

## When Do You Need Ionization?



Neutralization of charges on insulators does occur naturally. However, the process is much too slow for ESD susceptible components.

A complete static control program must address isolated conductors that cannot be grounded and insulating materials (e.g., most common plastics). Ionization must be used if an insulator cannot be:

1. Removed from the ESD Protected Area
2. Substituted with an ESD protective version
3. Controlled with a topical antistat

Insulators that require ionization are often

### Benchtop Ionizers



referred to as process necessary insulators. Common process necessary insulators used for manufacturing electronics include flex cables, product enclosures, test fixtures, and the PCB substrate itself.

The primary functions of ionizers with regard to ESD susceptible components are:

1. Discharge / Neutralize process necessary insulators that can charge ESDS devices / assemblies via induction, thus creating potential CDM damage, and/or
2. Discharge / Neutralize ESDS devices / assemblies that are not grounded, thus are an isolated conductor, thus creating potential CDM damage, and/or
3. Discharge / Neutralize insulators where particulate contamination can cause visual defects (for example - dust on plastic or glass lenses, attracted to / held in place by Electrostatic Attraction [ESA])

## Overhead Ionizers



## Compressed Air Ionizers

