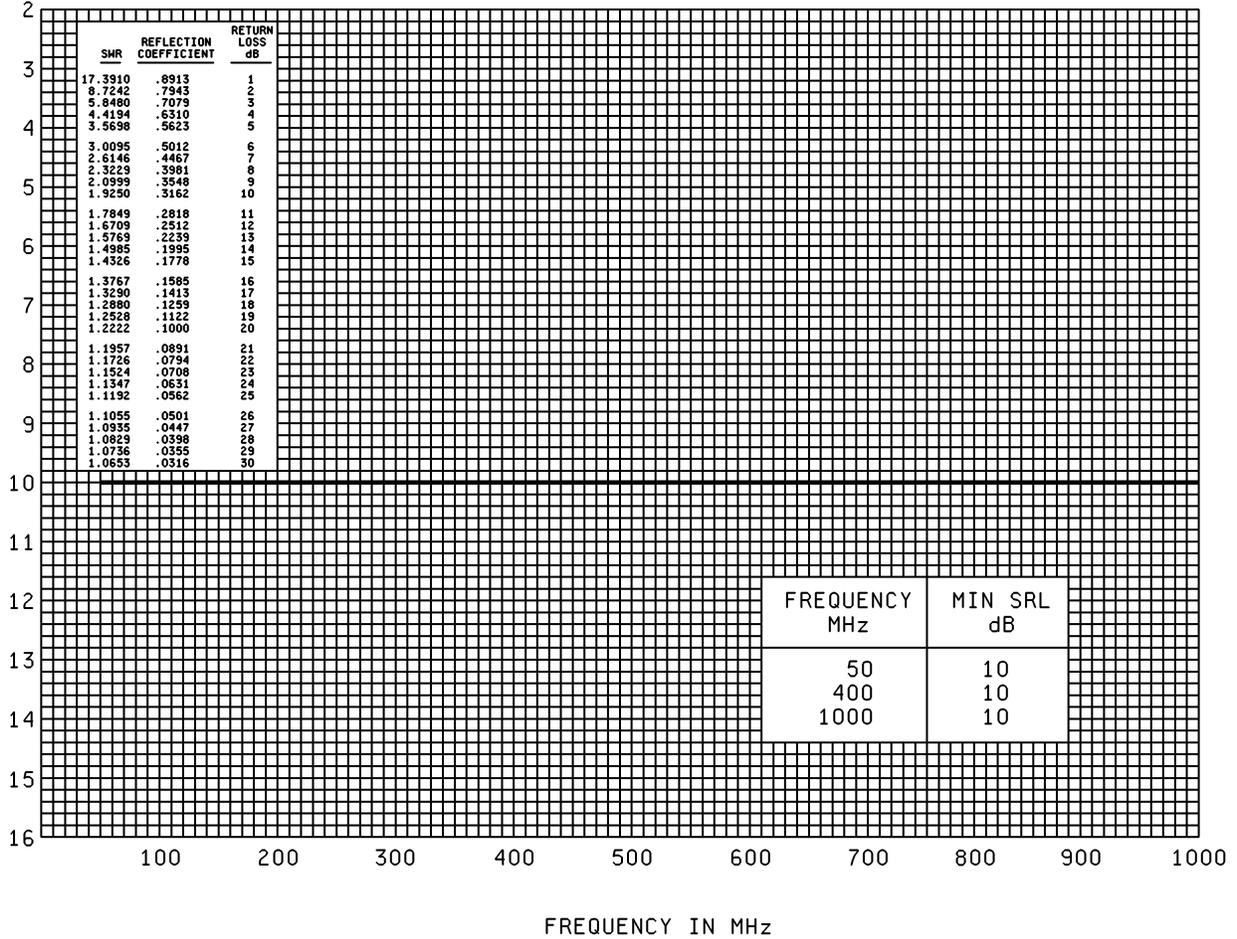


FIGURE 3. Structural return loss.

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Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Referenced documents. In addition to MIL-DTL-17, this document references the following:

MIL-PRF-39012
MIL-C-17/193
MIL-DTL-3650

CONCLUDING MATERIAL

Custodians:

Army – CR
Navy – EC
Air Force – 85
DLA - CC

Preparing activity:
DLA - CC

(Project 6145-2010-032)

Review activities:

Army – AT, CR4, MI
Navy – AS, MC, OS, SH
Air Force – 19, 99
DLA - IS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.daps.dla.mil>.