



TEST REPORT

February 03, 2026

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Glenair GS22759 Cross-Linked Modified, Lightweight Qualification Test Report

Revision	Description of Changes	Date	Author
1	Initial Release	02/03/26	JCR



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1.0 Scope

This report summarizes the test results of Glenair's GS22759-33 commercial equivalent wire to AS22759/33. All tests were performed according to AS22759 and QTP-1707.

2.0 Reference Documents

SAE AS22759 Revision E	Wire, Electrical, Fluoropolymer-Insulated, Copper or Copper Alloy
SAE AS22759/33 Rev A	Wire, Electric, Fluoropolymer-Insulated, Cross-Linked Modified ETFE, Lightweight, Silver-Coated, High-Strength Copper Alloy, 200 °C, 600 Volt, Rohs
SAE AS4373 Revision F	Test Methods for Insulated Electric Wire
ASTM D3032 Revision 21A	Standard Test Methods for Hookup Wire Insulation
SAE AS29606 Revision B	General Specification for Wire, Electrical, Stranded, Uninsulated Copper, Copper Alloy, or Aluminum, or Thermocouple Extension
SAE AS5768 Revision C	General Specification for Tool, Stripper, Electrical Insulation
Glenair GS22759-33	Glenair AS22759/33 Wire, Silver-Coated High Strength Copper Alloy Conductor, Cross-Linked Modified ETFE Insulated, Light Weight, 600-Volt, 200°C



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3.0 Test Specimens

The part number and description of the wire tested are listed in Table I.

Table I

Part Number	Description
GS22759-33-28-9	Glenair AS22759/33 28 AWG Wire Silver-Coated High Strength Copper Conductor, Cross-Linked Modified ETFE- Insulated, 600 Volt, 200°C

GS22759-33

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	PRELIMINARY	02/01/22	LKJ
2	PRELIMINARY: ADDED STRIPES TO PART NUMBER	09/12/24	MMJ
3	PRELIMINARY: TEMP. RATING, FROM COND. TO WIRE	05/25/22	MMJ
4	PRELIMINARY: ADD NOTE 6	06/09/24	MMJ
5	PRELIMINARY: REVISE NOTES AND TITLES	09/17/24	MMJ

PART NUMBER	WIRE SIZE	STRANDING (NUMBER OF STRANDS X SIZE GAGE OF STRANDS)	DIAMETER OF STRANDED CONDUCTOR (INCHES)		RESISTANCE AT 20°C (68°F) (OHMS/1000 FEET) (MAX)		FINISHED WIRE	
			(MIN)	(MAX)			DIAMETER (INCHES)	WEIGHT (LB/1000 FEET) (MAX)
GS22759-33-30-*	30	7 X 38	.0105	.0124	117.4		.024 ± .002	.66
GS22759-33-28-*	28	7 X 36	.0135	.0164	74.4		.027 ± .002	.91
GS22759-33-26-*	26	19 X 38	.0175	.0204	44.8		.032 ± .002	1.4
GS22759-33-24-*	24	19 X 36	.0225	.0254	28.4		.037 ± .002	2.0
GS22759-33-22-*	22	19 X 34	.0285	.0314	17.5		.043 ± .002	2.9
GS22759-33-20-*	20	19 X 32	.0365	.0394	10.7		.050 ± .002	4.4

PART NUMBER DEVELOPMENT:

EXAMPLE: GS22759-33 - 24 - 9 0 1 2

BASIC NO.

WIRE SIZE

JACKET COLOR CODE

FIRST STRIPE COLOR CODE

(OMIT FOR NONE)

SECOND STRIPE COLOR CODE

(OMIT FOR NONE)

THIRD STRIPE COLOR CODE

(OMIT FOR NONE)

COLOR CODE	COLOR
0	BLACK
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE

NOTES: UNLESS OTHERWISE SPECIFIED

- WIRE IS MANUFACTURED TO MEET THE APPLICABLE REQUIREMENTS OF SAE-AS22759/33.
- MATERIALS:
 - CONDUCTOR: SILVER COATED HIGH STRENGTH COPPER ALLOY PER SAE-AS29606
 - INSULATION: CROSSLINKED MODIFIED ETFE (ETHYLENE-TETRAFLUOROETHYLENE)
- PERFORMANCE:
 - VOLTAGE RATING: 600 VRMS AT SEA LEVEL
 - TEMPERATURE RATING: 200°C (392°F) MAX CONTINUOUS

4. COLOR CODE IN ACCORDANCE WITH MIL-STD-881.

- CONSULT FACTORY FOR CUSTOM STRIPE COLOR OPTIONS.
- CONSULT FACTORY FOR COMPLIANCE AND QUALIFICATION RESULTS.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES:	DRAWN LKJ 02/01/22 CHECK SP 02/01/22 ENG LKJ 02/01/22	GLENAIR, INC. CAD 1997 1211 AIR WAY • GLENDALE • CALIFORNIA 91201
FRACTIONS ± 1/16 DECIMALS .XX ± .030 ANGLES ± 1°	<i>D Brown</i> DESIGNER	MIL-STAR AS22759/33 TYPE WIRE, SILVER COATED HIGH STRENGTH COPPER CONDUCTOR, CROSSLINKED MODIFIED ETFE INSULATED, 600-VOLT, 200°C
DO NOT SCALE THIS DRAWING	ISSUED DATE 06/24/24 REVISED DATE	COLOR CODE NO. 06324 VAL 1
D/F 21AS343 P/C	NON REPAIRABLE COMMERCIAL ITEM	SCALE N/A WEIGHT N/A SHEET 1 OF 1

Figure 1 – Glenair AS22759/33 Wire Drawing GS22759-33



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4.0 Summary of Results

The test results are summarized in Table II.

