

StaticSmart™

ESD Vinyl Tile

Product Specifications and Installation

1.1 Description

This section includes an ESD modular conductive vinyl tile system for use in electronic manufacturing environments including specifications for total system resistance to ground.

1.2 Approved Materials

Approved materials for application within this scope shall possess the following minimum characteristics.

1. ESD Vinyl Tile

A. Construction Factors:

Composition: homogenous solid vinyl that has conductive elements throughout the product

Size: 24" x 24"

Thickness: 2 mm

B. Physical & Electrical Properties

Dimensional Stability by Heating, KSM3802-98: T.D(%) 0.16, M.D(%) 0.15

Indentation, KSM3802-98: 20°C - 0.39mm, 45°C - 0.6mm

Electrical Resistance, ESD 7.1: $2.5 \times 10^4 - 1.0 \times 10^6$, $1 \times 10^6 - 1.0 \times 10^8$

5KV Static Decay Time, Federal TM101B: Less than 0.25 Sec

Static Generation, AATCC 134: Less than 100 volts

Residual Indentation, KSM3802-98: 1.3%

Durometer Hardness, KSM3043-95: 60

Specific Gravity, KSM3016-95 Method A: 1.504

Abrasion Resistance Weight Loss, ASTM D 4060: 10 mg

Abrasion Resistance Heat Loss, KSM3802-98: 0.1%

Flammability, 5.564KSM3015-97 Method A: Non-Flammability

DOP Content, GC Analysis: 0.03%

Out Gassing, ASTM/E 595 TML(Total Mass Lost): 0.17%

Out Gassing, ASTM/E 595 CVCM: 0.03%

2. Conductive ESD Adhesive

A. Construction Factors:

Base: 2 part polyurethane

B. Groundable Path

Copper foil strips, 2" x 24", < 10 Ohms

1.3 Description of Work

A. Preparation and Installation

- The floor must be dry, free of any foreign materials and level. (should maintain a level surface over a length of 3m with a maximum variance of 3mm)
- Concrete floor must be smoothed and when copper tapes are to be applied to ceramic tiles or wooden floors, any holes, cracks, gaps, etc. should be completely filled in.
- Tile and adhesive should be stored at the site under normal temperature of between 65°F and 85°F for at least 24 hours prior to beginning installation and shall be stored under normal temperature (between 65°F and 85°F) for at least 24 hours after completion of work.
- Tiles of same LOT should be used for additional adjacent areas.
- It is strongly recommended to use adhesive approved by Julie Industries and a thorough mixing is required before use. Spread coverage using a 1/32" deep x 1/16" open by 1/32" flat notched trowel is approximately 150 square feet on smooth, steel troweled concrete or non-porous substrate. Coverage will vary according to the type of surface, surface texture, spreading angle, and adhesive temperature. When using on non-porous substrates, the adhesive must be allowed to "tack up".
 - Size of adhesive applying trowel (1/32" deep x 1/16" open by 1/32" flat notched)
 - Using appropriate size trowel, apply conductive adhesive evenly over the floor.
 - To ensure good adhesion, be sure to allow adhesive to dry for 15 minutes. The adhesive remains workable for 1 hour.
- After adhesive has dried, tiles are to be pressed rolled from the middle of the tile alignment line toward the perimeter of the floor.
- 48 hours after laying the tile and adhesive is cured a V-shape groove is cut to a depth of about 2/3 tile's thickness along tile joints.
- Using PVC welding rod of 3 - 4mm diameter, welding is performed by welder.
- Any protruding parts in welded area will be cut off with knife to become flush with adjacent areas.
- When an additional 24 hours have elapsed following the completion of the above processes, the finished surface will be cleaned off with neutral detergent using a sponge.

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11. Upon completion of laying processes, the entire area will be evenly rolled with a roller weighing 80kg for the best adhesion and seating.

CAUTION

- Any excessive adhesive on the finished tile surface must be cleaned off with a soft cloth before being dried.
- Care should be taken not to expose the finished surface to the sun, heat or temperature above 30°C before the adhesive is properly hardened (48 hours), for there is a risk of undesirable material expansion.
- Do not walk on the finished floor until the adhesive has completely cured. This normally takes 48 hours.

1.4 Grounding

Julie Industries StaticSmart ESD Vinyl Tiles are primarily used for eliminating static electricity and should therefore be grounded so that any absorbed electricity can be discharged to outside. The method of grounding can be selected depending on the site conditions and preference of user.

a. Building Ground

Connect copper foil grounding strap to the structural building steel every 1,000 s.f.

or

b. Electrical Ground

Connect copper foil grounding strap to the electrical ground every 1,000 s.f.

1.5 Maintenance

NEVER apply wax on the surface of products.

Sand or any other foreign material should be removed from the floor since they may cause damage to the surface.

The product is susceptible to staining from asphalt, lip stick, some adhesive material. Any dirt can be removed by using neutral detergent, but the detergent should be removed by wiping the affected area with lightly wet cloth.

Features

- 2 - 24" x 24" Standard Stocked ESD Vinyl Tile Colors
- Impervious Homogeneous Wear Layer
- High Vinyl Content
- Scratch Resistant
- Unique Conductive ESD Adhesive
- Easy Installation
- Reliable Electrical Performance
- Resistive to Most Production Acids
- Rated for Tough Pallet Jack Traffic
- Certified Installers or Turnkey Application
- Five Year Warranty

Questions/Assistance

If in doubt, call JULIE Industries Customer Service at 978-988-8802, Monday-Friday between 8:30 am and 5:00 pm EST.

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