

INCH-POUND

MIL-C-17/192C
15 March 1993
SUPERSEDING
MIL-C-17/192B
20 February 1991

MILITARY SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL,
50 OHMS, M17/192-00001 and M17/192-00002

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.

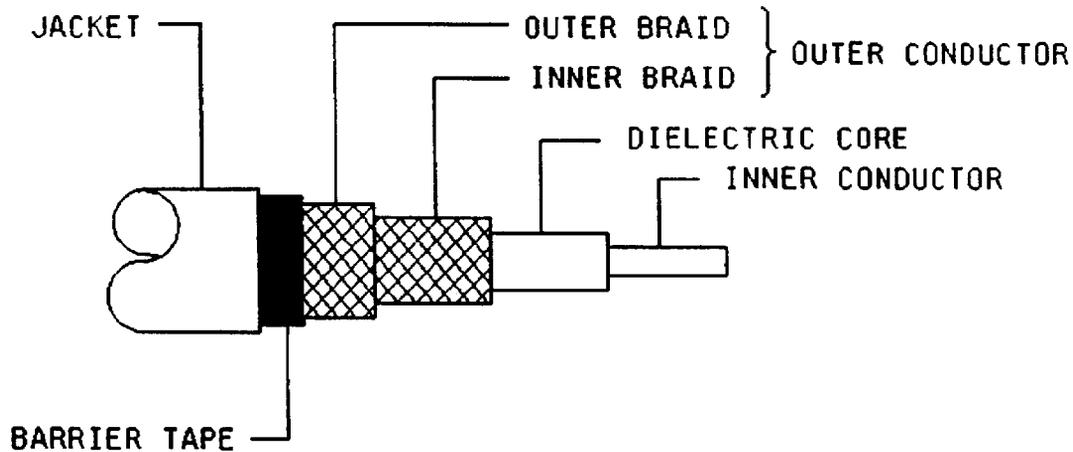


FIGURE 1. General configuration.

Changes to the text have been highlighted.

TABLE I. Description.

Components	Construction details
Inner conductor	Solid bare copper wire. Diameter: .106 inch \pm .001.
Dielectric core	Type A-1: Solid polyethylene Diameter: .370 inch \pm .010.
Outer conductor	Double braid of AWG No. 33, bare copper wire. Diameter: .445 inch, maximum.
Inner braid	Coverage: 94.8% nominal Carriers: 24 Ends: 10 Picks/inch: 5.4 \pm 10%
Outer braid	Coverage: 93.6% nominal Carriers: 24 Ends: 8 Picks/inch: 10.6 \pm 10%
Barrier tape	A .001 inch thick polyester tape faced with a .002 inch thick layer of aluminum. The tape will be applied with a 50% lap, aluminum face toward the outer conductor. Diameter: .455 inch maximum.
Jacket	Cross-linked polyolefin Diameter: .545 inch \pm .010.

ENGINEERING INFORMATION:

Continuous working voltage: 5,200 V rms, maximum.

Operating frequency: 1 GHz maximum.

Velocity of propagation: 65.9 percent, nominal.

Power ratings: See figure 2.

Operating temperature range: -30°C to $+85^{\circ}\text{C}$.

Inner conductor properties:

DC resistance (maximum at $+20^{\circ}\text{C}$): 0.0941 ohm per 100 feet.

Elongation: 25 percent, minimum.

Engineering notes: This cable is useful in general purpose, medium low temperature applications. (See connector series "N" and "SC" in accordance with MIL-C-39012.) These cables were redesigned to meet the vertical flame test.

REQUIREMENTS:

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out-of-roundness: Applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 7 pounds, minimum; 70 pounds, maximum.

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

Cold bend: $-30^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

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

Inner conductor from core: .125 inch, maximum.

Inner conductor from jacket: .250 inch, maximum.

Temperature stabilization: (Applicable to M17/192-00002 cable only). 1/

Temperature cycle at -26°C within $+0^{\circ}\text{C}$ and -5°C , for 24 hours.

Temperature cycle at $+65^{\circ}\text{C}$ within $+5^{\circ}\text{C}$ and -0°C , for 24 hours.

Contamination: Not applicable.

Flame propagation: Applicable.

Acid gas generation: 2.0 percent, maximum.

Halogen content: 0.2 percent, maximum.