Table II – Test List

Test	Specification	Test Requirement	Pass	Test Results
Materials	AS22759 Section 5.1	Cross-linked Modified ETFE	X	Cross-linked Modified ETFE
Conductor Construction Prior to Insulation	AS22759 Section 5.2.1	7 strands	X	7 strands
Insulated Conductor Tin and Silver Solderability	AS4373 Method 105	In accordance with J-STD-002	X	Pass
Insulated Conductor Geometric Characteristics	AS4373 Method 401	28 AWG: 0.0135-0.0164"	X	0.0157 Inches
Insulated Conductor Elongation and Tensile Break Strength	AS4373 Method 402	Elongation 6%, min. Break strength: 28 AWG 8.2 lbs min	X	Elongation: 7.8% Break strength: 9.8 lbs
Insulation Construction and Mechanical Properties	AS22759 5.3.1.1	No cracks, splits, irregularities, or embedded foreign material at 2X magnification	X	Pass
Insulation Tensile and Elongation	AS4373 Method 705	Tensile strength: 5,000 lb/in ² Elongation: 75%	X	Tensile strength: 7,603 lb/in ² Elongation: 117%
Insulation Proof Test	AS4373 Method 811	7 hours at 300°C ± 3°C DWV 2500 VDC, 60 seconds	X	Pass
Insulation Blocking	AS4373 Method 808	24 hours at 200°C ± 3°C	X	Pass

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Insulation Shrinkage	AS4373 Method 104	6 hours at 230°C ± 3°C 0.125" max. shrinkage	X	00.0105 Inches
Wire Conductor Electrical Resistance	AS4373 Method 403	28 AWG: 74.4 Ω/1000 ft., max.	X	68.3 Ω/1,000 ft
Wire Electrical Insulation Resistance	AS4373 Method 504	5000 MΩ-1000 ft., min.	X	33,750 MΩ-1,000 ft.
Wire Electrical Surface Resistance	AS4373 Method 506	500 MΩ-inches, min. at 500 VDC	X	Pass
Electrical Dielectric Resistance - Wet Dielectric Voltage	AS4373 Method 510	2500 V (rms) at 60Hz, min.	X	Pass
Wire Diameter	AS4373 Method 901	28 AWG: 0.027±0.002"	X	0.028 Inches
Wire Weight	AS4373 Method 902	28 AWG: 0.91 lbs./1000 ft, Max	X	0.88 lbs/1,000 ft
Wire Insulation Stripping	AS5768/1 or AS5768/2, Examined per AS5768	Insulation readily removable without damage to the conductor	X	Pass
Workmanship	AS22759 5.5.6	No cracks, splits, irregularities, or embedded foreign material	X	Pass
Wire Color Designators and Munsell Limits	UV Munsell Color Limit Cards, MIL- STD-104	Visual inspection against Munsell color chart	X	Pass



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Wrap Back Bend Mechanical Resistance for Extruded Insulation	AS4373 Method 708	2 hours at 313°C ± 3°C No cracking or splitting	X	Pass
Insulation Low Temperature Mechanical Resistance/ Cold Bend	AS4373 Method 702	4 hours at -65°C ± 3°C DWV 2500 V (rms) at 60 Hz	X	Pass
Insulation Thermal Shock Mechanical Resistance	AS4373 Method 805	-55°C ± 3°C to 200°C ± 3°C 0.060" max. shrinkage	X	Pass
Thermal Mechanical Resistance - Life Cycle	AS4373 Method 807	500 hours at 230°C ± 3°C DWV 2500 V (rms) at 60 Hz	X	Pass
Ambient Mechanical Resistance – Mandrel Bend Test	AS4373 Method 712	No observed cracks and no wet dielectric breakdown	X	Pass
Fluid Resistance - Immersion	AS4373 Method 601	Diameter increase 5% max. DWV 2500 V (rms) at 60 Hz	X	Pass
Humidity Resistance	AS4373 Method 603	5000 MΩ-1000 ft., min.	X	Pass
Smoke Resistance	AS4373 Method 513	250°C ± 2°C No visible smoke	X	Pass
Flammability	AS4373 Method 801	Self-extinguishing flame within 3 seconds max. Flame travel 3" min.	X	Pass

5.0 Conclusion

Glenair's GS22759-33-28 wire meets all performance requirements of AS22759/33. This Qualifies GS22759-32, -44, -45, -46, -55 and -58 in the AWG range 28-30 through similarity of group 11 per AS22759 REV E.