

INCH-POUND

MIL-DTL-17/209A
 12 June 2014
 SUPERSEDING
 MIL-C-17/209
 29 September 1993

DETAIL SPECIFICATION SHEET

CABLE, RADIO FREQUENCY, FLEXIBLE, COAXIAL, 75 OHMS,
 M17/209-00001, UNARMORED, M17/209-00002, ARMORED.

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.

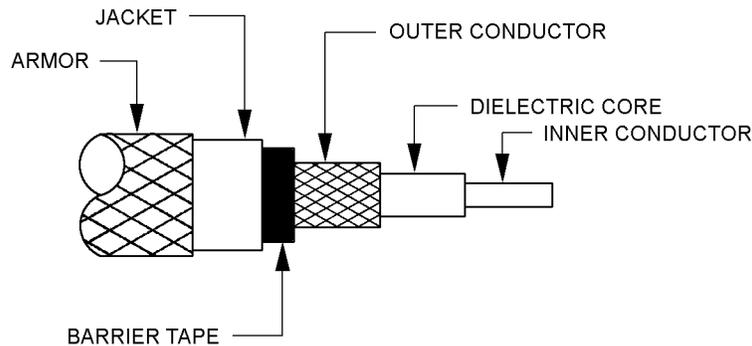


FIGURE 1. General configuration.

TABLE I. Description.

| Components | Construction details |
|--------------------------------|---|
| Inner conductor | Solid bare, copper wire. Overall diameter: .1045 inch \pm .0020. |
| Dielectric core | Type A-1: Solid polyethylene. Overall diameter: .680 inch \pm .010. |
| Outer conductor | Single braid of AWG#30, bare, copper wire. Diameter: .760 inch maximum. <div style="text-align: center;"><u>Alternate</u></div> Coverage: 97.7% 95.8% Carriers: 48 24 Ends: 7 14 Picks/inch: 5.6 \pm 10% 3.1 \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, minimum. Aluminum face toward the outer conductor. Diameter: .770 inch, maximum. |
| Jacket | Cross-linked polyolefin. Diameter: .870 inch \pm .010. |
| Armor M17/209-00002 only | Single braid of aluminum-alloy wire. Diameter: .945 inch maximum. |

REQUIREMENTS:

Continuous working voltage: 7,500 V rms, maximum.

Operating frequency: 1 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power ratings: See figure 2.

Operating temperature range: -40°C to +80°C, maximum.

Inner conductor properties:

DC resistance (maximum at +20°C): .027 ohms per 100 feet.

Elongation: 30 percent, minimum.

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

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 7 pounds, minimum; 100 pounds, maximum.

Aging stability: +98° ± 2°C.

Cold bend: -40°C ± 2°C.

Stress crack resistance: Not applicable.

Dimensional stability: +85° ± 2°C.

Inner conductor from core: 0.200 inch, maximum.

Inner conductor from jacket: 0.400 inch, maximum.

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).

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: 50.5 pounds per 100 feet maximum (M17/209-00001). 54.5 pounds per 100 feet maximum (M17/209-00002).

Electrical:

Spark test: 8,000 V rms, minimum.

Voltage withstanding: 22,000 V rms, minimum.

Insulation resistance: Not applicable.

Corona extinction voltage: 10,000 V rms, minimum.

Characteristic impedance: 75 ohms \pm 3.

Attenuation: 2.8 dB per 100 feet, maximum at .4 GHz; 6 dB per 100 feet, maximum at 1 GHz.

Structural return loss: Not applicable.

Capacitance: 22 pF per foot, maximum.

Capacitance stability: \pm 5 percent.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise: Not applicable.

Time delay: Not applicable.

