MILITARY SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL, 50 OHMS, M17/113-RG316

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

The complete requirements for procuring the cable described herein shall consist of this document and the latest issue of Specification MIL-C-17.

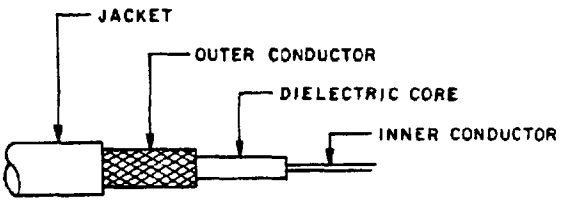


FIGURE 1. Configuration.

(C) TABLE I. Description.

Components	Construction details
Inner conductor	Seven strands of silver-coated, annealed-copper-covered, steel wire, each strand, .0067 inch diameter. Overall diameter: 0.0201 inch ±0.0010.
Dielectric core:	Type F-1: Solid, extruded PTFE. Diameter: 0.060 inch ±0.003.
Outer conductor	Single braid of AWG No.38 silver-coated copper wire. Diameter: 0.081 inch maximum. Coverage : 95.2% nominal Carriers : 16 Ends : 5 Picks/inch: 12.0 ±10%
Jacket	Type IX: FEP. Diameter: 0.098 inch ±0.004.

(C) denotes changes

FSC 6145

ENGINEERING INFORMATION

Continuous working voltage: 900 Vrms, maximum.
Operating frequency: 3 GHz, maximum.
Velocity of propagation: 69.5 percent, nominal.
Power rating: See figure 2.
Operating temperature range: -55° to +200°C.
Inner conductor properties:
DC resistance at 20°C: 8.41 ohms per 100 feet.
Elongation: 10 percent, minimum.
Tensile strength: 50 $klb_f/inch^2$, minimum.
Engineering notes: This cable useful in general purpose, high temperature applications. (See connector series "SMA", "SMB", and "SMC" per MIL-C-39012. NATO preferred type NWR-32.)

REQUIREMENTS:

Design and construction:
Dimensions, configuration, and description: See figure 1 and table I.
(C) Weight: 1.22 pounds per 100 feet, maximum.

Environmental and mechanical:
Visual and mechanical examination:
Eccentricity: 10 percent, maximum.
Adhesion of conductors:
Inner conductor to core: 2 pounds, minimum; 8 pounds, maximum.
(C) Stress-crack resistance: +230° ±5°C, mandrel size 7 1/2 times jacket diameter.
Dimensional stability: +200° ±5°C.
Inner conductor from core: 0.187 inch, maximum.
Inner conductor from jacket: 0.187 inch, maximum.
Flammability: Applicable.

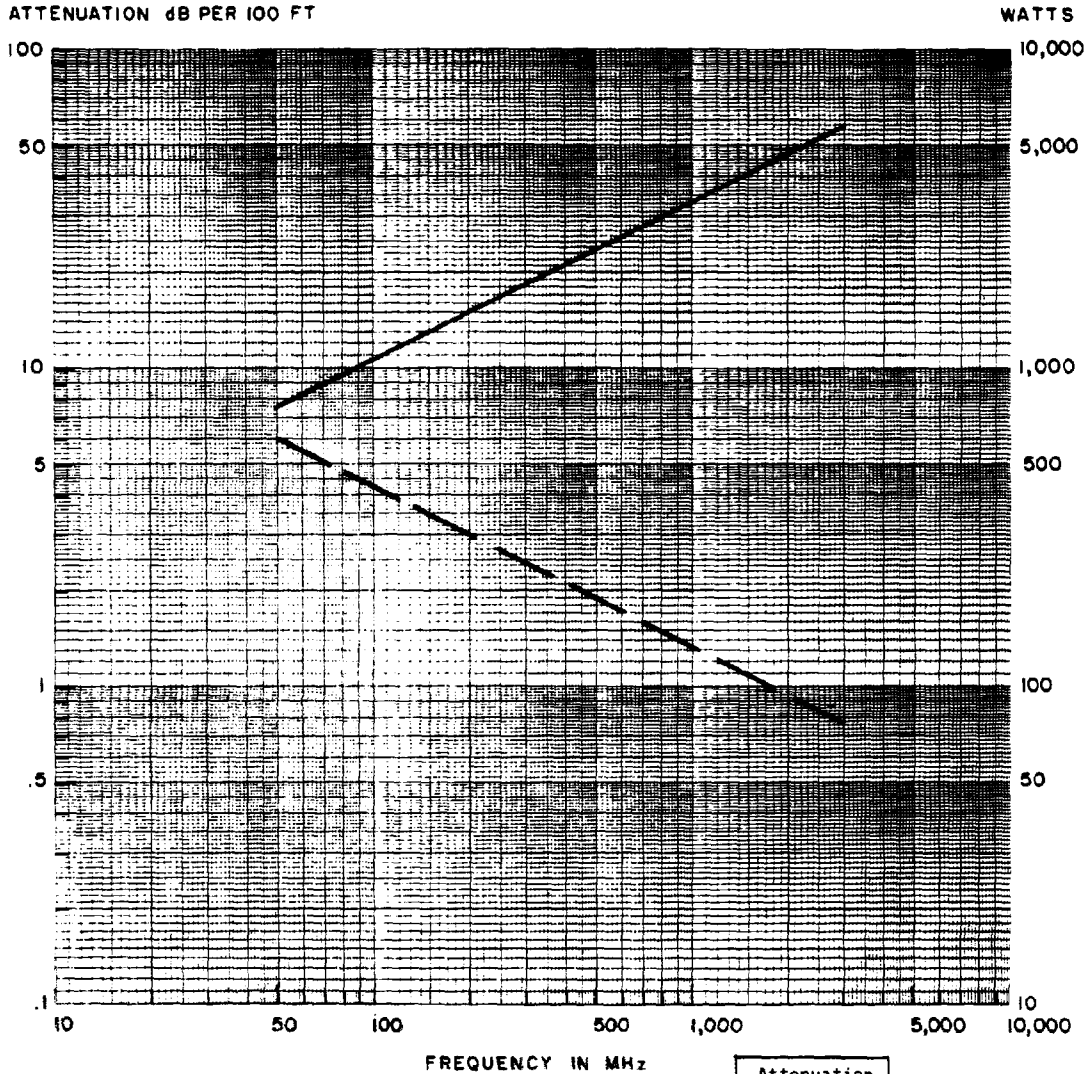
Electrical:
(C) Capacitance: 32.0 pF per foot, maximum.
Test frequency: 50 MHz to 3 GHz.
Spark test: 2,000 Vrms, +25%-0%.
Voltage withstanding: 2,000 Vrms.
Corona extinction voltage: 1,200 Vrms, minimum.
Characteristic impedance: 50 ohms ±2.
Attenuation: See figure 2.
Structural return loss: See figure 3.

