|INCH-POUND|

MIL-C-17/129D
17 January 1992
SUPERSEDING
MIL-C-17/129C
9 October 1979

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, COAXIAL, 0.250 (6.35 mm) DIAMETER, SEMIRIGID, 50 OHMS, M17/129-RG401 AND M17/129-00001

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 the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-C-17.

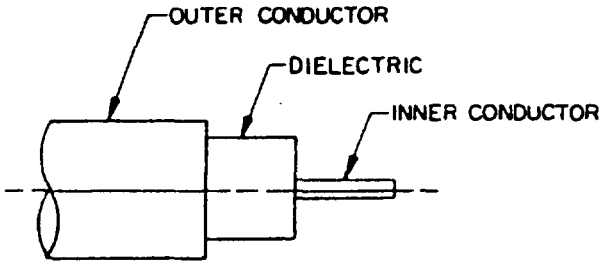


FIGURE 1. Configuration.

TABLE I. Description.

Part number	Inner conductor	Dielectric core	Outer conductor 1/
M17/129-RG401	Solid, silver-coated copper wire diameter, .0641 inch ±.0010	Type F-1 Diameter, .209 inch ±.002	Copper tubing diameter, .250 inch ±.001
M17/129-00001	Same as above	Same as above	Copper tubing diameter, 2/ .250 inch +.002, -.001 Tin plated in accordance with MIL-T-10727, type I, .0003 minimum inch thick.

1/ Welded outer conductor in accordance with ASTM-B-447 and MIL-C-17 is optional.

2/ The outer diameter dimensions is after plating.

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

Engineering information:

Continuous working voltage: 3,000 V rms, maximum.

Operating frequency: 18 GHz, maximum.

Velocity of propagation: 69.5 percent, nominal.

Power rating: See figure 2.

Operating temperature range: -40°C to +90°C.

Inner conductor properties:

DC resistance (maximum at 20°C): .257 ohms per 100 feet.

Elongation: 25 percent, minimum, per 10-inch specimen.

Engineering notes: This cable is generally useful in critical RF performance applications (see connector series TNC in accordance with MIL-C-39012). This cable is generally manufactured in 20-foot lengths. Different lengths are available.

REQUIREMENTS:

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

Environmental and mechanical:

Eccentricity: 7.5 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 4 pounds minimum; 100 pounds maximum.

Outer conductor to core: 4 pounds minimum.

Aging stability: Not applicable.

Stress crack resistance: Not applicable.

Outer conductor integrity: +200°C ±5°C.

Cold bend: Not applicable.

Dimensional stability: +125°C ±5°C.

Core from jacket: .015 inch, maximum.

Contamination: Not applicable.

Bendability: Mandrel diameter .75 inch, maximum.

Flammability: Not applicable.

Weight: 10.5 pounds per 100 feet maximum (M17/129-RG401).
10.6 pounds per 100 feet maximum (M17/129-00001).

Electrical:

Test frequency: 400 MHz to 18 GHz.

Spark test: Not applicable.

Voltage withstanding: 7,500 V rms.

Insulation resistance: Not applicable.

Corona extinction voltage: 3,000 V rms, minimum.

Characteristic impedance: 50.0 ohms ±0.5.

Attenuation: See figure 2.

Structural return loss: See figure 3.

Capacitance: 29.6 pF per foot, maximum.

Capacitance stability: Not applicable.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Phase stability: Not applicable.

