

# GLENAIR **ARMORLITE** 121-186-XXX SHIELDED CONDUIT ASSEMBLY

*Bombardier B08171002-xxx (Ref) Lightning Transfer Function Test*

## Sample matrix for lightning current tests

Number of sample sizes to be tested: Two (2). One additional spare set is provided.

Total samples supplied: Nine (9) (Quantity is maximum - potential for reduced number).

Sample Part Numbers: **B08171102 (Modified) with ArmorLite (See below).**

Bombardier B08171102-xxx	Glenair P/N Ref 121-186-xxx	Dia	Test Level 3KA	Test Level 6KA	Test Level 10KA	Test Level 15KA	Test Level 20KA	Test Level 25KA	Test Level 30KA	
-002	121-186-09	1/4"	→			*	→	1.		
-006	121-186-16	1/2"	→				*	→	*	2.
-010	121-186-32	1"	→							3.

### HYPOTHETICAL TEST SEQUENCING:

1. Starting with size one, sample one @ 3kA – test incremental levels to 6kA. Resume testing with size one, sample two @ 6kA – test incremental levels to failure.
2. Starting with size two, sample one @ 6kA – test incremental levels of 6kA, 10kA and 15kA. Resume testing with size two, samples two @ 15kA – test incremental levels to failure.
3. Starting with size three, samples one @ 15kA – test incremental levels of 15kA, 20kA and 25kA. Resume testing with size three, sample two @25kA – test incremental levels to 30kA or failure.

Notes: \* indicates level sequence of new sample with the same size.

General Guidelines - Waveform 5B per IAW SAE/ARP5416, Section 6.4 – Direct Injection. Abbreviated methodology (sampling quantities and pulse increments to accommodate request for comparative data.

One single positive polarity pulse to be applied @ each test level. (Resistance measurements before and after each strike).

Glenair will perform post exam 5000 Volts DC resistance test – wire to shield and wire to feedthrough (hi-pot) at our facility.

Test report including pictures of test setup, equipment and sample measurements will be provided.

Test facility selected: DNB Engineering Inc. – Fullerton, CA.

# WAVEFORM 5B

*Waveform 5B is a long-duration double exponential voltage and current waveshape that is characterized by a time-to-peak of 50  $\mu$ s and a time-to-50% decay of 500  $\mu$ s.*

*Waveform 5B is depicted in Figure 2 below:*

## TEST SET-UP

The test article will be positioned at the high generator output, as shown in Figure 2. Two simulated equipment chassis will be mounted on a metal ground plane that is terminated to the generator return. The chassis nearest the generator output will be insulated from the ground plane by a solid sheet of 50 mm (two-inch) thick foam that will extend over the one-meter distance between the two chassis. The other chassis will be bonded to the ground plane.

Each shielding sample to be tested will be laid out over the the foam insulation and terminated at each end to one of the chassis by means of a hose clamp and copper tube. The output of the 5B generator will be terminated directly to the insulated chassis. A diagram of the test setup is shown in Figure 2.

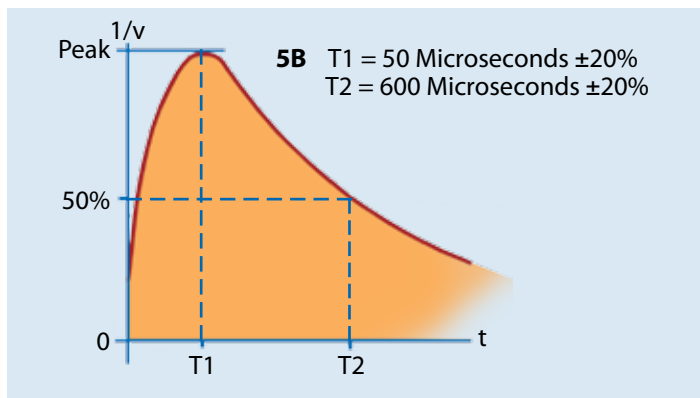


Figure 1: Waveform 5B

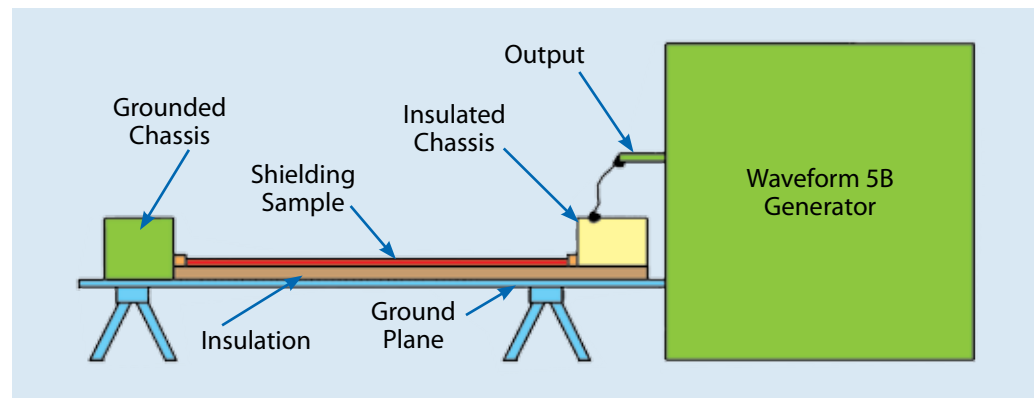


Figure 2: Current Handling Test Setup



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