Point-to-Point Resistance Test Report

Two-Layer Rubber ESD Bench Mat — Layer-Specific Verification

Report ID	ESDBEST-PTP-2026-0729-01
Product	ESDBEST Two-Layer Rubber ESD Bench Mat
Sample size	250 x 300 mm (25 x 30 cm)
Nominal thickness	2.0 mm
Test date	29 July 2026
Tested by	Ailon Chen
Reviewed by	Rachel Zhong
Issued by	HORBEST Tech Co., Ltd

1. Purpose

This report records point-to-point (PTP) resistance measurements taken on a two-layer rubber ESD bench mat. The dissipative top layer and the conductive bottom layer were measured separately and each was evaluated against its own specified range.

The two layers are not evaluated against a single resistance range. A conductive bottom layer reading in the 10^4 region is performing as designed; comparing it against the 10^6–10^9 range specified for a dissipative working surface produces a false failure.

2. Test Equipment and Conditions

Parameter	Value
Instrument	ACL Staticide Model 800 Environment & Megohmmeter
Method	Point-to-point (PTP), two external weighted electrodes
Test voltage	10 V
Electrode spacing	150 mm (15 cm)
Temperature	29.2 – 29.4 °C
Relative humidity	81.7 – 82.5 %RH
Test locations	Randomly selected across each layer

External weighted electrodes were used for all measurements in this report. All values are in ohms.

3. Layer Specifications

Layer	Function	Specified range
Green top layer	Static-dissipative working surface	1 x 10^6 to 1 x 10^9 ohm
Black bottom layer	Conductive ground path	1 x 10^4 to 1 x 10^6 ohm

4. Results — Green Dissipative Top Layer

Specified range: 1 x 10^6 to 1 x 10^9 ohm

ID	Measured PTP resistance	Result
PTP-T01	2.00 x 10^6 ohm	Within specification
PTP-T02	2.01 x 10^6 ohm	Within specification

Observed range: 2.00 - 2.01 x 10^6 ohm. 2 / 2 within specification.

5. Results — Black Conductive Bottom Layer

Specified range: 1 x 10^4 to 1 x 10^6 ohm

ID	Measured PTP resistance	Result
PTP-B01	5.76 x 10^4 ohm	Within specification
PTP-B02	3.12 x 10^5 ohm	Within specification
PTP-B03	3.12 x 10^5 ohm	Within specification
PTP-B04	6.23 x 10^4 ohm	Within specification
PTP-B05	6.26 x 10^4 ohm	Within specification
PTP-B06	3.50 x 10^4 ohm	Within specification

Observed range: 3.50 x 10^4 to 3.12 x 10^5 ohm. 6 / 6 within specification.

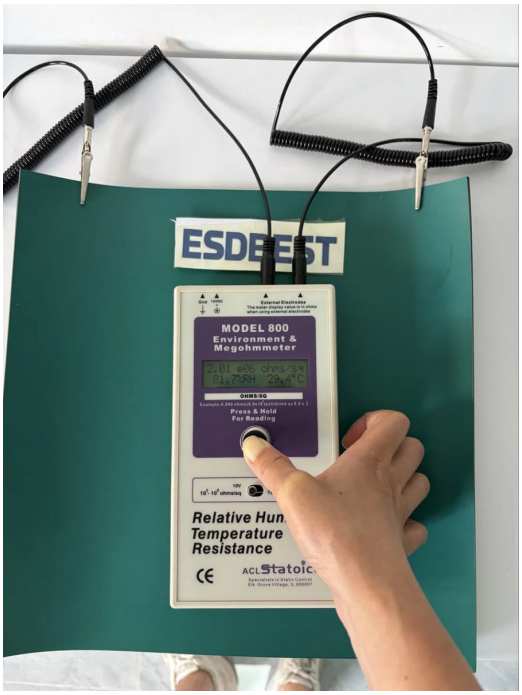
6. Summary

	Green top layer	Black bottom layer
Specified range	1 x 10^6 - 1 x 10^9 ohm	1 x 10^4 - 1 x 10^6 ohm
Observed range	2.00 - 2.01 x 10^6 ohm	3.50 x 10^4 - 3.12 x 10^5 ohm
Readings	2	6
Within specification	2 / 2	6 / 6

All eight recorded measurements were within the specified range for the layer being measured. A summary statement of the form "8/8 passed 10^6–10^9 ohm" would be incorrect: six of these readings sit below 10^6 ohm by design.

