DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL, 50 OHMS, M17/60-RG142.

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. Configuration.
TABLE I. Description.

<table>
<thead>
<tr>
<th>Components</th>
<th>Construction details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner conductor</td>
<td>Solid silver-coated, copper covered, steel wire&lt;br&gt;Overall diameter: 0.037 inch ± 0.001</td>
</tr>
<tr>
<td>Dielectric core</td>
<td>Type F-1: Solid, extruded PTFE&lt;br&gt;Diameter: 0.116 inch ± 0.005</td>
</tr>
<tr>
<td>Outer conductor</td>
<td>Double braid of AWG #36 silver-coated copper wire&lt;br&gt;Diameter: 0.171 inch maximum</td>
</tr>
<tr>
<td>Inner braid</td>
<td>Coverage: 94.8% nominal&lt;br&gt;Carriers: 16&lt;br&gt;Ends: 7&lt;br&gt;Picks/inch: 11.5 ± 10%</td>
</tr>
<tr>
<td>Outer braid</td>
<td>Coverage: 93.1% nominal&lt;br&gt;Carriers: 16&lt;br&gt;Ends: 7&lt;br&gt;Picks/inch: 14.5 ± 10%</td>
</tr>
<tr>
<td>Jacket</td>
<td>Type IX: FEP&lt;br&gt;Diameter: 0.195 inch ± 0.005</td>
</tr>
</tbody>
</table>

ENGINEERING INFORMATION

Configuration: See figure 1.

Capacitance: 29.3 pF per foot, nominal.

Continuous working voltage: 1,400 V rms, maximum.

Operating frequency: 12.4 GHz, maximum.

Velocity of propagation: 69.5 percent, nominal.

Power rating: See figure 2.

Operating temperature range: -55° to +200°C.

Weight: 0.043 pound per foot, nominal.

Inner conductor properties:

DC resistance (maximum at 20°C): 1.95 ohms per 100 feet.

Elongation: 1 percent, minimum.

Tensile strength: 110 klb/inch², minimum.

Engineering notes: This cable useful in general purpose, high temperature applications. (See connector series "TNC", "BNC", and "SMA" in accordance with MIL-PRF-39012. NATO preferred type NWR-25.)
REQUIREMENTS

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

Environmental and mechanical:

Visual and mechanical examination:

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 4 pounds, minimum; 15 pounds, maximum.

Stress crack resistance: $+230^\circ \pm 5^\circ$C. Mandrel size: Seven times the jacket diameter.

Dimensional stability: $+200^\circ \pm 5^\circ$C.

Inner conductor from core: 0.250 inch, maximum.

Inner conductor from jacket: 0.312 inch, maximum.

Flammability: Applicable.

Electrical:

Test frequency: 50 MHz to 12.4 GHz.

Spark test: 2,000 V rms, minimum.

Voltage withstanding: 5,000 V rms, minimum.

Corona extinction voltage: 1,900 V rms, minimum.

Characteristic impedance: 50 ohms $\pm 2$.

Attenuation: See figure 2.

Structural return loss: See figure 3.

Part or Identifying Number (PIN): M17/60-RG142.
Tabulated values are for references only.
The values on the chart represent the requirements.
Maximum attenuation at 25°C, sea level
Maximum power at 25°C, sea level

FIGURE 2. Power rating and attenuation.
FIGURE 3. Structural return loss.
FIGURE 3.  **Structural return loss** - Continued.
Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. 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 and relationship to the last previous issue.

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

MIL-PRF-39012

CONCLUDING MATERIAL

Custodians: Preparing activity:
Army – CR DLA - CC
Navy – EC (Project 6145-2006-095)
Air Force – 11 DLA - CC
DLA - IS

Review activities:
Army – AR, 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 http://assist.daps.dla.mil.