

INCH-POUND

MIL-C-49285/32  
19 October 1989

MILITARY SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL, (LOW NOISE)  
ONE INDIVIDUALLY SHIELDED PAIR OF 24 (19 X 36) 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 1).

TABLE I. Description, electrical.

Electrical characteristics	Requirements
Nominal capacitance between conductors	30 pF/ft (picofarads/foot)
Nominal capacitance between the conductor and the shield with one conductor tied to the shield	58 pF/ft
Continuous working voltage	200 V rms maximum between conductors
Shield dc resistance	21.0 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 24 AWG
Conductor stranding	19 X 36 AWG
Conductor insulation	Polypropylene
Conductor insulation thickness	0.008 inch nominal thickness
Noise reducing tape	Nylon cloth tape, carbon impregnated
Drain wire type and size	Stranded tinned copper 24 AWG
Drain wire stranding	19 X 36 AWG
Jacket material	Polyvinyl chloride
Jacket color	Gray or black
Jacket thickness	0.020 inch
Finished cable diameter	0.142 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	16.0 twists per foot $\pm$ 10 percent

## REQUIREMENTS:

Design and construction: (See tables I and II).

Shield color code. The shield color shall be blue.

Noise reducing tape. The noise reducing tape is carbon impregnated nylon cloth tape. The tape is located beneath the foil shield over the insulated conductors.

Thickness: .0035 inch to .004 inch  
 Weight: 11 pounds per 100 square yards  
 Material: 50 denier nylon 100 x 7 threads per inch  
 Coating: Semiconductor lacquer  
 Breaking strength: 50 pounds per inch width minimum  
 Elongation: 20 percent  
 Color: Black  
 Conductivity: 5,000 ohms per unit square maximum value  
 Location: Between the insulated conductors and the polyester aluminum shield

Drain wire location. The drain wire is to be spirally located between the noise reducing tape and the aluminum foil shield, and is to be in continuous contact with the aluminum surface of the foil shield and the noise reducing tape throughout the cable.

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 pair is to be complete with no aluminum available for contact.

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	110 dB below reference
500 kHz	102 dB below reference
1 MHz	96 dB below reference
5 MHz	79 dB below reference
10 MHz	71 dB below reference
15 MHz	65 dB below reference
20 MHz	60 dB below reference
25 MHz	56 dB below reference
30 MHz	52 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 36 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 77 ±5.

Part or Identifying Number (PIN). The PIN shall be M49285/32.

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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