Part number: See table II.

Supersession data: See table II.

TABLE II. Cross reference of part number.

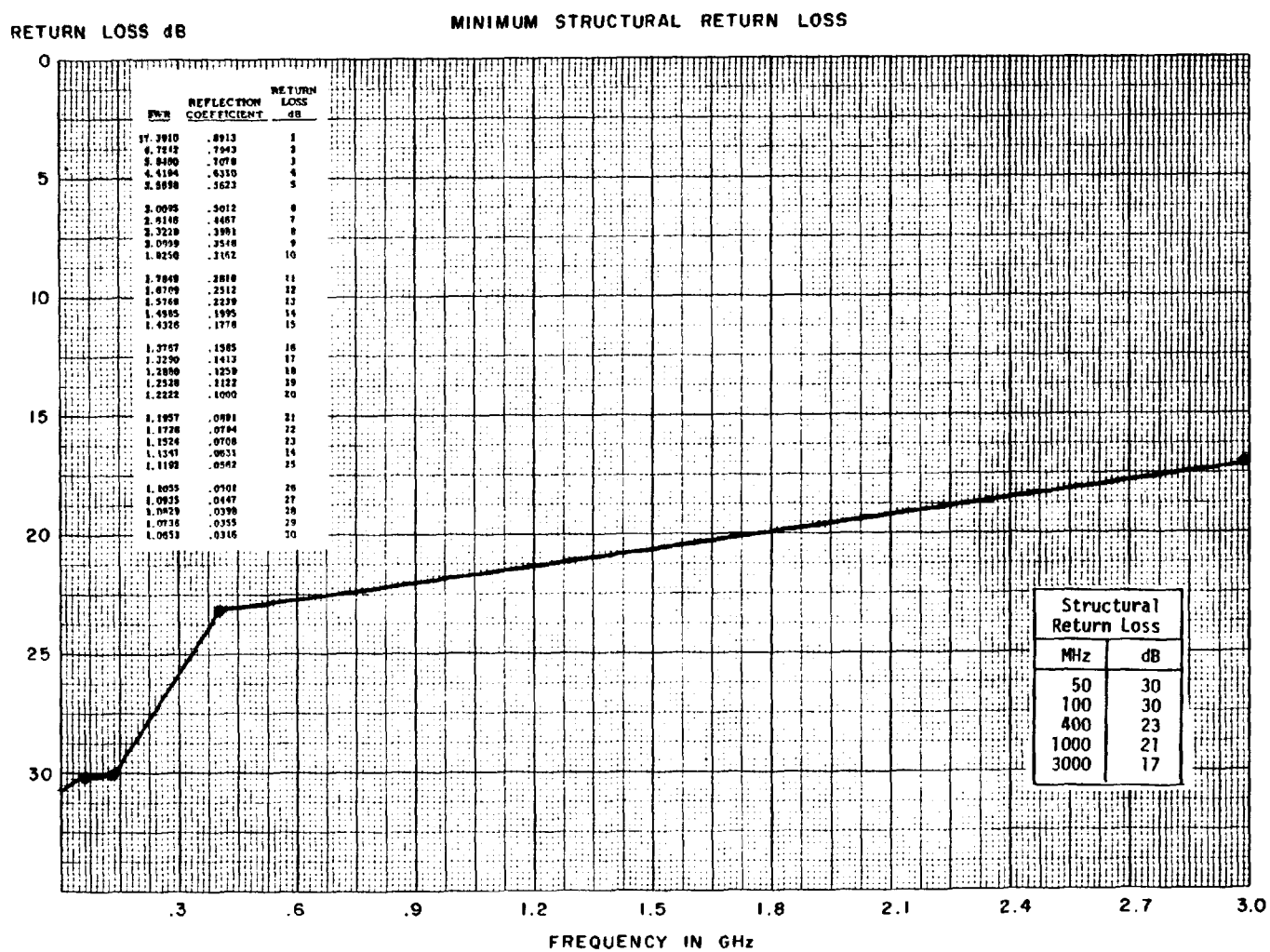
Part number	Superseded part number or type designation
M17/113-RG316	RG-316/U; RG-188A/U per MIL-C-17/69 (canceled)



MAXIMUM ATTENUATION ———
MAXIMUM POWER — — —
AT 25° C SEA LEVEL

Attenuation	
MHz	dB
50	7.5
100	11
400	21
1000	58

© FIGURE 2. Power rating and attenuation.



© FIGURE 3. Structural return loss.

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

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

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

Preparing activity:
Army - CR

Agent:
DLA - ES

(Project 6145-0719-3)