Immersion test:

Tensile strength, percent of unaged minimum: 50

Elongation, percent of unaged minimum: 50

Smoke index: 25 maximum.

Toxicity index: 5 maximum.

Durometer hardness: (Type A) 80 minimum.

Weathering: Applicable.

Abrasion resistance: 75 cycles minimum (jacket only).

1/ The cable (1000 feet) to be treated shall be wound on a spool having a 12 inch minimum barrel diameter before, during and after cycling. The temperature cycling shall be repeated 3 times. The time between cycling shall not exceed 30 minutes. This cable must be able to pass the dimensional stability test following temperature cycling.

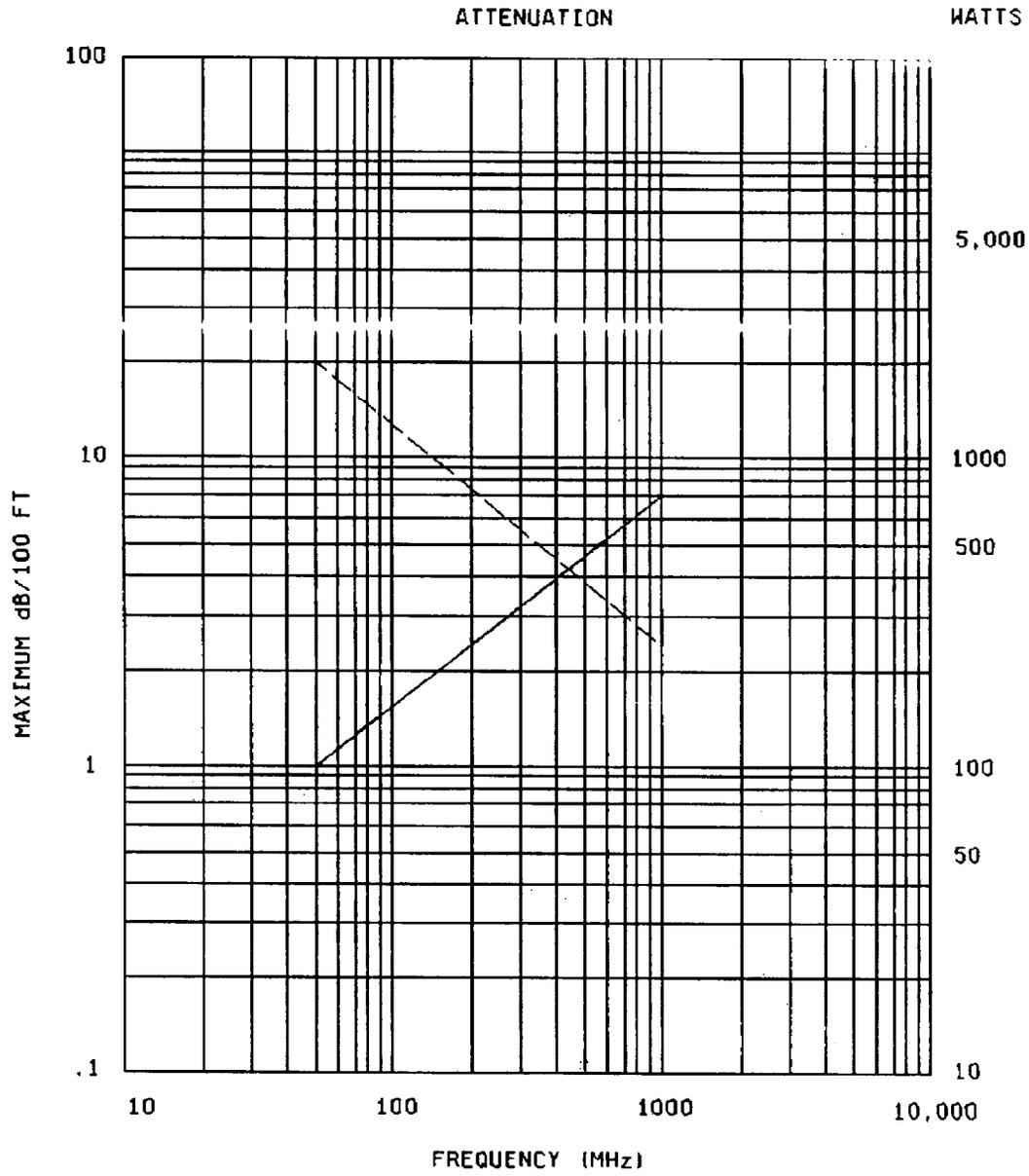


FIGURE 2. Power rating and attenuation.

