

EXOCHOS STATIC TECHNOLOGIES

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ESD Brush

Technical Information:

The ESD brushes are directly in contact with PCB. The brush includes 2 parts namely the handle and the bristles. The Indian made brushes have the conductive handle (Surface Resistivity – 10^4 to 10^5) and Bristles are made of Static Dissipative Poly Propylene (Surface Resistivity – 10^6 to 10^9).

The basic characteristics of ESD Brushes is to dissipate electrostatic charge generated on the PCB or by the PCB to ground through human body connected via Anti-static wrist strap or ESD footwear on ESD Flooring and ultimately to the ground.

Explanation with Formula:

$$F = \frac{kq_1q_2}{r^2}$$

Here,

k – Constant, q_1 & q_2 – Charge on particle 1 & 2 d – Distance between 2 components.

Therefore, while cleaning the bristles are in direct contact with the cleaning surfaces (PCB). Here, the distance between bristles and ESD sensitive device is zero & hence the (d) becomes zero. If $d=0$, then the equation become Infinitely charged which damages to SMD's and sensitive components if the bristles are insulative in nature.

Hence, the bristles and the handle should be Static Dissipative in nature.

Technical Specifications:

1. Handle To Handle – 10^2 to 10^5 Ohms/ sq.mm
2. Handle to Bristle – 10^6 to 10^9 Ohms/ sq.mm
3. Bristles to Bristles - 10^3 to 10^7 Ohms/ sq.mm

