FEDERAL SUPPLY CLASS
6145

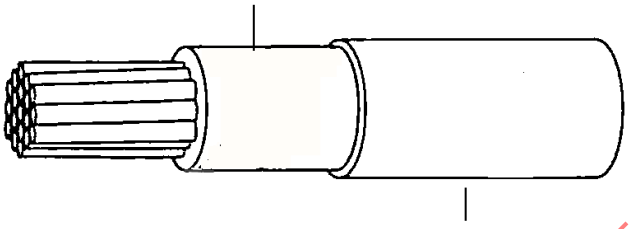
RATIONALE

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.

PRIMARY INSULATION - PTFE, EXTRUDED,



TOPCOAT – POLYIMIDE COATING

PTFE – POLYTETRAFLUOROETHYLENE
CONDUCTOR – STRANDED SILVER COATED COPPER

FIGURE 1 - AS22759/28 CONFIGURATION

TABLE 1 - CONSTRUCTION DETAILS FOR FINISHED WIRE

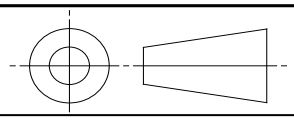
PART NO. 1/	WIRE SIZE	STRANDING (NUMBER OF STRANDS X SIZE GAGE OF STRANDS) 2/	DIAMETER OF STRANDED CONDUCTOR (INCHES)		FINISHED WIRE		
			(MIN)	(MAX)	RESISTANCE AT 20 °C (68 °F) (OHMS/1,000 FEET) (MAX)	DIAMETER (INCHES)	WEIGHT (LB/1,000 FEET) (MAX)
M22759/28-28-*	28	7 x 36	.0135	.0154	63.8	.034 ± .002	1.35
M22759/28-26-*	26	19 x 38	.0175	.0194	38.4	.039 ± .002	1.92
M22759/28-24-*	24	19 x 36	.0225	.0244	24.3	.044 ± .002	2.61
M22759/28-22-*	22	19 x 34	.0285	.0304	15.1	.050 ± .002	3.66
M22759/28-20-*	20	19 x 32	.0365	.0384	9.19	.059 ± .002	5.42
M22759/28-18-*	18	19 x 30	.0455	.0484	5.79	.069 ± .002	8.05
M22759/28-16-*	16	19 x 29	.0515	.0544	4.52	.076 ± .003	9.88
M22759/28-14-*	14	19 x 27	.0645	.0684	2.88	.091 ± .003	14.9
M22759/28-12-*	12	19 x 25	.0815	.0854	1.81	.111 ± .003	23.0
M22759/28-10-*	10	37 x 26	.106	.110	1.19	.140 ± .003	35.2
M22759/28-8-*	8	133 x 29	.158	.166	.658	.197 ± .003	65.6

1/ PART NUMBER: 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-M22759/28-20-9; WHITE WITH ORANGE STRIPE – M22759/28-20-93. PRINTING OF COLOR CODE DESIGNATOR ON SURFACE OF WIRE INSULATION IS NOT REQUIRED.

2/ CONDUCTOR SHALL CONFORM TO AS29606 TYPE SCC SMALL DIAMETER SILVER PLATED COPPER CONDUCTOR FOR SIZES 28 THROUGH 12. SIZES 10 AND 8 SHALL CONFORM TO GENERAL PURPOSE SILVER PLATED COPPER CONDUCTOR.

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AS22759/28A

THIRD ANGLE PROJECTION



ISSUED 2001-07 REAFFIRMED 2007-11 REVISED 2015-12

CUSTODIAN: AE-8/AE-8D

PROCUREMENT SPECIFICATION: NONE

SAE INTERNATIONAL

AEROSPACE STANDARD

(R) WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, EXTRUDED TFE, POLYIMIDE COATED, SILVER-COATED COPPER CONDUCTOR, 600-VOLT, ROHS

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)** **Tel: +1 724-776-4970 (outside USA)**
Fax: 724-776-0790 **Email: CustomerService@sae.org** **SAE WEB ADDRESS: http://www.sae.org**

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: 200 °C (392 °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	
SPARK TEST VOLTAGE	1,500 VOLT (RMS) AT 60 HERTZ OR 3,000 HERTZ ON PRIMARY INSULATION
IMPULSE TEST VOLTAGE	8.0 KILOVOLTS (PEAK)
HIGH FREQUENCY TEST VOLTAGE	5.7 KILOVOLTS (RMS)
POLYIMIDE TOPCOAT CURE	REQUIRED
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)	2,500 MEGOHMS (MIN) - 1,000 FEET
ELECTRICAL SURFACE RESISTANCE	5 MEGOHMS - INCHES (MIN)
WET DIELECTRIC VOLTAGE	3,000 VOLTS (RMS), 60 HERTZ
WALL THICKNESS	.0005 INCH (MIN) FOR POLYIMIDE TOPCOAT
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: 125 CYCLES (250 STROKES) WITH 500 GRAMS WEIGHT

6. FINISHED WIRE PERFORMANCE:

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