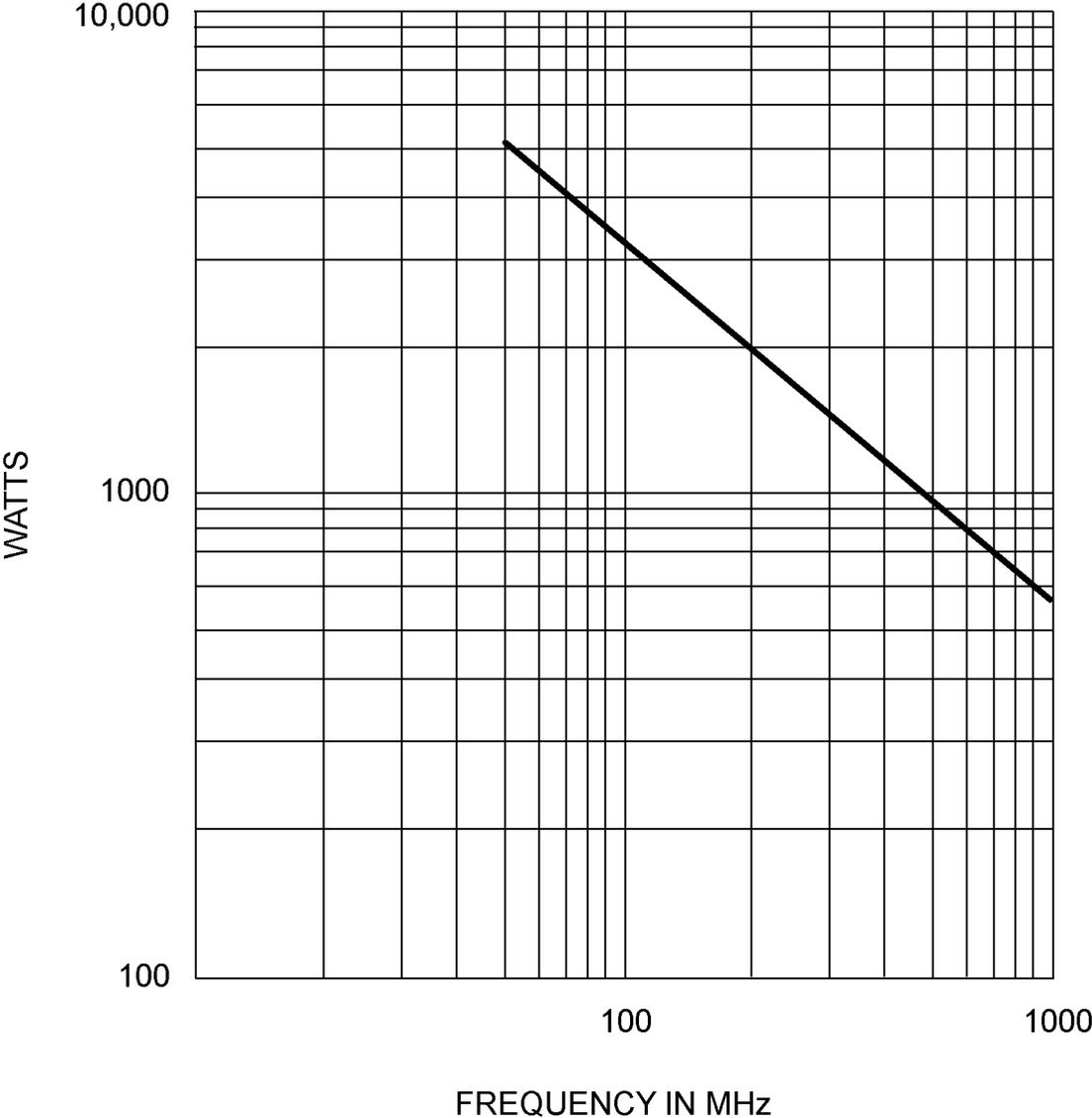


FIGURE 2. Power rating at 25°C sea level.

Part or Identifying Number (PIN): M17/209-00001 and -00002.

NOTE: Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents. This document references MIL-DTL-17.

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:

DLA-CC

Review activities:

Army – AR, AT, CR4, MI
Navy – AS, MC, OS, SH
Air Force – 19, 99

(Project 6145-2014-010)

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.dla.mil>.