FEDERAL SUPPLY CLASS
6145

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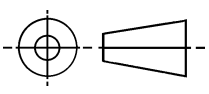
ISSUED 2001-07 REAFFIRMED 2008-03

THIRD ANGLE PROJECTION



PREPARED BY SAE SUBCOMMITTEE AE-8D

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, EXTRUDED ETFE, LIGHT WEIGHT, TIN-COATED COPPER CONDUCTOR, 600-VOLT, 150°C

AS22759/18
SHEET 1 OF 4

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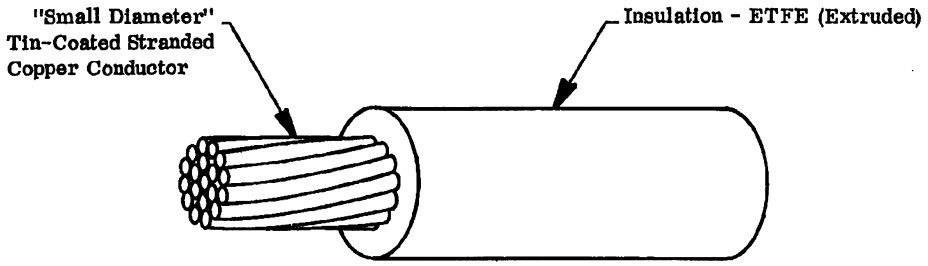
The complete requirements for procuring the wire described herein shall consist of this document and the issue in effect of Specification MIL-W-22759.



ETFE - Ethylene-Tetrafluoroethylene Copolymer

TABLE I. CONSTRUCTION DETAILS.

Part No. 1/	Wire size	Stranding (Number of strands X AWG gage of strands)	Diameter of stranded conductor (inches)		Finished wire		
			(min)	(max)	Resistance at 20°C (68°F) (ohms/1000 ft) (max)	Diameter (inches)	Weight (lbs/1000 ft) (max)
M22759/18-26-*	26	19 X 38	.018	.020	41.3	.032 ±.002	1.52
M22759/18-24-*	24	19 X 36	.023	.024	26.2	.036 ±.002	2.12
M22759/18-22-*	22	19 X 34	.029	.031	16.2	.043 ±.002	3.16
M22759/18-20-*	20	19 X 32	.037	.039	9.88	.051 ±.002	4.76
M22759/18-18-*	18	19 X 30	.046	.049	6.23	.061 ±.002	7.10
M22759/18-16-*	16	19 X 29	.052	.055	4.81	.070 ±.002	9.14
M22759/18-14-*	14	19 X 27	.065	.069	3.06	.085 ±.002	14.1
M22759/18-12-*	12	37 X 28	.084	.089	2.02	.107 ±.003	21.6
M22759/18-10-*	10	37 X 26	.106	.112	1.26	.134 ±.003	34.1

1/ PART NO.: The asterisks in the part number column, Tables I and II, shall be replaced by color code designators in accordance with MIL-STD-681. Examples: Size 20, white - M22759/18-20-9; white with orange stripe - M22759/18-20-93.

TABLE II. BEND TEST MANDRELS AND TEST LOADS.

Part No.	Mandrel diameter (inches) (±3%)		Test load (lbs) (±3%)	
	Life cycle test and short-term thermal stability test 1/	Cold bend test	Life cycle test and short-term thermal stability test 1/	Cold bend test
M22759/18-26-*	.50	.50	.25	0.5
M22759/18-24-*	.50	.50	.38	0.5
M22759/18-22-*	.75	.75	.38	1.0
M22759/18-20-*	.75	.75	.38	1.0
M22759/18-18-*	1.00	1.00	.50	1.0
M22759/18-16-*	1.00	1.00	.50	1.0
M22759/18-14-*	1.25	1.25	1.0	3.0
M22759/18-12-*	2.00	2.00	1.0	3.0
M22759/18-10-*	2.00	2.00	1.0	3.0

1/ Also for bend tests after immersion.

WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 150°C (302°F) max conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

SHORT-TERM THERMAL STABILITY: 7 hours at 230 ±2°C (446 ±3.6°F). Quality conformance test, Group II; test procedure and requirements as in life cycle test except for time and temperature of oven exposure

ACID RESISTANCE: No requirement

BLOCKING: 200 ±2°C (392 ±3.6°F)

COLOR: In accordance with MIL-STD-104, Class 1; white preferred.

COLOR STRIPING OR BANDING DURABILITY: 125 cycles (250 strokes) (min), 500 grams weight

DIELECTRIC TEST AFTER IMMERSION: 2000 volts (rms), 60Hz

FLAMMABILITY:
Vertical flame test (see page 4); 2 sec (max) after-flame; 5.50 in. (max) burn length
Post-flame dielectric test not required

HUMIDITY RESISTANCE: After humidity exposure, wire shall meet the requirements for initial insulation resistance.

IDENTIFICATION OF PRODUCT: Required. Shall be by ink printing only.

IDENTIFICATION DURABILITY: 125 cycles (250 strokes) (min), 500 grams weight

IMPULSE DIELECTRIC TEST: 8.0 kilovolts (peak), 100% test

INSULATION RESISTANCE, INITIAL:
Sizes 26 through 20: 5000 megohms for 1000 ft (min)
Sizes 18 through 14: 3000 megohms for 1000 ft (min)
Sizes 12 through 10: 2000 megohms for 1000 ft (min)

LIFE CYCLE:
Oven temperature, 200 ±2°C (392 ±3.6°F)
Dielectric test, 2200 volts (rms), 60Hz