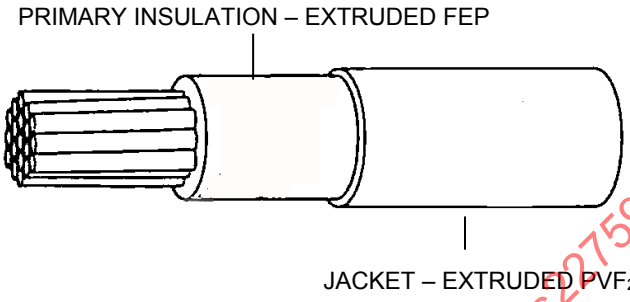
FEDERAL SUPPLY CLASS
6145

RATIONALE

SPECIFICATION UPDATED TO INCLUDE AS29606 CONDUCTOR REQUIREMENTS, ROHS RESTRICTIONS AND AS22759 MODIFICATIONS. REMOVED ABRASION RESISTANCE REQUIREMENT BECAUSE TEST METHOD DOES NOT EXIST.

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
PVF_2 – POLYVINYLIDENE FLUORIDE
CONDUCTOR – STRANDED TIN COATED COPPER

FIGURE 1 - AS22759/14 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)
M22759/14-26-*	26	19 X 38	.0175	.0204	41.3	.037 ± .002	1.80
M22759/14-24-*	24	19 X 36	.0225	.0244	26.2	.042 ± .002	2.47
M22759/14-22-*	22	19 X 34	.0285	.0314	16.2	.048 ± .003	3.53
M22759/14-20-*	20	19 X 32	.0365	.0394	9.88	.056 ± .003	5.13
M22759/14-18-*	18	19 X 30	.0455	.0494	6.23	.066 ± .003	7.64
M22759/14-16-*	16	19 X 29	.0515	.0554	4.81	.071 ± .004	9.34
M22759/14-14-*	14	19 X 27	.0645	.0694	3.06	.087 ± .004	14.4
M22759/14-12-*	12	37 X 28	.0835	.0894	2.02	.107 ± .004	22.3

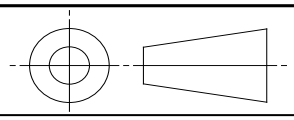
1/ PART NO.: THE ASTERISKS IN THE PART NUMBER COLUMN, TABLES 1 AND 3, SHALL BE REPLACED BY COLOR CODE DESIGNATORS IN ACCORDANCE WITH MIL-STD-681. EXAMPLES: SIZE 20, WHITE - M22759/14-20-9; WHITE WITH ORANGE STRIPE - M22759/14-20-93. PRINTING OF COLOR CODE DESIGNATOR ON SURFACE OF WIRE INSULATION IS NOT REQUIRED.

2/ CONDUCTOR SHALL CONFORM TO AS29606 TYPE TCC SMALL DIAMETER TIN PLATED COPPER CONDUCTOR.

ISSUED 2000-09 REVISED 2015-12 REAFFIRMED 2020-09

For more information on this standard, visit
https://www.sae.org/standards/content/AS22759/14A

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/AE-8D

PROCUREMENT SPECIFICATION: AS22759

SAE INTERNATIONAL

AEROSPACE STANDARD

(R) WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, FEP-PVF_2, LIGHT WEIGHT, TIN-COATED COPPER CONDUCTOR, 600 VOLT, ROHS

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.