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REV.
B

AS22759™/31

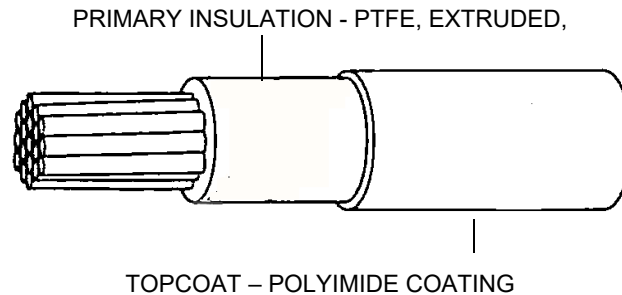
FEDERAL SUPPLY CLASS
6145

RATIONALE

REVISION CORRECTS INSULATION COLOR. ONLY BLACK, BROWN, RED, ORANGE, YELLOW AND GREEN PIGMENTS ARE AVAILABLE. COLOR LIMITS OF MIL-STD-104 DO NOT APPLY.

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 HIGH STRENGTH COPPER ALLOY

FIGURE 1

TABLE 1 - CONSTRUCTION DETAILS FOR FINISHED WIRE

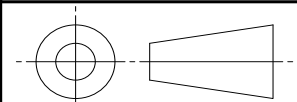
PART NO. 1/	WIRE SIZE	STRANDING (NUMBER OF STRANDS X SIZE GAGE OF STRANDS) 2/	DIAMETER OF STRANDED CONDUCTOR (INCHES)		FINISHED WIRE		
			(MIN)	(MAX)	RESISTANCE AT 20 °C (68 °F) (OHMS/1000 FEET) (MAX)	DIAMETER (INCHES)	WEIGHT (LB/1000 FEET) (MAX)
M22759/31-28-*	28	7 X 36	.0135	.0164	79.0	.034 ± .002	1.37
M22759/31-26-*	26	19 X 38	.0175	.0204	49.4	.039 ± .002	1.99
M22759/31-24-*	24	19 X 36	.0225	.0254	30.1	.044 ± .002	2.73
M22759/31-22-*	22	19 X 34	.0285	.0314	18.6	.050 ± .002	3.77
M22759/31-20-*	20	19 X 32	.0365	.0404	11.4	.059 ± .002	5.55

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, BLACK-M22759/31-20-0; BLACK WITH ORANGE STRIPE – M22759/31-20-03. PRINTING OF COLOR CODE DESIGNATOR ON SURFACE OF WIRE INSULATION IS NOT REQUIRED. INSULATION COLOR IS ONLY AVAILABLE IN BLACK (0), BROWN (1), RED (2), ORANGE (3), YELLOW (4) AND GREEN (5). ALL OTHER COLORS ARE NOT CURRENTLY AVAILABLE. COLOR LIMITS OF MIL-STD-104 DO NOT APPLY.

2/ CONDUCTOR SHALL CONFORM TO AS29606, TYPE NCA SMALL DIAMETER NICKEL PLATED HIGH STRENGTH COPPER ALLOY CONDUCTOR.

SAE values your input. To provide feedback on this Technical Report, please visit <http://standards.sae.org/AS22759/31B>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8D

PROCUREMENT SPECIFICATION: NONE



AEROSPACE STANDARD

WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, EXTRUDED TFE, POLYIMIDE COATED, NICKEL-COATED HIGH STRENGTH COPPER ALLOY CONDUCTOR, 600-VOLT, ROHS

AS22759™/31
SHEET 1 OF 3

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Documents

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REQUIREMENTS: 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:

REFER TO 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	1500 VOLT (RMS) AT 60 HERTZ OR 3000 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)	2500 MEGOHMS (MIN) - 1000 FEET
ELECTRICAL SURFACE RESISTANCE	5 MEGOHMS - INCHES (MIN)
WET DIELECTRIC VOLTAGE	3000 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.

	AEROSPACE STANDARD	AS22759™/31 SHEET 2 OF 3	REV. Documents
	WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, EXTRUDED TFE, POLYIMIDE COATED, NICKEL-COATED HIGH STRENGTH COPPER ALLOY CONDUCTOR, 600-VOLT, ROHS		



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