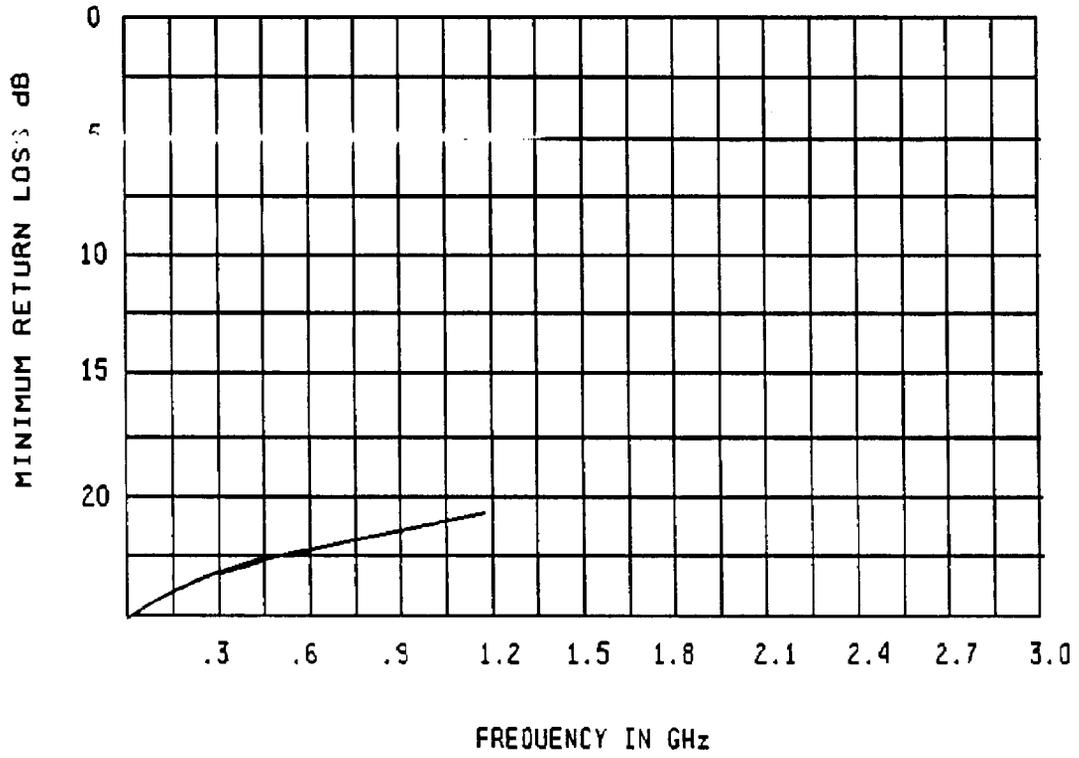


FIGURE 3. Structural return loss.

MIL-C-17/192C

Tear strength: 35 pounds per inch minimum.

Heat distortion: 30 percent maximum distortion.

Physical tests on unaged jacket:

Tensile strength: 1,300 psi, minimum.

Elongation: 160 percent, minimum.

Physical tests on aged jacket:

Air oven:

Tensile strength, percent minimum: 60

Elongation, percent minimum: 60

Hot oil immersion:

Tensile strength, percent minimum: 50

Elongation, percent minimum: 50

Tensile strength and elongation: 1,300 psi, 160 percent minimum.

Weight: 24.8 pounds per 100 feet maximum.

Electrical:

Spark test: 8,000 V rms, minimum.

Voltage withstanding: 12,000 V rms, minimum.

Corona extinction voltage: 7,000 V rms minimum.

Characteristic impedance: 50 \pm 2 ohms.

Attenuation: See figure 2.

Structural return loss: See figure 3.

Capacitance: 32.2 pF per foot, maximum.

Part or Identifying Number (PIN): M17/192-00001 and M17/192-00002.

MIL-C-17/192C

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - EC
Air Force - 85

Review activities:

Army - AR, MI
Navy - SH
Air Force - 80, 99
DLA - ES

User activities:

Army - AT, ME
Navy - AS, MC, OS
Air Force - 19

Preparing activity:

Navy - EC

Agent:

DLA - ES

(Project 6145-2027)