



DAYSTRONG HYDRIN[®] ESD MAT DATA SHEET

This data sheet covers the DayStrong Dual Layer ESD Mat produced by DayStrong Rubber Products, LLC, in Mauldin, South Carolina. The mat is based on the Hydrin[®] polymer, a synthetic elastomer manufactured by Zeon Chemicals in Hattiesburg, Mississippi.

The DayStrong ESD Mat is a dual layer rubber product, with a crosshatched, textured, top dissipative layer blue, green or gray in color, and a black conductive bottom layer. The Hydrin[®] polymer in the top layer is inherently and permanently static dissipative so no other additives or chemicals are required to achieve static dissipation. By eliminating the need for additives and chemicals to dissipate static charges the DayStrong ESD Mat has ultra-low outgassing and virtually no VOC or blooming properties. The DayStrong Hydrin ESD mat will maintain resistance to ground of 10^6 to 10^8 ohms for 5 years or more. If the mat fails to maintain resistance to ground of 10^6 to 10^8 ohms for 5 years DayStrong will replace the table or floor mat free of charge if the failure has not been the result of physical or chemical damage to the mat.

Other attributes the patent pending rubber formula gives the DayStrong ESD Mat is a stable and uniform electrical resistance across the entire mat surface, reduced risk of a static event and a mat with an extended lifetime. Additional benefits are heat resistance up to 150° C (302° F), no discoloration of the mat surface or any impact on the electrical properties of the mat from long term exposure to UV light. No degradation of the mat's surface or static dissipative properties when cleaned with typical solvents such as isopropyl alcohol. The mat is impervious to most disinfectants. The high strength DayStrong ESD Mat is elastic and durable, resists tears, punctures and abrasion, and the unique vulcanization process prevents the mat from curling or delaminating.

The DayStrong ESD Mat can be used as a table mat, floor mat, shelf liner or tray liner. The outstanding heat resistance of the rubber formula makes the DayStrong ESD Mat an excellent choice as a PCB baking tray liner. The high heat resistance of the mat allows it to be cycled through baking ovens multiple times before it has to be replaced. Test results show ultra-low voltage generation in ANSI/ESD STM97.2 Walking Test for Flooring. Ultra-low outgassing, non-VOCs, and non-blooming attributes make these mats appropriate for use in clean rooms. ANSI/ESD S20.20 (Electrical Discharge Control Program Standard) tested and approved.

Electrical and Physical Properties

Property	Test Method	Unit	Typical Value
Surface Resistance (Rp-p)	ANSI/ESD STM7.1	Ohm	2.0×10^6 @12%RH
Resistance to Ground (RTGP)	ANSI/ESD STM7.1	Ohm	1.6×10^6 @12%RH
Resistance to Ground	ANSI/ESD STM97.1	Ohm	1.3×10^6 @ 12%RH, Shoe Straps
Voltage Generation	ANSI/ESD STM97.2	Volts	<5 with ESD Shoes or Shoe Straps
Resistance of Conductive Layer	ANSI-ESD S4.1	Ohm	$<1 \times 10^4$ @12%RH
Hardness	ASTM D2240	Shore A	57
Tensile Strength	ASTM D412	PSI (MPa)	1640 (11.3)
Elongation at Break	ASTM D412	%	600
Tear Strength	ASTM D1938	PPI N/mm)	65 (11.2)
Outgas / Contamination			Ultra-low

DayStrong ESD Mats Comply with the European Union REACH & RoHS Directives, as well as Conflict Minerals pursuant to Section 1502 of the 2010 Wall Street Reform and Consumer Protection Act.3+