

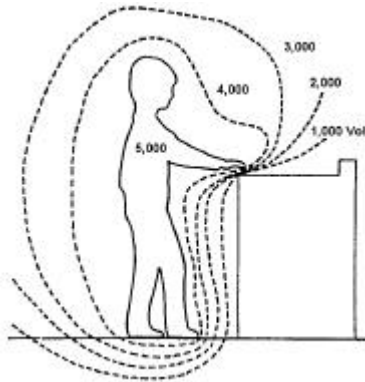
# Protection against electrostatic discharge (ESD)

Today's high-density electronic components, with their low current consumption, are very susceptible to electrostatic effects, and during the manufacturing process, can be damaged by current peaks resulting from electrostatic discharge. They must therefore be manipulated only in an electrostatically- acceptable environment.

In order to effectively prevent such damage, electronics workplaces will in the future be subjected to more stringent regulations with regard to electrostatic conditions. Obtaining best protection against electrostatic discharge is becoming very important in the manufacture and processing of electronic components, because manufacturers are being forced to take action to counteract the escalating costs which result from damaged components.

- Surface resistance < 10 11 ohm/square
- Time to reduce charge from 1000V to 100V < 2 seconds

\*Patented in US, patent applied in other countries.



A person who is in an electromagnetic field and who carries a static charge

High voltages can be transmitted from the operator to the component if the operator carries an electrostatic charge and approaches or touches the component, or if the component comes close to an instrument (such as a stereomicroscope) which is itself electrostatically charged.

## Electrostatic charging and discharging

Almost any object or material can accumulate an electrostatic charge. The size of this charge, and the speed and manner in which it is conducted and discharged, depend on the electrical characteristics of the material involved. Particularly important characteristics of these various materials are the surface resistance and the discharge time.

- The surface resistance is expressed in ohm/square and is a measure of the resistance between the opposing edges of a square.
- The discharge time is the time required to reduce an electrostatic charge to a defined percentage (generally 10%) of its original value.

## LEICA MS5, MZ6, MZ7<sub>5</sub>, MZ9<sub>5</sub>, MZ12<sub>5</sub> now available as ESD version

This product improvement meets the increasing demand from the electronics and semiconductor industries for stereomicroscopes which do not accumulate an electrostatic charge. The modified polymer to be used in future for the LEICA MS5, MZ6; MZ7<sub>5</sub>, MZ9<sub>5</sub> and MZ12<sub>5</sub> stereomicroscopes\*, like those of the GZ4 and GZ6, has the following properties:



The 4mm diam. connecting sockets are for attaching the ground (earthing) cables, enabling a conductive link between microscope carrier and incident-light base to be established if required.

**Leica**

MICROSYSTEMS