

SAE Executive Standards Committee Rules provide that: " This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user." SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

REV. B
AS22759™/15

FEDERAL SUPPLY CLASS
6145

RATIONALE

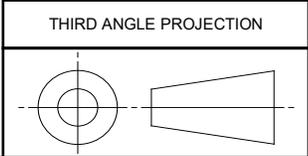
THE AE8D COMMITTEE HAS DETERMINED THIS DOCUMENT WILL NO LONGER BE SUBJECTED TO PERIODIC REVIEWS FOR CURRENCY. THE WIRES ARE WELL ESTABLISHED AND THERE ARE NO QUALIFIED SUPPLIERS.

STABILIZED NOTICE

THIS DOCUMENT HAS BEEN DECLARED "STABILIZED" BY THE SAE AE-8D WIRE AND CABLE COMMITTEE AND WILL NO LONGER BE SUBJECTED TO PERIODIC REVIEWS FOR CURRENCY. USERS ARE RESPONSIBLE FOR VERIFYING REFERENCES AND CONTINUED SUITABILITY OF TECHNICAL REQUIREMENTS. NEWER TECHNOLOGY MAY EXIST.

SAENORM.COM : Click to view the full PDF of as22759_15b

For more information on this standard, visit
<https://www.sae.org/standards/content/AS22759/15B/>

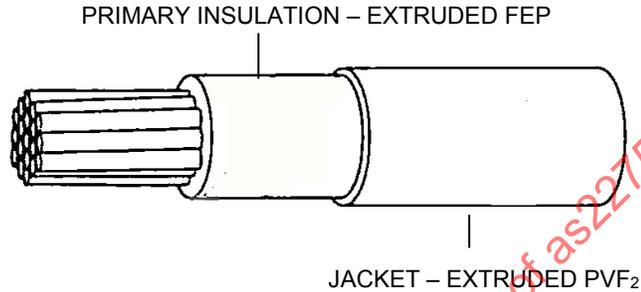


CUSTODIAN: AE-8/AE-8D		PROCUREMENT SPECIFICATION: AS22759	
	AEROSPACE STANDARD WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, FEP-PVF ₂ , LIGHT WEIGHT, SILVER-COATED HIGH STRENGTH COPPER ALLOY CONDUCTOR, 600 VOLT, ROHS		AS22759™/15 REV. B

ISSUED 2000-09 REVISED 2015-12 REAFFIRMED 2020-09 STABILIZED 2021-08

NOTICE

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



FEP - FLUORINATED ETHYLENE-PROPYLENE
 PVF₂ - POLYVINYLIDENE FLUORIDE
 CONDUCTOR - STRANDED SILVER COATED HIGH STRENGTH COPPER ALLOY

FIGURE 1 - AS22759/15 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)
M22759/15-26-*	26	19 X 38	.0175	.0204	44.8	.037 ± .002	1.75
M22759/15-24-*	24	19 X 36	.0225	.0244	28.4	.042 ± .002	2.42
M22759/15-22-*	22	19 X 34	.0285	.0314	17.5	.048 ± .003	3.59
M22759/15-20-*	20	19 X 32	.0365	.0394	10.7	.056 ± .003	5.22

^{1/} 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 - M22759/15-20-9; WHITE WITH ORANGE STRIPE - M22759/15-20-93. PRINTING OF COLOR CODE DESIGNATOR ON SURFACE OF WIRE INSULATION IS NOT REQUIRED.

^{2/} CONDUCTOR SHALL CONFORM TO AS29606 TYPE SCA SMALL DIAMETER SILVER PLATED HIGH STRENGTH COPPER ALLOY CONDUCTOR.

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: 135 °C (275 °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)
INSULATION BLOCKING	135 °C ± 2 °C (275 °F ± 3.6°F)
SHRINKAGE	150 °C ± 2 °C (302 °F ± 3.6 °F) MAXIMUM CHANGE .125 INCHES
ELECTRICAL RESISTANCE (IR)	1,000 MEGOHMS (MIN) - 1,000 FEET
ELECTRICAL SURFACE RESISTANCE	500 MEGOHMS - INCHES (MIN)
WET DIELECTRIC VOLTAGE	2,500 VOLTS (RMS), 60 HERTZ
WALL THICKNESS	.003 ± .001 INCH FOR OUTER JACKET
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.

TABLE 3 - PERFORMANCE DETAILS

PART NO.	BEND TESTING			
	MANDREL DIAMETER (INCHES) ^{1/}		TEST LOAD (LB) ^{1/}	
	LIFE CYCLE (OVEN & BEND TESTS) ^{2/}	COLD BEND TEST	LIFE CYCLE (OVEN & BEND TESTS) ^{2/}	COLD BEND TEST
M22759/15-26-*	.500		.250	.500
M22759/15-24-*	.500		.375	.500
M22759/15-22-*	.750		.375	1.00
M22759/15-20-*	.750		.375	1.00

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

^{2/} ALSO FOR BEND TESTS AFTER IMMERSION.

	AEROSPACE STANDARD WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, FEP-PVF ₂ , LIGHT WEIGHT, SILVER-COATED HIGH STRENGTH COPPER ALLOY CONDUCTOR, 600 VOLT, ROHS	AS22759™/15 SHEET 2 OF 3	REV. B