

RATIONALE

DETAIL SPECIFICATION REQUIRED TO STANDARDIZE COMMERCIAL WIRE FOR USER APPLICATIONS.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS22759.

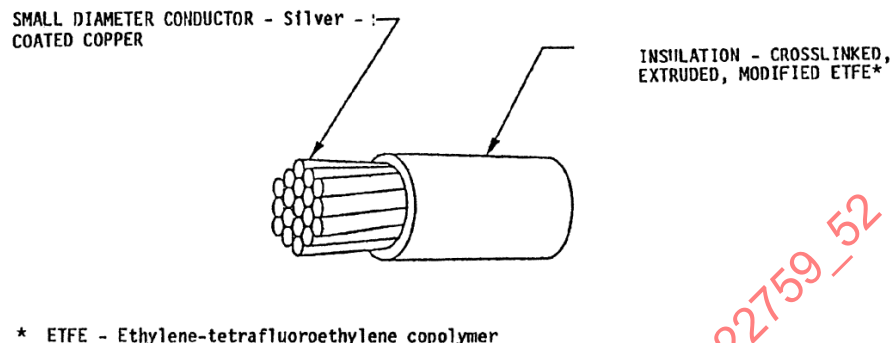


FIGURE 1 - GENERAL CONFIGURATION

TABLE 1 - CONSTRUCTION DETAILS

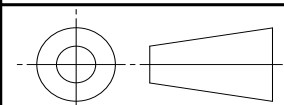
PART NO. 1/	WIRE SIZE	STRANDING (NUMBER OF STRANDS X AWG GAUGE OF STRANDS) 2/	DIAMETER OF STRANDED CONDUCTOR (INCHES)		FINISHED WIRE		
			(MIN)	(MAX)	RESISTANCE AT 20 °C (68 °F) (OHMS/1000 FEET) MAX	DIAMETER (INCHES)	WEIGHT (POUNDS/ 1000 FEET) (MAX)
M22759/52-30-*	30	7 X 38	.0105	.0124	100.7	.024 ± .002	.66
M22759/52-28-*	28	7 X 36	.0135	.0154	63.8	.027 ± .002	.91
M22759/52-26-*	26	19 X 38	.0175	.0194	38.4	.032 ± .002	1.4
M22759/52-24-*	24	19 X 36	.0225	.0244	24.3	.037 ± .002	2.0
M22759/52-22-*	22	19 X 34	.0285	.0304	15.1	.043 ± .002	2.8
M22759/52-20-*	20	19 X 32	.0365	.0384	9.19	.050 ± .002	4.3
M22759/52-18-*	18	19 X 30	.0455	.0484	5.79	.060 ± .002	6.5
M22759/52-16-*	16	19 X 29	.0515	.0544	4.52	.068 ± .002	8.3
M22759/52-14-*	14	19 X 27	.0645	.0684	2.88	.085 ± .003	13.0
M22759/52-12-*	12	37 X 28	.0835	.0874	1.90	.103 ± .003	19.7

1/ PART NUMBER: THE ASTERISKS IN THE PART NUMBER COLUMN, TABLES 1 AND 2, SHALL BE REPLACED BY COLOR CODE DESIGNATORS IN ACCORDANCE WITH MIL-STD-681. EXAMPLES: SIZE 20, WHITE-M22759/52-20-9; WHITE WITH ORANGE STRIPE – M22759/52-20-93. PRINTING OF COLOR CODE DESIGNATOR ON SURFACE OF WIRE INSULATION IS NOT REQUIRED.

2/ CONDUCTOR SHALL CONFORM TO MIL-DTL-29606 TYPE SCC SMALL DIAMETER SILVER PLATED COPPER CONDUCTOR.

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS22759/52>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/AE-8D

PROCUREMENT SPECIFICATION: AS22759

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

WIRE, ELECTRICAL, FLUOROPOLYMER-INSULATED, CROSSLINKED MODIFIED ETFE, LOW FLUORIDE, LIGHTWEIGHT, SILVER-COATED COPPER, 200 °C, 600 VOLT

SAE AS22759/52
SHEET 1 OF 3

TABLE 2 - PERFORMANCE DETAILS

PART NO.	BEND TESTING			
	MANDREL DIAMETER (INCHES) (±3%)		TEST LOAD (POUNDS) (±3%)	
	CROSSLINKING PROOF, IMMERSION AND LIFE CYCLE TESTS	COLD BEND TEST	CROSSLINKING PROOF, IMMERSION AND LIFE CYCLE TESTS	COLD BEND TEST
M22759/52-30-*	.250	.375	.125	.500
M22759/52-28-*	.250	.375	.125	.500
M22759/52-26-*	.375	.500	.125	.500
M22759/52-24-*	.500	.500	.250	1.00
M22759/52-22-*	.500	.750	.375	1.00
M22759/52-20-*	.500	.750	.500	1.00
M22759/52-18-*	.500	1.00	.500	1.00
M22759/52-16-*	.750	1.00	.750	1.00
M22759/52-14-*	1.00	1.50	1.00	3.00
M22759/52-12-*	1.50	2.00	1.50	3.00

REQUIREMENTS:

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS22759.

CONFIGURATION:

WIRE SHALL BE CONSTRUCTED IN ACCORDANCE WITH FIGURE 1 AND TABLE 1.

INSULATION THICKNESS: .005 INCH (MIN)

PHYSICAL PROPERTIES OF INSULATION: PULLED AT 2 INCHES PER MINUTE.

TENSILE STRENGTH, 5000 LBF/INCH² (MIN)

ELONGATION, 75% (MIN)

WIRE CONTINUOUS LENGTH: SCHEDULE B.

RATINGS:

TEMPERATURE RATING: 200 °C (392 °F) MAXIMUM CONTINUOUS CONDUCTOR TEMPERATURE.

VOLTAGE RATING: 600 VOLTS (RMS) AT SEA LEVEL.

THIS INSULATION SYSTEM HAS BEEN USED IN AEROSPACE APPLICATIONS USING 115 VOLTS (PHASE TO NEUTRAL), 400 HERTZ AC AND 28 VOLTS DC. VERIFICATION OF THE SUITABILITY OF THIS PRODUCT FOR USE IN OTHER ELECTRICAL SYSTEM CONFIGURATIONS IS THE RESPONSIBILITY OF THE USER.

ADDITIONAL REQUIREMENTS:

SILVER PLATED CONDUCTOR: SHALL MEET QUALITY CONFORMANCE TEST FOR CONDUCTOR MATERIAL AND REQUIREMENTS AS DEFINED FOR SMALL DIAMETER SCC TYPE CONDUCTORS.

BLOCKING: 230 °C ± 3 °C (446 °F ± 5.4 °F).

COLOR STRIPING OR BANDING DURABILITY: 125 CYCLES (250 STROKES) (MIN), 500 GRAMS WEIGHT.

CROSSLINKING PROOF TEST: 300 °C ± 3 °C (572 °F ± 5.4 °F).

WET DIELECTRIC TEST: 2500 VOLTS (RMS), 60 HERTZ.

FLAMMABILITY: FLAME TRAVEL SHALL NOT EXCEED 3.0 INCHES.

FLUORIDE OFFGASSING TEST: REQUIRED

 An SAE International Group	AEROSPACE STANDARD	 AS22759/52 SHEET 2 OF 3	
	WIRE, ELECTRICAL, FLUOROPOLYMER-INSULATED, CROSSLINKED MODIFIED ETFE, LOW FLUORIDE, LIGHTWEIGHT, SILVER-COATED COPPER, 200 °C, 600 VOLT		