

GT-23-213

Life Cycle Testing of TurboFlex[®] Wire at 270°C

Revision	Description of Changes	Date	Author
A	Initial Release	10/11/2023	Sam Farhat



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Revision A

1. Purpose

This report summarizes the results of aging Glenair TurboFlex® wire at 270°C for 576 hours (24 days) followed by bend testing, insulation resistance, and dielectric breakdown.

2. Test

Testing Agency	Location	Date	Test Report Title	Test Report Number
Vertical Laboratories	Glendale, CA	October 2, 2023	QTP-1374 Life Cycle Testing of TurboFlex® at 270°C	23270R1DTV1

3. Test Samples

Glenair Part Number	Description
961-003-N-G-0	TurboFlex® wire, size 1/0, 3000 Volt AC rated, nickel-plated copper, black insulation, 24 inches per sample

4. Test Summary and Results

Test	Test Parameters	Test Procedure	Result
Insulation Resistance	Insulation resistance at 500 VDC	ASTM D3032 Section 6	Pass
Initial Dielectric Breakdown Voltage	Ramp at 500 VAC per second, 60 Hz	ASTM D3032 Section 5	Pass
Life Cycle	576 hours (24 days) at 270°C	AS4373F Method 807	Pass
Bend Test After Aging	Bend samples around mandrel, examine insulation for cracks	AS4373F Method 712	Pass
Insulation Resistance After Aging	Insulation resistance at 500 VDC	ASTM D3032 Section 6	Pass
Dielectric Breakdown After Aging	Ramp at 500 VAC per second, 60 Hz	ASTM D3032 Section 5	Pass

Bend, IR, and Breakdown Voltage Values			
Hours at 270°C	Bend Test	Insulation Resistance, TΩ per 1000 feet	Breakdown Voltage after Bend Test, kVAC
0	NA	387	21.4
576	Pass	327	26.1

5. Conclusion

Glenair TurboFlex® wire demonstrates excellent resistance to aging at 270°C.