LONESTAR ELECTROSTATIC SOLUTIONS

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SUMMARY

Testing of material samples were performed to ANSI/ESD STM4.1 to determine Resistance to Groundable Point and Resistance Point to Point. A qty of 3 samples were conditioned to the requirements of the test methods. Each test was performed per the referenced test methods with data recorded and shown below. Results showed a range on Resistance to Groundable Point of 10^6 – 10^6 Ohms. Range for Resistance Point to Point is 10^6 – 10^7 Ohms.

MATERIAL:

SafeMat
Sample Thickness: 0.125”
Sample Size: 24” x 10”

TEST CONDITIONS:

Qty 3 specimens @ 12.5% RH, 23.4°C, 51 hours conditioning.
Qty 3 specimens @ 50.4% RH, 23.6°C, 52 hours conditioning.
Test Voltage (@ Upper Resistance): 100 Volts
Electrification Period (@ Upper Resistance): 5-8 seconds

TEST DATA

TEST METHOD/S:

- **ANSI/ESD STM4.1**

STANDARDS:

- **PROSTAT PRS-801 RESISTANCE METER (CAL DATE 1-2023)**
- **PROSTAT 5LB ELECTRODE (QTY 2)**
- **ALL STANDARDS ON 1 YEAR CAL CYCLE.**

TABLE 1: SURFACE RESISTANCE TO GROUNDABLE POINT DATA

	Resistance To Groundable Point(Ohms) @ 12.5% RH, 23.4°C, 51 hours conditioning						
	Position	**Sample 1**	**Sample 2**	**Sample 3**	**Min**	**Max**	**Mean**
Test Method ANSI/ESD STM 4.1	1	4.2×10^6	4.8×10^6	3.9×10^6	3.9×10^6	4.8×10^6	4.3×10^6
	2	4.1×10^6	4.6×10^6	3.7×10^6	3.7×10^6	4.6×10^6	4.13×10^6
	3	4.5×10^6	4.4×10^6	3.9×10^6	3.9×10^6	4.5×10^6	4.27×10^6
	4	4.8×10^6	4.1×10^6	3.6×10^6	3.6×10^6	4.8×10^6	4.17×10^6
	5	4.7×10^6	4.3×10^6	3.5×10^6	3.5×10^6	4.7×10^6	4.17×10^6

	Resistance To Groundable Point(Ohms) @ 50.4% RH, 23.6°C, 52 hours conditioning						
	Position	**Sample 1**	**Sample 2**	**Sample 3**	**Min**	**Max**	**Mean**
Test Method ANSI/ESD STM 4.1	1	3.7×10^6	3.2×10^6	2.1×10^6	2.1×10^6	3.7×10^6	3.0×10^6
	2	3.3×10^6	3.8×10^6	2.0×10^6	2.0×10^6	3.8×10^6	3.33×10^6
	3	3.1×10^6	3.5×10^6	2.7×10^6	2.7×10^6	3.5×10^6	3.1×10^6
	4	3.4×10^6	3.4×10^6	2.6×10^6	2.6×10^6	3.6×10^6	3.13×10^6
	5	3.5×10^6	3.7×10^6	2.5×10^6	2.5×10^6	3.7×10^6	3.23×10^6

FIGURE 1: RESISTANCE TO GROUNDABLE POINT

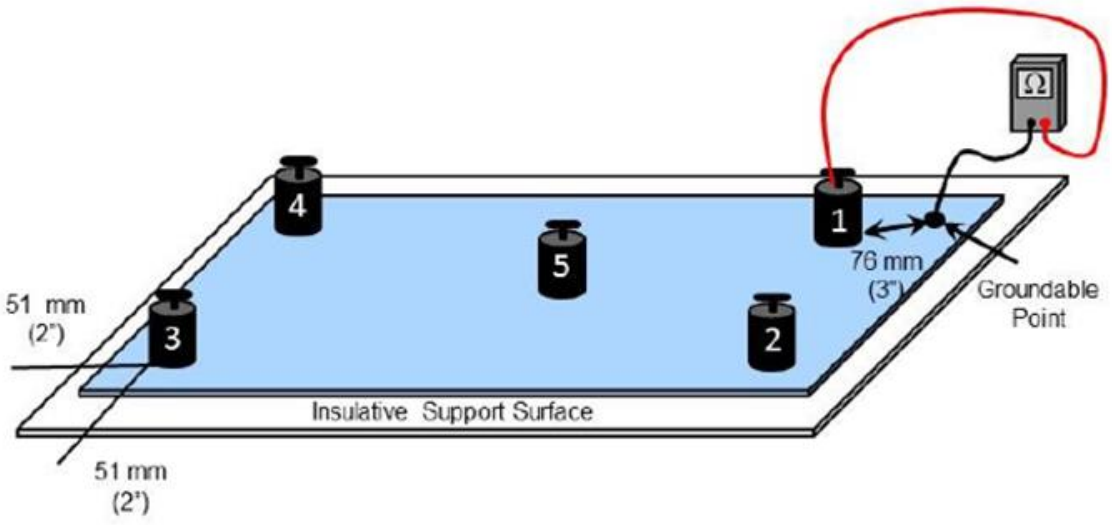

TABLE 2: CONDUCTIVE LAYER (BLACK) SURFACE RESISTANCE DATA

	Resistance Point To Point (Ohms) @ 12.5% RH, 23.4°C, 51 hours conditioning						
	Position	**Sample 1**	**Sample 2**	**Sample 3**	**Min**	**Max**	**Mean**
Test Method ANSI/ESD STM 4.1	A	7.5×10^6	1.4×10^6	6.5×10^6	6.5×10^6	1.4×10^7	9.33×10^6
	B	8.1×10^6	1.2×10^7	6.0×10^6	6.0×10^6	1.2×10^7	8.7×10^6
	C	8.0×10^6	1.6×10^6	6.9×10^6	6.9×10^6	1.6×10^7	1.03×10^7
	D	7.8×10^6	1.1×10^7	6.2×10^6	6.2×10^6	1.1×10^7	8.33×10^6

	Resistance Point To Point(Ohms) @ 50.4% RH, 23.6°C, 52 hours conditioning						
	Position	**Sample 1**	**Sample 2**	**Sample 3**	**Min**	**Max**	**Mean**
Test Method ANSI/ESD STM 4.1	A	4.4×10^6	6.3×10^6	4.0×10^6	4.0×10^6	6.3×10^6	4.9×10^6
	B	3.8×10^6	6.1×10^6	4.1×10^6	3.8×10^6	6.1×10^6	4.67×10^6
	C	4.5×10^6	6.1×10^6	4.4×10^6	4.4×10^6	6.1×10^6	5.0×10^6
	D	4.4×10^6	5.9×10^6	4.2×10^6	4.2×10^6	5.9×10^6	4.83×10^6

FIGURE 2: POINT TO POINT RESISTANCE