Mechanically induced noise voltage: Not applicable

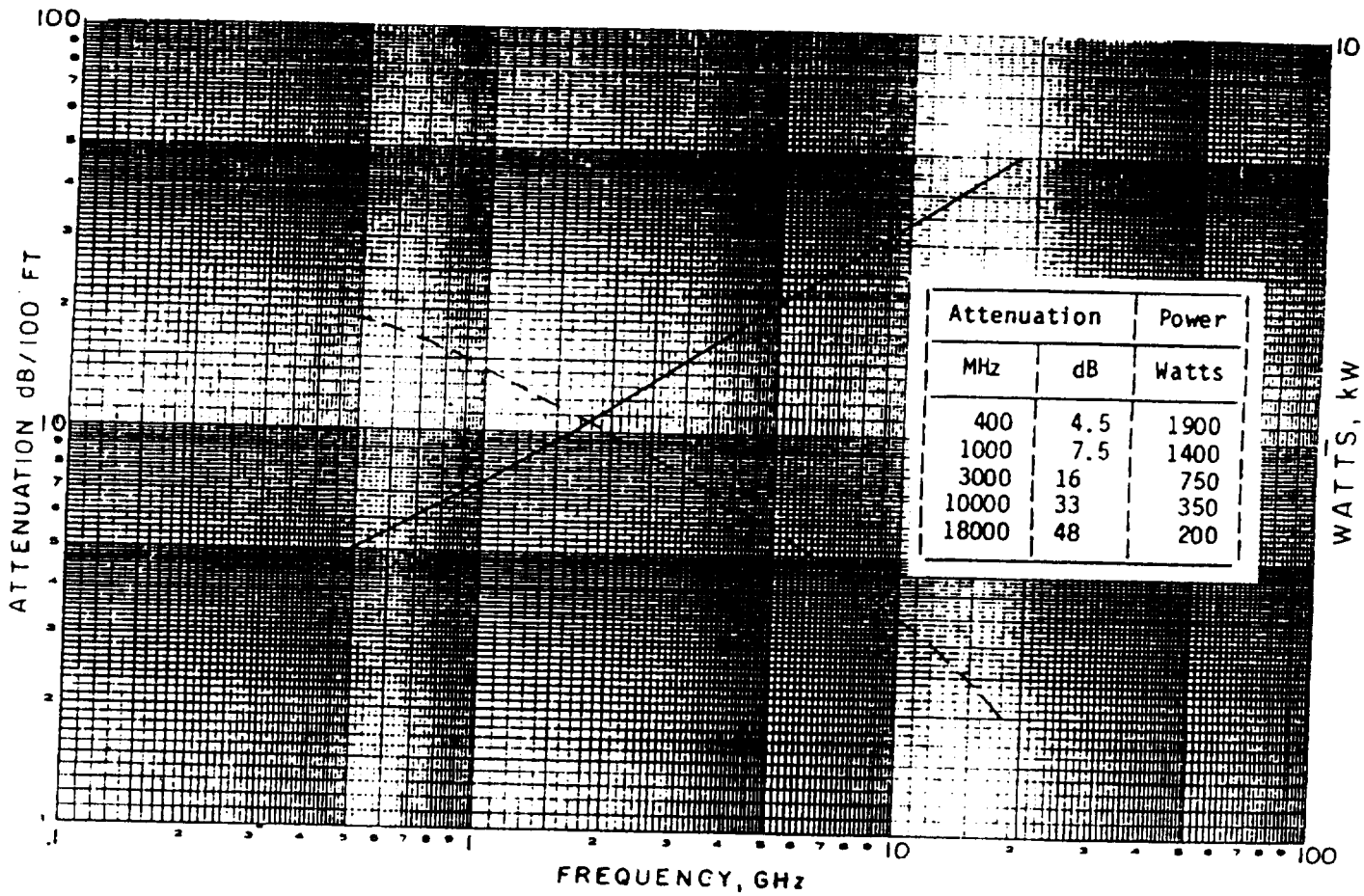
Time delay: Not applicable.

Part number: See table II.

Supersession data: See table II.

TABLE II. Cross reference of part number.

