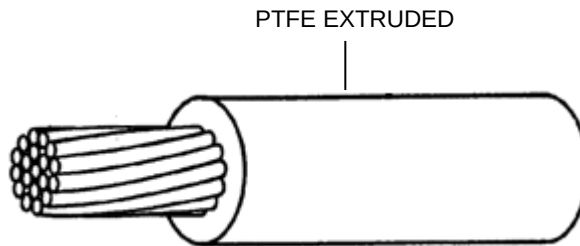


RATIONALE

SPECIFICATION UPDATED TO INCLUDE AS29606 CONDUCTOR REQUIREMENTS, ROHS RESTRICTIONS, AND AS22759 MODIFICATIONS. THIS CHANGE ALSO INCREASES THE MAXIMUM WEIGHT REQUIREMENTS FOR WIRE SIZE 8 TO ACCOUNT FOR INCREASED CIRCULAR MIL AREA (CMA) ADOPTED IN AS29606. REMOVED ACID RESISTANCE.

NOTICE

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



PTFE – POLYTETRAFLUOROETHYLENE
CONDUCTOR – STRANDED NICKEL COATED COPPER

FIGURE 1 - AS22759/12 CONFIGURATION

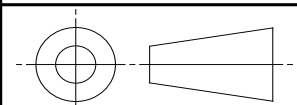
TABLE 1 - CONSTRUCTION DETAILS FOR FINISHED WIRE

PART NO. 1/	WIRE SIZE	STRANDING (NUMBER OF STRANDS X SIZE GAGE OF STRANDS) 2/	DIAMETER OF STRANDED CONDUCTOR (INCHES)		FINISHED WIRE		
			(MIN)	(MAX)	RESISTANCE AT 20 °C (68 °F) (OHMS/1,000 FEET) (MAX)	DIAMETER (INCHES)	WEIGHT (LB/1,000 FEET) (MAX)
M22759/12-28-*	28	7 X 36	.0135	.0164	67.9	.033 ± .002	1.36
M22759/12-26-*	26	19 X 38	.0175	.0214	42.2	.038 ± .002	1.90
M22759/12-24-*	24	19 X 36	.0225	.0264	25.9	.043 ± .002	2.58
M22759/12-22-*	22	19 X 34	.0285	.0334	16.0	.049 ± .002	3.72
M22759/12-20-*	20	19 X 32	.0365	.0414	9.77	.058 ± .002	5.43
M22759/12-18-*	18	19 X 30	.0455	.0514	6.10	.068 ± .002	8.14
M22759/12-16-*	16	19 X 29	.0515	.0584	4.76	.075 ± .002	10.0
M22759/12-14-*	14	19 X 27	.0645	.0734	3.00	.090 ± .002	15.6
M22759/12-12-*	12	19 X 25	.0815	.0924	1.89	.111 ± .003	24.4
M22759/12-10-*	10	37 X 26	.106	.114	1.24	.139 ± .004	39.0
M22759/12-8-*	8	133 X 29	.158	.173	.694	.204 ± .004	70.4

- PART NO.: THE ASTERISKS IN THE PART NUMBER COLUMN, TABLES 1 AND 3, SHALL BE REPLACED BY COLOR CODE DESIGNATORS IN ACCORDANCE WITH MIL-STD-681. EXAMPLES: SIZE 20, WHITE - M22759/12-20-9; WHITE WITH ORANGE STRIPE - M22759/12-20-93. PRINTING OF COLOR CODE DESIGNATOR ON SURFACE OF WIRE INSULATION IS NOT REQUIRED.
- CONDUCTOR SHALL CONFORM TO AS29606 TYPE NCC GENERAL PURPOSE NICKEL PLATED COPPER CONDUCTOR.

For more information on this standard, visit
<https://www.sae.org/standards/content/AS22759/12A>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/AE-8D

PROCUREMENT SPECIFICATION: AS22759



AEROSPACE STANDARD

(R) WIRE, ELECTRICAL, FLUOROPOLYMER-INSULATED, EXTRUDED TFE, NICKEL-COATED, COPPER CONDUCTOR, 600 VOLT, ROHS

AS22759™/12
SHEET 1 OF 3

REV. A

Documents

REQUIREMENT: ALL REQUIREMENTS SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS22759.

