



LONESTAR ELECTROSTATIC SOLUTIONS

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SUMMARY

Testing of material samples were performed to ANSI/ESD STM11.11 and 11.12 to determine Surface and Volume resistance of the material. A qty of 6 samples were conditioned to the requirements of the test methods. Each was then tested per the referenced test methods with data recorded and shown below. Results showed a range on Surface Resistance of 10^9 – 10^{10} Ohms. Range for Volume Resistance is 10^9 – 10^9 Ohms.

MATERIAL:

4500-42190 A/S Ether PU
Sample Thickness: 0.125"

TEST CONDITIONS:

Qty 6 specimens @ 12.9% RH, 23.2°C, 65 hours conditioning.
Qty 6 specimens @ 50.2% RH, 23.3°C, 52 hours conditioning.
Test Voltage (@ Upper Resistance): 100 Volts
Electrification Period (@ Upper Resistance): 8-10 seconds

TEST DATA

TEST METHOD/S:

- ANSI/ESD STM11.11-2022
- ANSI/ESD STM11.12-2021

STANDARDS:

- PROSTAT PRS-801
RESISTANCE METER (CAL DATE 1-2023)
- PROSTAT PRF-911
CONCENTRIC RING (CAL DATE 2-2023)
- ALL STANDARDS ON 1 YEAR CAL CYCLE.

TABLE 1: SURFACE RESISTANCE DATA

Test Method	Surface Resistance (Ohms) @ 12.9% RH, 23.2°C, 65 hours conditioning								
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Min	Max	Mean
ANSI/ESD STM 11.11	1.8×10^{10}	2.3×10^{10}	2.1×10^{10}	2.2×10^{10}	2.2×10^{10}	2.3×10^{10}	1.8×10^{10}	2.3×10^{10}	2.15×10^{10}

Test Method	Surface Resistance (Ohms) @ 50.2% RH, 23.3°C, 52 hours conditioning								
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Min	Max	Mean
ANSI/ESD STM 11.11	5.1×10^9	6.0×10^9	6.3×10^9	6.4×10^9	6.6×10^9	6.7×10^9	5.1×10^9	6.7×10^9	6.20×10^9

TABLE 2: VOLUME RESISTANCE DATA

Test Method	Volume Resistance (Ohms) @ 12.9% RH, 23.2°C, 65 hours conditioning								
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Min	Max	Mean
ANSI/ESD STM 11.12	9.2 x 10 ⁹	7.9 x 10 ⁹	7.9 x 10 ⁹	8.4 x 10 ⁹	8.7 x 10 ⁹	7.5 x 10 ⁹	7.4 x 10 ⁹	9.2 x 10 ⁹	8.27 x 10 ⁹

Test Method	Volume Resistance (Ohms) @ 50.2% RH, 23.3°C, 52 hours conditioning								
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Min	Max	Mean
ANSI/ESD STM 11.12	2.5 x 10 ⁹	2.3 x 10 ⁹	2.9 x 10 ⁹	2.8 x 10 ⁹	2.9 x 10 ⁹	2.1 x 10 ⁹	2.1 x 10 ⁹	2.9 x 10 ⁹	2.58 x 10 ⁹