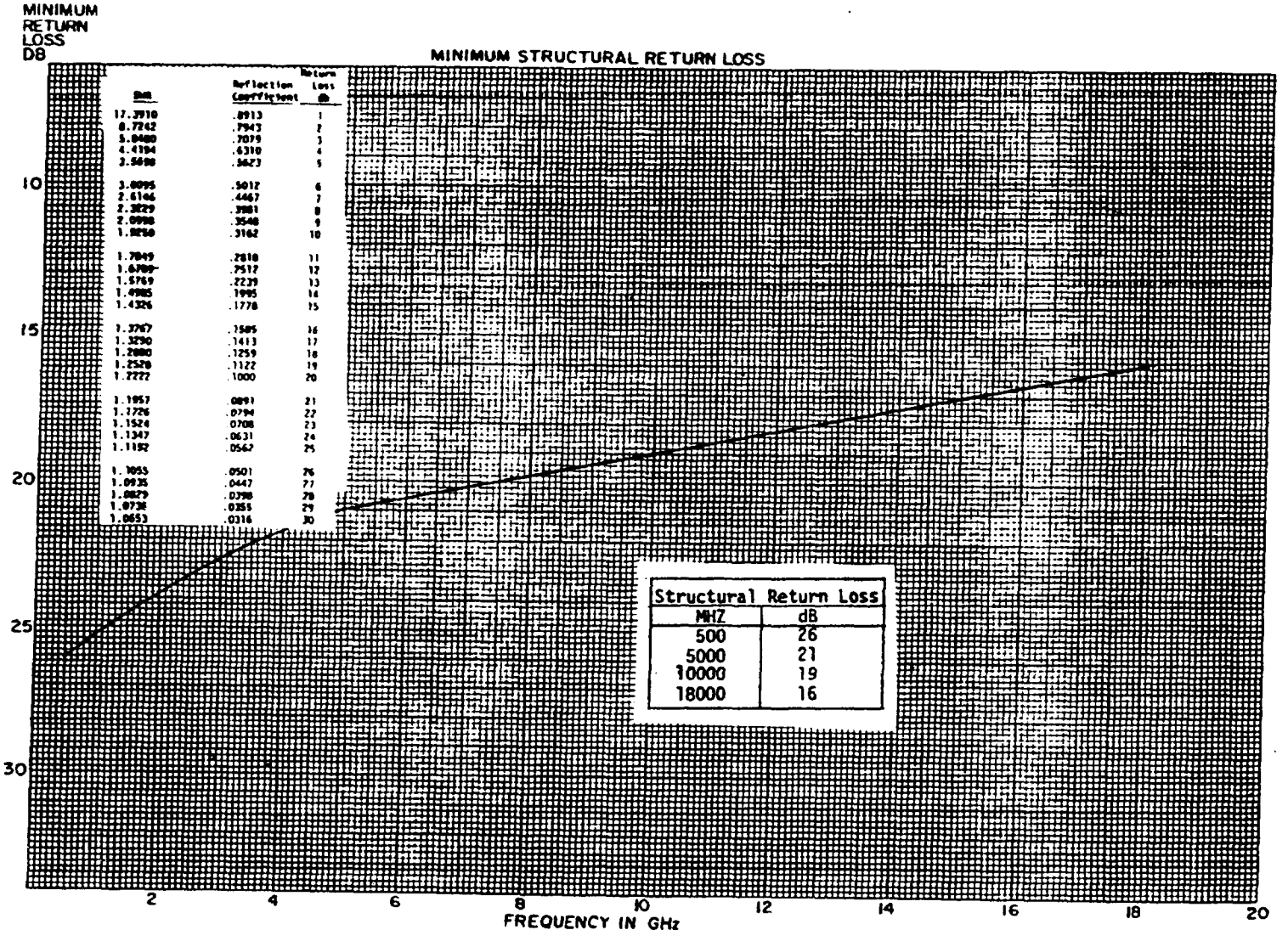
Part number	Superseded part number or type designation
M17/129-RG401	RG-401/U
M17/129-00001	---



MAXIMUM ATTENUATION ——— (TEST REQUIREMENTS SHALL BE AS LINE INDICATED ON GRAPH)

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

FIGURE 2. Power rating and attenuation.



Structural Return Loss	
MHZ	dB
500	26
5000	21
10000	19
18000	16

FIGURE 3. Structural return loss.

NOTE: Revision letters are not used to denote changes due to the extensiveness of the changes.

CONCLUDING MATERIAL

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

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

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

Preparing activity:
Army - CR

Agent:
DLA - ES

(Project 6145-1159-01)