

ESD STATIC PROTECTION

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Pro'sKit® ESD Tools Solution

What is static electricity? How to prevent?

Static electricity is the imbalance of positive and negative electric charge caused by different materials rubbing together and building up a charge on the surfaces.

On production lines for electronic equipment, components such as IC's may be damaged by such static charges being discharged too quickly. For static control in work areas, use dissipative mats on floors and table surfaces and have personnel wear anti-static wrist straps and heel grounders.

Pro'sKit® ESD series of tools help to dissipate static charges and avoid potential costly problems.

The resistance and decay time of conductor, static control products and insulator

Conductor means the materials which have the electrons held loosely and the electrons can move easily, most of metals are good conductor.

Static control products means the products designed for static control or elimination to protect electronic components and human body against injury.

Insulator means the materials which have the electrons held tightly and the electrons don't move well. Plastic, cloth, glass and dry air are good insulators.

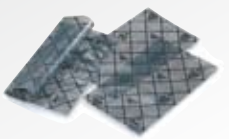
	CONDUCTOR	STATIC CONTROL PRODUCT	INSULATOR
Resistance(Ω)	10^5	10^8	10^{12}
Decay time(SEC)	10^{-6}	10^{-3}	10^0

ESD Products Test Method


Pro'sKit® ESD series products are tested in accordance with ESD Association standard as following EPA (ESD protected areas) ESD Control Program

ESD Control Item	Product Qualification ¹	
	Test Method	Required Limit(s) ²
Worksurface	ANSI/ESD S 4.1 and or ANSI/ESD STM 4.2	< $1 \times 10^9 \Omega$ and/or < 200 volts
Wrist Strap Cord	ANSI/ESD S1.1	0.8×10^8 to $1.2 \times 10^8 \Omega$
Wrist Strap Cuff	ANSI/ESD S1.1	Interior < $1 \times 10^5 \Omega$ Exterior > $1 \times 10^7 \Omega$
Wrist Strap Cord Bending Life	ANSI/ESD S1.1	> 16,000 cycles
Foot Grounders	ESD SP9.2	< $1 \times 10^9 \Omega$
Flooring	ANSI/ESD S7.1	< $1 \times 10^9 \Omega$
Mobile Equipment (Working Surfaces)	ANSI/ESD S4.1	< $1 \times 10^9 \Omega$


Pro'sKit® ESD products applications




Grid Bags




Tool Kit




Plier&Cutter




Stripper



Tweezer & Pick-Up Tool



Soldering & Desoldering



Screwdriver & Alignment Tool

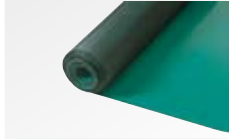

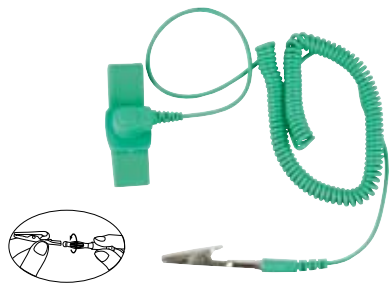


Table & Floor Mat



Wrist Strap & Foot Ground

▶ 900-002/900-012

Wrist Strap Series

▶ 900-132/900-133

Wrist Strap Series

▶ 900-022/900-023

Wrist Strap Series

Model No.	Band resistivity	Wrist strap resistivity	Wrist belt	OAL(ft)	Individual packing
900-002	<50Ω	10 ⁶ Ω	Fixed	10	Blister card
900-012	<50Ω	10 ⁶ Ω	Fixed	6	Blister card
900-132	<50Ω	10 ⁶ Ω	Adjustable	10	Blister card
900-133	<50Ω	10 ⁶ Ω	Adjustable	6	Blister card
900-022	<10 ⁴ Ω	10 ⁶ Ω	Adjustable	10	Blister card
900-023	<10 ⁴ Ω	10 ⁶ Ω	Adjustable	6	Blister card

▶ 900-057 **Foot & Heel Ground** Polyester+
conductive fiber

These versatile heel grounders have a specially designed dual-layered cup construction for superior floor contact.



Resistivity	Wrist belt	Individual packing
1-2 x 10 ⁶ Ω	Adjustable	Blister card

▶ 900-056 **Field Service Kit**

Model No.	900-056
Material	Conductive PVC
Resistivity	10 ⁸ ~10 ¹¹ Ω
Wrist belt	With 6ft wrist strap and 10ft grounding wire w/alligator clip
Size(mm/inch)	650x600/25.6x23.6
Individual packing	Color box

▶ 900-114/900-116 **Static-Dissipative Mat**

Model No.	900-114	900-116
Material	Face layer: 0.2mm laminated PVC Center, Layer: 2.7mm PVC foam, Bottom layer: 0.1mm laminated PVC, Combination layer: conductive drug	
Resistivity	Face & Center & Bottom, Layers: 10M~1KMΩ/SQ Combination layer: 1K~1MΩ/SQ, Static decay time: less than 0.5sec	
Description	Static dissipative mat for keyboard& mouse & touch	Static dissipative mat for OA desk-top
Size(mm/inch)	600x1200/23.6x47.2	600x600/23.6x23.6
Individual packing	Color box	Color box

