



Battery Production- Pouch Cell Conveying Trays

in Semitron® ESd Range of Materials

Challenge

Prevent static electricity build-up in battery production systems by providing conductive, dissipative, and antistatic properties over a long lifetime.

During assembly and conveyance of the battery, static electricity can build up when separate parts rub against each other or when dry air blows over the parts. In order to prevent damage to the batteries, the static charge must be dissipated in a controlled way.

Key Requirements

- Controlled electrostatic dissipation (ESd) by tight range of surface resistivity, also after machining
- Maintain surface resistance after being exposed to high voltage
- Wide range of products (wide portfolio) available for use, in consideration of operating temperature, chemical resistance, and mechanical properties
- Maintain semi-permanent ESd function unlike conventional coating methods

Our Recommendation:

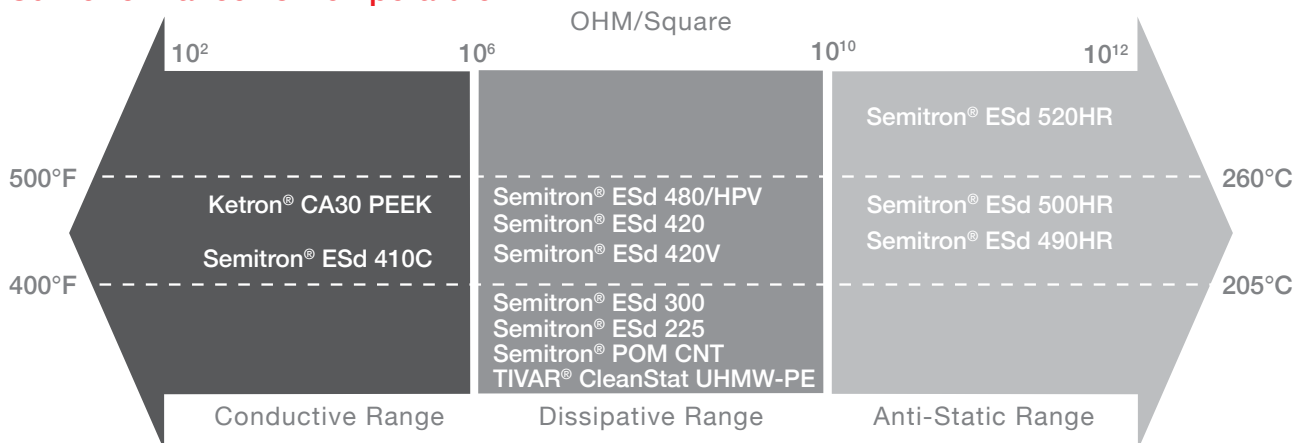
- Semitron® ESd 520HR PAI (A)
- Semitron® ESd 500HR PTFE (A)
- Semitron® ESd 490HR PEEK (A)
- Semitron® ESd 480 PEEK (D)
- Semitron® ESd 420V PEI (D)
- Semitron® ESd 420 PEI (D)
- Semitron® ESd 410C PEI (C)
- Semitron® ESd 300 PET (D)
- Semitron® ESd 225 POM (D)

A = Anti-Static

D = Static Dissipative

C = Conductive

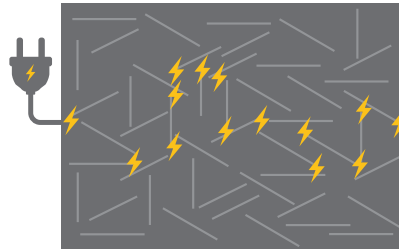
ESd Performance vs. Temperature



Effects of High Voltage on Carbon Filled Plastics (Carbon-filled ESD Plate)



Before High Voltage Arcing



After High Voltage Arcing

When a threshold of electrical current is exceeded, the energy will arc across the plate essentially “frying” a path.

Mitsubishi Chemical Advanced Materials technology actually allows for recovery of this path, maintaining properties after the applied voltage shock.

Customer Benefits

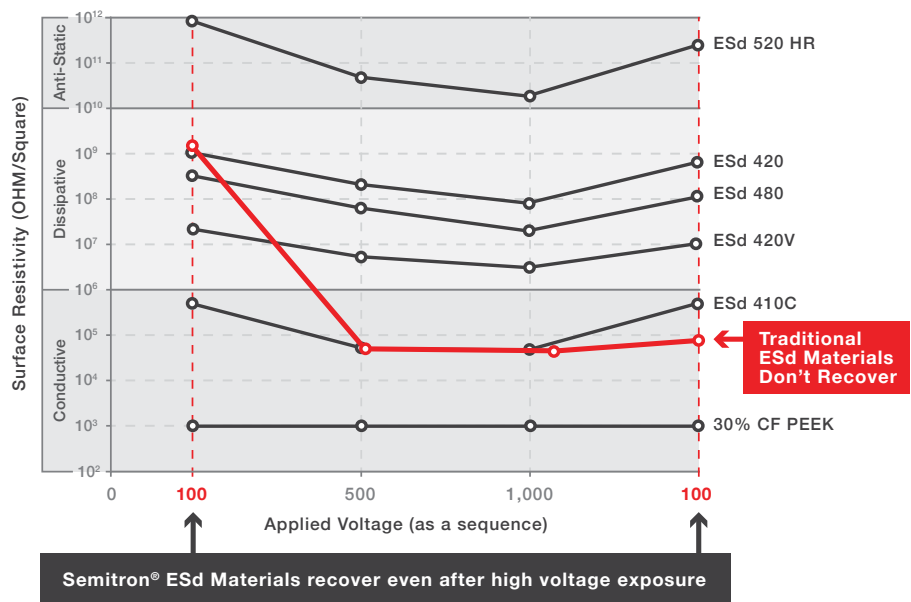
- Damage prevention from uncontrolled discharges
- Increased employee safety during production

Why Semitron® ESD Materials?

Semitron® ESD materials are designed for stable ESD properties. They will not change ESD properties after high voltage exposure.

Semitron® ESD materials are available as a comprehensive portfolio. This allows the designers to optimize the price/performance of their specific applications.

High Voltage Exposure



alro.com | | plastics@alro.com



All statements, technical information and recommendations contained in this publication are presented in good faith and are, as a rule, based upon tests and such tests are believed to be reliable and practical field experience. The reader, however, is cautioned, that Mitsubishi Chemical Advanced Materials does not guarantee the accuracy or completeness of this information and it is the customer's responsibility to determine the suitability of Mitsubishi Chemical Advanced Materials' products in any given application. TIVAR is a registered trademark of the Mitsubishi Chemical Advanced Materials group of companies.

Design and content created by Mitsubishi Chemical Advanced Materials and are protected by copyright law. Copyright © Mitsubishi Chemical Advanced Materials. All rights reserved.

MCM RE 0007A | 10.11.19



Alro Plastics

alroplastics.com

CHICAGO
279 Madsen Drive
Suite #102
Bloomington, IL 60108
Ph: (888) 877-2576

CLEARWATER
12171 62nd Street
Suite #150
Largo, FL 33773
Ph: (727) 573-1480

DETROIT
1750 E. Heights Drive
Madison Heights, MI 48071
Ph: (800) 877-2576

EVANSVILLE
1414 Baker Avenue
Evansville, IN 47710
Ph: (812) 424-5554

GRAND RAPIDS
4670 60th S.E.
Grand Rapids, MI 49512
Ph: (616) 656-2820

JACKSON
2218 Enterprise
Jackson, MI 49204
Ph: (517) 787-5500

LOUISVILLE
5500 Shepherdsville Rd
Suite #300
Louisville, KY 40228
Ph: (502) 968-9980