



# 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  $10^9$ –  $10^{10}$  Ohms.

## MATERIAL:

ASL 170  
Sample Thickness: 0.125"

## TEST CONDITIONS:

Qty 6 specimens @ 12.9% RH, 23.2°C, 58 hours conditioning.  
Qty 6 specimens @ 50.4% RH, 23.3°C, 55 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, 58 hours conditioning								
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Min	Max	Mean
ANSI/ESD STM 11.11	3.3 x $10^{10}$	2.4 x $10^{10}$	1.8 x $10^{10}$	2.9 x $10^{10}$	4.2 x $10^{10}$	3.7 x $10^{10}$	1.8 x $10^{10}$	4.2 x $10^{10}$	3.05 x $10^{10}$

Test Method	Surface Resistance (Ohms) @ 50.4% RH, 23.3°C, 55 hours conditioning								
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Min	Max	Mean
ANSI/ESD STM 11.11	1.3 x $10^{10}$	1.1 x $10^{10}$	4.1 x $10^9$	2.6 x $10^9$	1.1 x $10^{10}$	6.9 x $10^9$	2.6 x $10^9$	1.3 x $10^{10}$	8.10 x $10^9$

**TABLE 2: VOLUME RESISTANCE DATA**

Test Method	Volume Resistance (Ohms) @ 12.9% RH, 23.2°C, 58 hours conditioning								
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Min	Max	Mean
ANSI/ESD STM 11.12	2.9 x 10 <sup>10</sup>	3.4 x 10 <sup>10</sup>	2.8 x 10 <sup>10</sup>	1.9 x 10 <sup>10</sup>	4.0 x 10 <sup>10</sup>	3.3 x 10 <sup>10</sup>	1.9 x 10 <sup>10</sup>	4.0 x 10 <sup>10</sup>	3.05 x 10 <sup>10</sup>

Test Method	Volume Resistance (Ohms) @ 50.4% RH, 23.3°C, 55 hours conditioning								
	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Min	Max	Mean
ANSI/ESD STM 11.12	1.2 x 10 <sup>10</sup>	1.1 x 10 <sup>10</sup>	8.7 x 10 <sup>9</sup>	6.6 x 10 <sup>9</sup>	1.2 x 10 <sup>10</sup>	1.1 x 10 <sup>10</sup>	6.6 x 10 <sup>9</sup>	1.2 x 10 <sup>10</sup>	1.02 x 10 <sup>10</sup>