INSTITUTE OF ENVIRONMENTAL SCIENCES AND TECHNOLOGY

Contamination Control Division
Recommended Practice 022.2

IEST-RP-CC022.2

Electrostatic Charge in Cleanrooms and Other Controlled Environments

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1 SCOPE AND LIMITATIONS

1.1 Scope

This Recommended Practice (RP) discusses methods for specifying and evaluating the effectiveness of techniques for controlling electrostatic charge. Proper control of electrostatic charge may reduce particulate contamination on surfaces and the likelihood of electrostatic discharge. This document, which describes typical control systems and their applications, also lists methods of testing and measurement of charge generation, charge neutralization, resistivity of surfaces and materials, and static field attenuation.

1.2 Limitations

This RP excludes specific evaluation and qualification related to the protection of ordnance, flammable materials and explosives. This RP does not prescribe design or control limits; quality acceptance standards; process issues; or health, safety, and environmental issues and practices outside of contamination control issues. Users should establish their own quality standards.

2 REFERENCES

2.1 Documents

2.1.1 ASTM

D257-78 Standard Test Methods for DC Resistance or Conductance of Insulating Materials

E595-93 Standard Test Method for Total Mass Loss and Collected Volatile Condensable Materials from Outgassing in a Vacuum Environment

E1235-01 Standard Test Method for Gravimetric Determination of Nonvolatile Residue (NVR) in Environmentally Controlled Areas for Spacecraft

F331 Test Method for Nonvolatile Residue Extract from Aerospace Components (Using Flash Evaporator)

2.1.2 EIA

EIA-583 Packaging Material Standards for Moisture Sensitive Items

2.1.3 ESD

ESD ADV1.0-1994 for Electrostatic Discharge Terminology – Glossary