1. WIRE CONSTRUCTION:

WIRE CONSTRUCTION SHALL BE IN ACCORDANCE WITH FIGURE 1 AND TABLES 1, 2, 3, AND 4.

2. WIRE PERFORMANCE RATING:

TEMPERATURE RATING: 260 °C (500 °F) MAXIMUM CONDUCTOR CONTINUOUS 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.

3. MATERIALS AND PHYSICAL PROPERTIES:

SEE AS22759 FOR MATERIAL REQUIREMENT. MATERIALS USED IN THE MANUFACTURE OF THESE PRODUCTS SHALL COMPLY WITH THE RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE 2002/95/EC.

4. FINISHED WIRE INSULATION PROPERTIES:

FINISHED WIRE INSULATION PROPERTIES SHALL BE IN ACCORDANCE WITH TABLE 2.

TABLE 2 - FINISHED WIRE INSULATION PROPERTIES REQUIREMENTS

INSULATION PROPERTIES	
IMPULSE TEST VOLTAGE	WIRE SIZES 28 - 18: 8.0 KILOVOLTS (PEAK) WIRE SIZES 16 - 8: 6.5 KILOVOLTS (PEAK)
HIGH FREQUENCY TEST VOLTAGE	WIRE SIZES 28 - 18: 5.7 KILOVOLTS (RMS) WIRE SIZES 16 - 8: 4.6 KILOVOLTS (RMS)
INSULATION BLOCKING	260 °C ± 2 °C (500 °F ± 3.6 °F)
SHRINKAGE	290 °C ± 2 °C (554 °F ± 3.6 °F) MAXIMUM CHANGE .03 INCHES
ELECTRICAL RESISTANCE (IR)	50,000 MEGOHMS (MIN) - 1,000 FEET
ELECTRICAL SURFACE RESISTANCE	500 MEGOHMS - INCHES (MIN)
WET DIELECTRIC VOLTAGE	3,000 VOLTS (RMS), 60 HERTZ
CONTINUOUS LENGTH SCHEDULE	A

5. FINISHED WIRE IDENTIFICATION:

WIRE IDENTIFICATION EXCEPTIONS: NONE

WIRE IDENTIFICATION DURABILITY: 125 CYCLES (250 STROKES) WITH 500 GRAMS WEIGHT

STRIPE AND BAND DURABILITY: 250 CYCLES (500 STROKES) WITH 500 GRAMS WEIGHT

6. FINISHED WIRE PERFORMANCE:

FINISHED WIRE FIXTURES APPLICABLE TO EACH WIRE SIZE SHALL BE IN ACCORDANCE WITH TABLE 3.

TABLE 3 - PERFORMANCE DETAILS

PART NO.	BEND TESTING			
	MANDREL DIAMETER <u>1/</u> (INCHES)		TEST LOAD <u>1/</u> (LB)	
	LIFE CYCLE (OVEN AND BEND) TESTS	COLD BEND TEST	LIFE CYCLE (OVEN AND BEND) TESTS	COLD BEND TEST
M22759/12-28-*	.125	.250	.500	.500
M22759/12-26-*	.125	.250	.500	.500
M22759/12-24-*	.125	.250	.500	.500
M22759/12-22-*	.250	.375	.750	.750
M22759/12-20-*	.250	.375	.750	.750
M22759/12-18-*	.250	.375	1.00	1.00
M22759/12-16-*	.375	.500	1.00	1.00
M22759/12-14-*	.500	.750	2.00	2.00
M22759/12-12-*	.500	.750	2.00	2.00
M22759/12-10-*	.750	1.00	3.00	3.00
M22759/12-8-*	.750	1.00	3.00	3.00

1/ TOLERANCE SHALL BE ±3% OF THE GIVEN VALUES.

	AEROSPACE STANDARD	AS22759™/12	REV.
	(R) WIRE, ELECTRICAL, FLUOROPOLYMER-INSULATED, EXTRUDED TFE, NICKEL-COATED, COPPER CONDUCTOR, 600 VOLT, ROHS	SHEET 1 OF 3 	A



Document Sharing Hub