GT-24-089

GS22759 Radiation Resistance Test Report

Revision	Description of Changes	Date	Author
1	Initial Release	May 3, 2024	JC

1. Scope

This test report summarizes the results of exposing GS22759-32 and GS22759-43 to 500 Megarad (Mrad) radiation dosage and testing for dielectric performance.

2. Test Specimens

The parts numbers and descriptions of the Glenair GS22759 wires tested are listed in Table I.

Table I

Part Number	Description
GS22759-32-20-9	Wire, Electrical, Fluoropolymer-Insulated, Cross-linked Modified ETFE, Light Weight, Tin Coated Copper, 150°C, 600-Volt, RoHS
GS22759-43-22-9	Wire, Electrical, Fluoropolymer-Insulated, Cross-linked Modified ETFE, Normal Weight, Silver Coated Copper, 200°C, 600-Volt

3. Test Method

A 10 foot (3m) wire length was subjected to a radiation dosage of 500 Mrad at a dosage rate of 8 Mrad/min for 62.5 minutes. Within half an hour of the exposure, each wire was wrapped around a 1.5” diameter mandrel at an approximate rate of 2 rpm.

A 5% NaCl salt solution with 0.1 wt% Triton X-100 was prepared. The wire coil was removed from the mandrel and placed in the solution. The two ends of the wire were joined together and exposed to the test voltage, while the solution was grounded. The voltage was applied via a hi-pot tester. The voltage ramp rate used was 0.5 kV/s.

GS22759-32-20-9 was exposed to 1.5 kV for 5 minutes.
GS22759-43-22-9 was exposed to 2.5 kV for 5 minutes.

4. Summary of Results

Table 2 - Electrical Dielectric Resistance – Wet Dielectric Voltage

Part Number	Test Method	Requirement	Results
GS22759-32-20-9	ASTM D3032, section 8	0.5 kV/s ramp rate	1.5 kV for 5 minutes, No evidence of dielectric breakdown
GS22759-43-22-9	ASTM D3032, section 8	0.5 kV/s ramp rate	2.5 kV for 5 minutes, No evidence of dielectric breakdown