

INCH-POUND

MIL-C-49285/20
19 October 1989

MILITARY SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL, TWO INDIVIDUALLY SHIELDED
PAIRS OF 22 (7 X 30) 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.

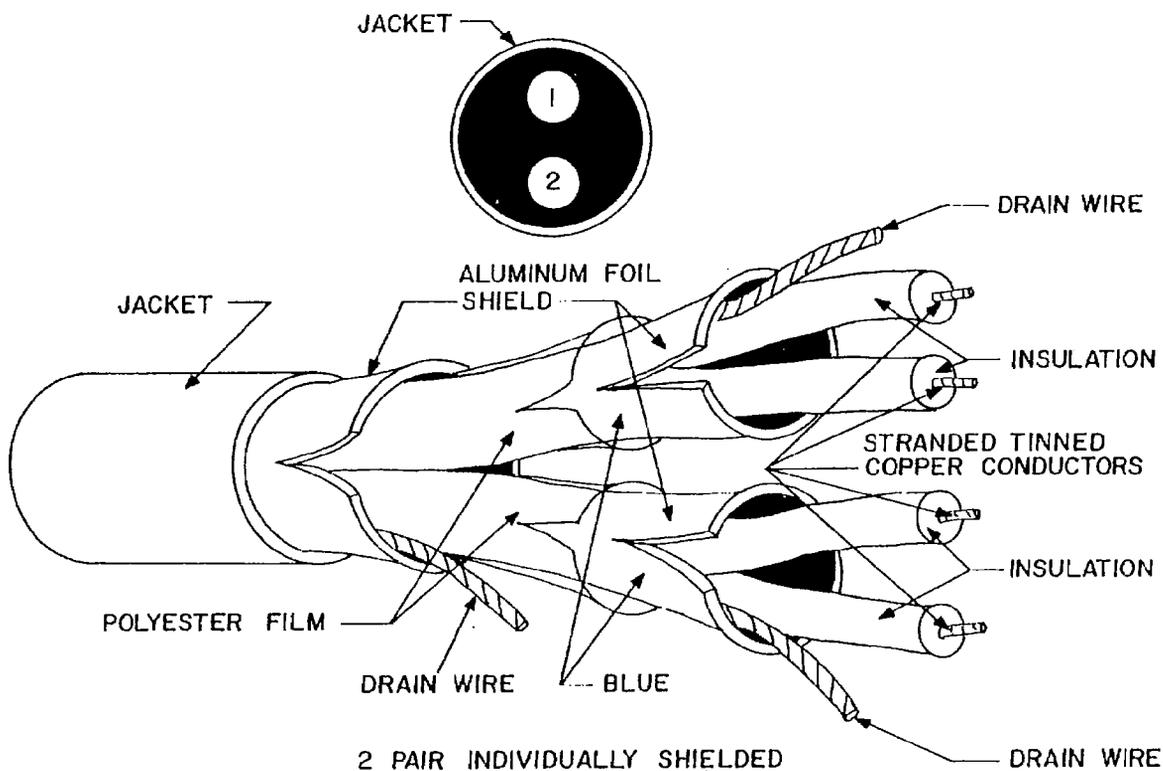


FIGURE 1. Cable illustration.

Engineering information: (See table I).

TABLE I. Description, electrical.

Electrical characteristics	Requirements
Nominal capacitance between conductors	35 pF/ft (picofarads/foot)
Nominal capacitance between the conductor and the shield with one conductor tied to the shield	62 pF/ft
Continuous working voltage	400 V rms maximum between conductors
Nominal capacitance between adjacent shields	150 pF/ft
Continuous working voltage between adjacent shields	50 volts maximum
Shield dc resistance	19.5 ohms/1,000 feet maximum

TABLE II. Description, physical.

Components	Construction details
Number of pairs	Two individually shielded
Conductor type and wire size	Stranded tinned copper 22 AWG
Conductor stranding	7 X 30 AWG
Conductor insulation	Polypropylene
Conductor insulation thickness	0.008 inch nominal thickness
Drain wire type and size	Stranded tinned copper 24 AWG
Drain wire stranding	16 X 36 AWG
Jacket material	Polyvinyl chloride
Jacket thickness	0.026 inch
Finished cable diameter	0.216 inch maximum outside diameter
Cable style (UL)	2717
Tensile strength (jacket)	2,000 pounds per square inch minimum
Elongation (jacket)	150 percent minimum
Overall cabling lay lengths	9.5 twists per foot \pm 10 percent

REQUIREMENTS:

Design and construction: (See table II).

Shield location and orientation. The polyester aluminum shield is to be located on the outer circumference of the pair with the aluminum foil side inward. Insulation on the exterior of the shield is to be complete with no aluminum available for contact. The overall shield shall conform to the same requirement as the pair shield.

Drain wire location. Each drain wire is to be spirally located beneath the shield with the insulated conductors. It is to be in continuous contact with the aluminum surface of the foil shield throughout the cable. The drain contact with the surface of the foil shield throughout the cable. This construction contains three drain wires.

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

Shield integrity test.*

<u>Frequency</u>	<u>Response **</u>
100 kHz	112 dB below reference
500 kHz	105 dB below reference
1 MHz	99 dB below reference
5 MHz	83 dB below reference
10 MHz	76 dB below reference
15 MHz	73 dB below reference
20 MHz	71 dB below reference
25 MHz	67 dB below reference
30 MHz	63 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 43 dB below reference.

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

Conductor color code.

<u>1st pair</u>	<u>2nd pair</u>
1st conductor: Red	1st conductor: Green
2nd conductor: Black	2nd conductor: White

Shield color code. The shield color code shall be as follows:

Pair number one: Blue
 Pair number two: Blue
 Overall shield: Blue

Cabling. This construction shall be cabled on a common axis to reduce the diameter.

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Barrier tape. The individual pairs are to be covered with a plastic barrier tape applied over the pair shields.

Insulation resistance between shields: 100 megohms/1,000 feet (minimum).

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

Part or Identifying Number (PIN): The PIN shall be M49285/20.

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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