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AS22759/14

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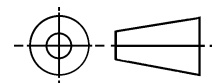
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THIRD ANGLE PROJECTION



ISSUED 2000-09 REAFFIRMED 2007-11

PREPARED BY SAE SUBCOMMITTEE AE-8D

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED,
FEP-PVF₂, LIGHT WEIGHT, TIN-COATED
COPPER CONDUCTOR, 600-VOLT

AS22759/14
SHEET 1 OF 4

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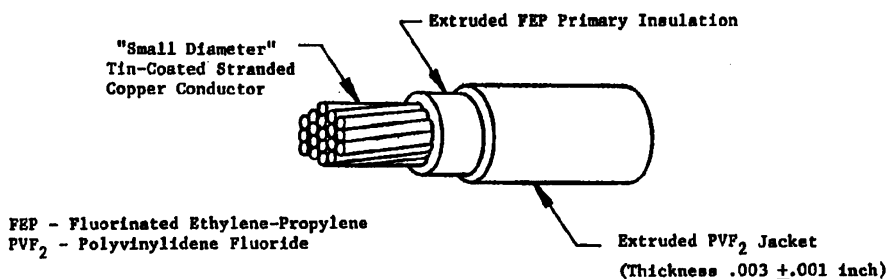


TABLE I. CONSTRUCTION DETAILS.

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)
M22759/14-26-*	26	19 X 38	.018	.020	41.3	.037 ±.002	1.80
M22759/14-24-*	24	19 X 36	.023	.024	26.2	.042 ±.002	2.47
M22759/14-22-*	22	19 X 34	.029	.031	16.2	.048 ±.003	3.33
M22759/14-20-*	20	19 X 32	.037	.039	9.88	.056 ±.003	5.13
M22759/14-18-*	18	19 X 30	.046	.049	6.23	.066 ±.003	7.64
M22759/14-16-*	16	19 X 29	.052	.055	4.81	.071 ±.004	9.34
M22759/14-14-*	14	19 X 27	.065	.069	3.06	.087 ±.004	14.4
M22759/14-12-*	12	37 X 28	.084	.089	2.02	.107 ±.004	22.3

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 - M22759/14-20-9; white with orange stripe - M22759/14-20-93.

TABLE II. PERFORMANCE DETAILS.

Part No.	Abrasion resistance (Procedure II)					Bend testing				
	Resistance (inches of tape) (min)		Weight support bracket	Weight (lbs)	Tension load (lbs)	Mandrel diameter (inches) (+3%)			Test load (lbs) (+3%)	
	Initial	After immer- sion <u>1/</u>				Life cycle (oven & bend tests) <u>2/</u>	Cold bend test		Life cycle (oven & bend tests) <u>2/</u>	Cold bend test
M22759/14-26-*	22	15	A	.19	1.0	.50			.25	.5
M22759/14-24-*	18	13	A	.38	1.0	.50			.38	.5
M22759/14-22-*	20	14	A	.38	1.0	.75			.38	1.0
M22759/14-20-*	22	15	A	.38	1.0	.75			.38	1.0
M22759/14-18-*	18	13	A	.50	1.0	1.00			.50	1.0
M22759/14-16-*	20	14	A	.50	2.0	1.00			.50	1.0
M22759/14-14-*	24	17	A	.75	2.0	1.50			1.00	3.0
M22759/14-12-*	30	21	B	.75	2.0	2.00			1.00	3.0

1/ Qualification test only.2/ Also for bend tests after immersion.

ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 135°C (275°F) max conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

SPARK TEST OF PRIMARY INSULATION: 1500 volts (rms), 60Hz, 100% test

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

INSULATION RESISTANCE: 1000 megohms for 1000 ft (min)

WRAP TEST:

"Wrap back" test required; no cracking

Oven temperature, 160 ±2°C (320 ±3.6°F)

BLOCKING: 135 ±2°C (275 ±3.6°F)

SHRINKAGE: 0.125 inch max at 150 ±2°C (302 ±3.6°F)

WICKING: No requirement

LOW TEMPERATURE (COLD BEND):

Bend temperature: -55 ±2°C (-67 ±3.6°F)

Dielectric test, 2500 volts (rms), 60Hz

THERMAL SHOCK:

Oven temperature, 135 ±2°C (275 ±3.6°F)

Max change in measurement: 0.060 inch

FLAMMABILITY: Post-flame dielectric test not required

LIFE CYCLE:

Oven temperature, 160 ±2°C (320 ±3.6°F)

Dielectric test, 2500 volts (rms), 60Hz

DIELECTRIC TEST AFTER IMMERSION: 2500 volts (rms), 60Hz

ABRASION RESISTANCE AFTER IMMERSION: Qualification test only

HUMIDITY RESISTANCE: 1000 megohms for 1000 ft, min insulation resistance after humidity exposure