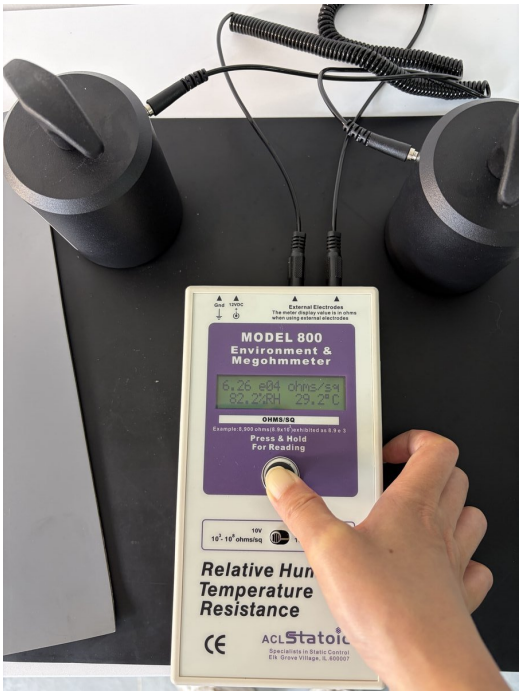
7. Photographic Evidence

Each photograph shows the reading together with the ambient temperature and relative humidity logged at that moment.

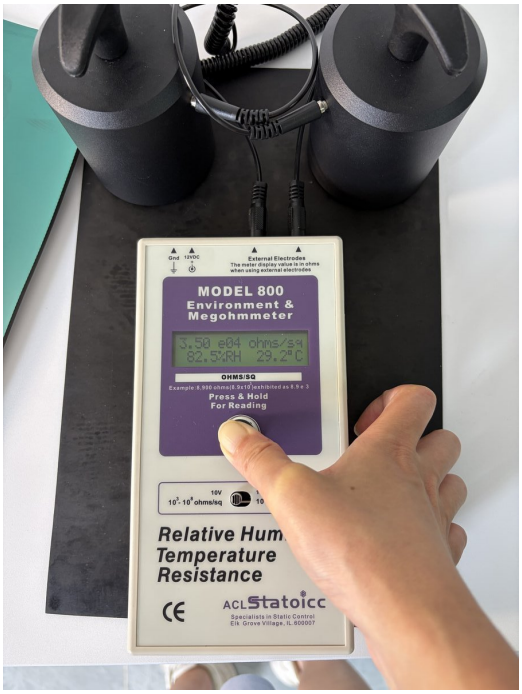


PTP-T02 — green dissipative layer, 2.01 x 10^6 ohm at 81.7 %RH, 29.4 °C.

PTP-B04 — black conductive layer, 6.23 x 10^4 ohm at 82.3 %RH, 29.2 °C.

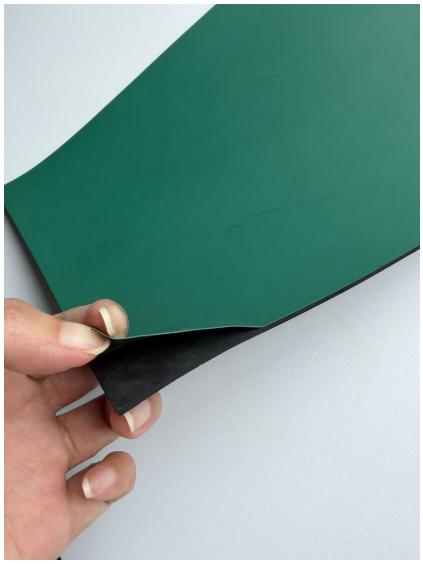


PTP-B05 — black conductive layer, 6.26 x 10^4 ohm at 82.2 %RH, 29.2 °C.



PTP-B06 — black conductive layer, 3.50 x 10^4 ohm at 82.5 %RH, 29.2 °C.

8. Two-Layer Construction



The green dissipative working surface separated from the black conductive base.

9. Scope and Limitations

- These values apply to the tested sample under the documented conditions. They are not a substitute for lot-by-lot QC records and should not be generalised to every production lot.
- Surface resistance varies with humidity. A reading quoted without its ambient conditions cannot be meaningfully reproduced or compared. Ambient conditions are recorded for every measurement in this report.
- Each layer is evaluated against its own specified range. This report makes no claim that both layers fall within a single range.
- Buyers requiring batch-specific verification should request the corresponding QC documentation with their order.

10. Approval

Tested by	Ailon Chen	Date	29 July 2026
Reviewed by	Rachel Zhong	Date	_____
Signature	_____	Revision	1.0

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