| INCH-POUND |

MIL-C-49285/21
19 October 1989

MILITARY SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL, THREE INDIVIDUALLY SHIELDED CONDUCTORS 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.

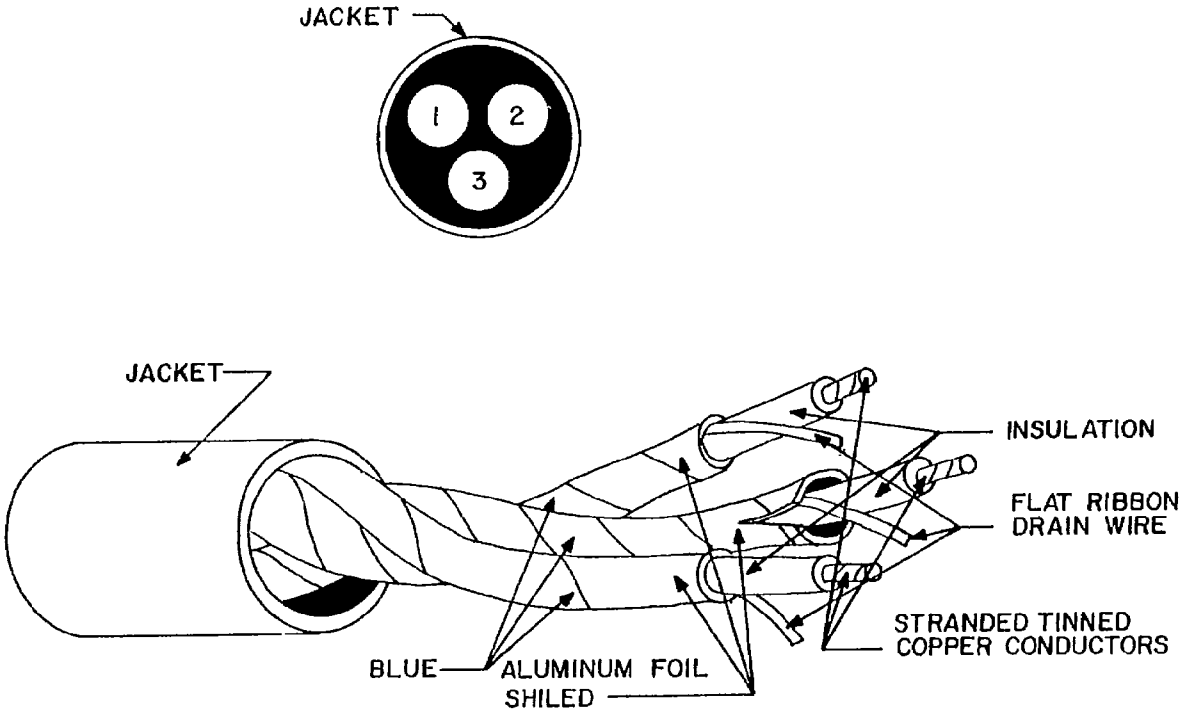

FIGURE 1. Cable illustration.

Engineering information: (See table I).

TABLE I. Description, electrical.

Electrical characteristics	Requirements
Nominal capacitance between conductor and shield	55 pF/ft (picofarads/foot)
Continuous working voltage	350 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	40 ohms/1,000 feet maximum
Drain wire resistance	102.0 ohms/1,000 feet maximum

TABLE II. Description, physical.

Components	Construction details
Number of conductors	Three individually shielded
Conductor type and wire size	Stranded tinned copper 22 AWG
Conductor stranding	7 X 30 AWG
Conductor insulation	Polypropylene
Conductor insulation thickness	0.014 inch nominal thickness
Drain wire type and size	Tinned cadmium bronze tinsel
Drain wire thickness	.003 inch minimum .004 inch maximum
Drain wire width	.025 inch minimum .031 inch maximum
Jacket material	Polyvinyl chloride
Jacket thickness	0.030 inch
Finished cable diameter	0.215 inch maximum outside diameter
Cable style (UL)	Not applicable
Tensile strength (jacket)	2,000 pounds per square inch minimum
Elongation (jacket)	150 percent minimum
Overall cabling lay lengths	2.0 twists per foot ±10 percent

REQUIREMENTS:

Design and construction: (See table II).

Shield color code. The shield color shall be blue.

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

Drain wire location. The 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.

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

Conductor color code.

1st conductor: Black
2nd conductor: Red
3rd conductor: Clear

Flammability. The cable shall pass UL 1581 VW-1 flame test requirement.

Shield integrity test.* Each shielded conductor is to be tested as if it were a pair.

Frequency	Response **
100 kHz	115 dB below reference
500 kHz	100 dB below reference
1 MHz	94 dB below reference
5 MHz	76 dB below reference
10 MHz	65 dB below reference
15 MHz	59 dB below reference
20 MHz	55 dB below reference
25 MHz	50 dB below reference
30 MHz	47 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 34 dB below reference.

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

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

Durometer hardness. The cable jacket shall have a "Shore A" hardness of 85 ±5.

Part or Identifying Number (PIN): The PIN shall be M49285/21.

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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