

INCH-POUND

MIL-DTL-25038/1E  
1 December 2000  
SUPERSEDING  
MIL-W-25038/1D  
16 September 1993

### DETAIL SPECIFICATION SHEET

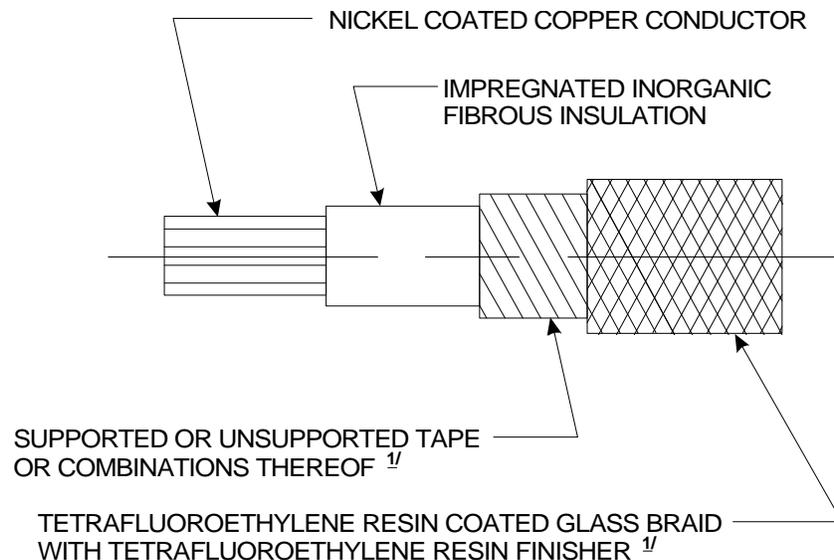
WIRE, ELECTRICAL, HIGH TEMPERATURE, FIRE RESISTANT,  
FLIGHT CRITICAL, NORMAL WEIGHT

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 MIL-DTL-25038G.

#### REQUIREMENTS:

Design and construction: See figure 1.



Notes: <sup>1/</sup> The outer two layers may be reversed in their sequence.

FIGURE 1. Wire, electrical.

Temperature rating: 260 °C.  
Voltage: 600 V rms.  
Color: Unless otherwise specified by the Part or Identifying Number (PIN), the color shall be white.

Thermal shock:

Maximum change in insulation measurement:

- .060 inch for sizes 22 through 10.
- .125 inch for sizes 8 through 1.
- .187 inch for sizes 0 through 0000.

PIN: M25038/1 – (wire size from table 1) – (color code designator in accordance with MIL-STD-681 and 1.2.2 of MIL-DTL-25038G.)

- Examples:      Size 20 AWG, white: M25038/1-20-9;  
                      Size 20 AWG, white with orange stripe: M25038/1-20-93.

TABLE I. Finished wire construction and performance details.

Wire Size <sup>1/</sup>	Conductor stranding			Maximum conductor diameter (inch)	Maximum dc resistance 1,000 feet at 20 °C (ohms)	Finished wire diameter (inch)		Weight lbs/1,000 feet (max)	Performance details	
	Number of strands	AWG size	Nominal diameter (inch)			Min.	Max.		Bend and cold bend test mandrel	
									Mandrel OD (inches)	Load on mandrel (pounds)
22	19	34	.0063	.033	23.700	.100	.116	10	6	2
20	19	32	.0080	.041	14.600	.109	.125	12	6	2
18	19	30	.0100	.052	9.140	.119	.135	15	6	2
16	19	29	.0113	.061	6.850	.127	.147	19	8	3
14	19	27	.0142	.074	4.320	.150	.170	25	8	3
12	19	25	.0179	.093	2.780	.165	.185	35	8	3
10	49	27	.0142	.128	1.680	.210	.230	55	10	5
8	133	29	.0113	.176	.936	.256	.280	85	12	5
6	133	27	.0142	.218	.591	.318	.342	127	14	10
4	133	25	.0179	.272	.375	.383	.407	192	16	10
2	665	30	.0100	.345	.241	.460	.484	291	20	15
1	817	30	.0100	.384	.196	.497	.533	347	22	15
0	1045	30	.0100	.432	.153	.537	.573	415	24	20
00	1330	30	.0100	.490	.120	.595	.635	520	24	25
000	1672	30	.0100	.548	.096	.660	.700	648	24	30
0000	2109	30	.0100	.615	.077	.730	.770	793	24	30

Notes: <sup>1/</sup> Wire sizes 22 through 12 are inactive for new design; for new design use MIL-DTL-25038/3.

CHANGES FROM PREVIOUS ISSUE: Marginal notations are not used in this revision to identify changes with respect to the previous issues due to the extensiveness of the changes.

CONCLUDING MATERIAL

Custodians:  
 Army - CR  
 Navy - AS  
 Air Force – 11  
 DLA - CC

Preparing activity:  
 DLA - CC  
 (Project 6145-2265-001)

Review activities:  
 Army - AR, AV, MI  
 Navy - OS  
 Air Force - 99