

INCH-POUND

MIL-DTL-55021/2C  
11 August 2000  
SUPERSEDING  
MIL-C-55021/2B  
16 April 1991

## DETAIL SPECIFICATION SHEET

CABLE, ELECTRICAL, SHIELDED SINGLES, SHIELDED AND  
JACKETED SINGLES, TWISTED PAIRS AND TRIPLES, INTERNAL HOOKUP,  
-65 TO 200 °C

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 MIL-DTL-55021 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

## REQUIREMENTS.

Cable construction: The cable shall consist of shielded singles, shielded and jacketed singles, or twisted pairs or triples in accordance with MIL-DTL-55021 (see figure 1 for an example).

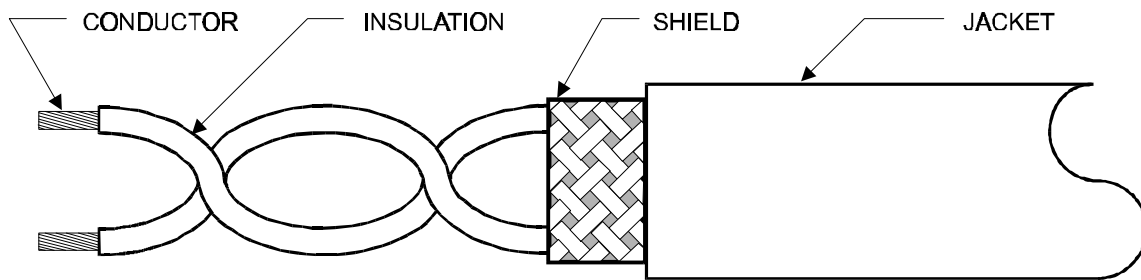


FIGURE 1. Shielded and jacketed cable.

Type of wire(s): The insulated wires used in constructing the cable shall conform to NEMA HP 3 (type E) or NEMA HP 3 (type EE) as specified (see 6.2 of MIL-DTL-55021). All wires in the cable shall be of the same wire type and AWG size.

Conductor stranding: Conductor stranding shall be in accordance with table I.

Length of lay: The length of lay shall be 8 to 16 times the outside major axis diameter of the unshielded, unjacketed cable.

Shield coverage and braid angle: If shielding is required by the contract or order (see 1.2.1.5 of MIL-DTL-55021), the minimum allowable coverage shall be 90 percent, and the angle made by the shielding braid with the longitudinal axis of the twisted conductors shall be between 20 and 40 degrees.

## MIL-DTL-55021/2C

Table I. Conductor stranding.

AWG size	Number of strands	Nominal Stranding (inch)	Nominal diameter over conductor (inch)	Maximum conductor dc resistance @ 20 °C per 1000 ft. (ohms)
32	7	.0031	.010	173.0
30	7	.0040	.012	100.7
28	7	.0050	.015	63.8
26	7	.0063	.019	40.5
24	19	.0050	.024	24.3
22	19	.0063	.030	15.1
20	19	.0080	.038	9.19
18	19	.0100	.048	5.79
16	19	.0113	.057	4.52
14	19	.0142	.071	2.88
12	19	.0179	.090	1.81
10	37	.0159	.119	1.19
8	133	.0113	.166	.658
6	133	.0142	.208	.418

Jacket materials: If jacketing is required by the contract or order (see 1.2.1.5 of MIL-DTL-55021), the cable jacket shall be extruded or tape-wrapped polytetrafluoroethylene (PTFE), or fluorinated ethylene propylene (FEP), of uniform thickness as specified in table II. If the jacket is tape, two layers of tape shall be applied in opposite directions, each layer and adjacent convolutions being properly sealed together to form a homogeneous wall. The surface of the jacket shall be smooth, although a slight spiral ridge of the tape shall not be cause for rejection. Pre-fused tape shall not be used.

TABLE II. Jacket thickness.

Cable diameter (under jacket) <sup>1/</sup> (inch)	Nominal jacket thickness (inch)	Minimum jacket thickness (inch)
Under .300	.012	.008
.300 and over	.016	.012

Notes:

<sup>1/</sup> When specifying a jacket thickness, both unshielded and shielded constructions are applicable.

Heat resistance: The cable shall be conditioned at 250±5 °C for 96+1, -0 hours.

## CONCLUDING MATERIAL

Custodians:  
 Army - MI  
 Navy - AS  
 Air Force - 11  
 DLA - CC

Preparing activity:  
 DLA - CC  
 (Project 6145-2242-02)

Review activities:  
 Army - CR