MILITARY SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL, ONE INDIVIDUALLY SHIELDED PAIR OF 16 (19 X 29) AWG

NOTE: NOT FOR AEROSPACE USE.

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-49285.

Engineering information: (See table I).

TABLE I. Description, electrical.

Electrical characteristics	Requirements
Nominal capacitance between conductors	24 pF/ft (picofarads/foot)
Nominal capacitance between the conductor and the shield with one conductor tied to the shield	47 pF/ft
Continuous working voltage	600 V rms maximum between conductors
Shield dc resistance	6.0 ohms/1,000 feet maximum

TABLE II. Description, physical.

Components	Construction details
Number of pairs	One individually shielded
Conductor type and wire size	Stranded tinned copper 16 AWG
Conductor stranding	19 x 29 AWG
Conductor insulation	Polyethylene
Conductor insulation thickness	0.032 inch nominal thickness
Drain wire type and size	Stranded tinned copper 18 AWG
Drain wire stranding	16 x 30 AWG
Jacket material	Polyvinyl chloride
Jacket thickness	0.031 inch
Finished cable diameter	0.334 inch maximum outside diameter
Cable style (UL)	2106
Tensile strength (jacket)	2,000 pounds per square inch minimum
Elongation (jacket)	150 percent minimum
Overall cabling lay lengths	8.0 twists per foot ±10 percent

REQUIREMENTS:

Design and construction: (See table II).

Shield color code. The shield color shield will be blue.

Shield location and orientation. The polyester aluminum shield is to be located on the outer circumference of the pair with the aluminum foil side outward. Insulation on the exterior of the shield is to be complete with no aluminum available for contact.

Drain wire location. Each drain wire is to be spirally located between the shield and the jacket. It is to be in continuous contact with the aluminum surface of the foil shield throughout the cable.

Cable temperature rating. The cable temperature rating shall be -20°C to +80°C.

Conductor color code. The first conductor is black, the second conductor is natural.

Shield integrity test.*

Frequency	Response **
100 kHz	114 dB below reference
500 kHz	104 dB below reference
1 MHz	99 dB below reference
5 MHz	77 dB below reference
10 MHz	66 dB below reference
15 MHz	58 dB below reference
20 MHz	53 dB below reference
25 MHz	48 dB below reference
30 MHz	45 dB below reference

* Any two readings may deviate to a value of 0.9 times the stated limits.

** All values are a minimum numerical value.

Fixture resonance will occur between 40 and 70 MHz.

At 100 MHz: At least 26 dB below reference.

Crosstalk test limits. Crosstalk testing is not required for this configuration.

Durometer hardness. The cable jacket shall have a "Shore A" hardness of 82 ±5.

Part or Identifying Number (PIN): The PIN shall be M49285/26.

CONCLUDING MATERIAL

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

Review activities:
Army - MI
Air Force - 71
DLA - ES, IS

Preparing activity:
Army - CR

Agent:
DLA - ES

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