Statguard® ESD Pure Vinyl Tile Installation & Testing Procedure

IMPORTANT!
BEFORE PROCEEDING WITH INSTALLATION, BE SURE TO READ TB-5019 THE FLOOR PREPARATION PROCEDURES!

Description:
Statguard® ESD Pure Vinyl Tiles creates an ESD floor that is very resistant to chemicals, liquids and is guaranteed to maintain its conductivity properties for the life of the installation. Installed using conductive adhesive and copper foil grounding strips is required.

Statguard® ESD Pure Vinyl Tiles meets the recommended technical range for ESD Floor of ANSI/ESD S20.20 Table 1 and is designed to be low tribocharing (antistatc), and dissipative (able to provide a path-to-ground to remove electrostatic charges). “ESD protective flooring, used with approved footwear, may be used as an alternative to the wrist strap system for standing operations” (ANSI/ESD S20.20 section 6.2.2.2)

Moisture Testing:
Moisture testing is critical to a successful end result.

Testing should be per ASTM F-1869 standard test method for measuring moisture vapor emission rate of concrete sub floor using anhydrous calcium chloride per Technical Bulletin TB-5024.

Adhesive:
• Dry slab on grade - dry slab below grade check for possible moisture problems using our 81305 moisture test kit and ensure that moisture readings are within acceptable levels 3 pounds of moisture per 1000sq/ft. Use Two Part 81521 conductive adhesive.

• Dry slab above grade (suspended) - use One Part 81520 conductive adhesive or Two Part 81521 conductive adhesive. Check moisture readings.

Procedures for Installing over Terrazzo, Ceramic, Natural/ Agglomerated Marble, Granite and Metal Substrates:
• After proper preparation use Two Part 81521 conductive adhesive in accordance with the installation procedures.

Two Part 81521 Conductive Epoxy Adhesive

Description:
81521 is a two part component conductive epoxy adhesives of syrupy consistency. It is formulated to bond where high performance, interior installation is required.

Limitations:
1. Protect from freezing in transit and storage. If frozen, allow to return to room temperature without stirring.
2. Do not use when the substrate temperature is below 15°C (59°F) or above 30°C (86°F).
3. For interior installations only.

Directions:
• Remove the lid of part A and stir using a mechanical mixer.

• Remove the lid of part B and pour all the contents of part B into the container of part A. Use a rubber spatula to remove all of the part B from the container. Thoroughly mix both part A and part B together. The use of a mechanical mixer is required to ensure proper mixing. Inadequate mixing will cause bond failure.

Application:
• Pour the full amount of the mixed adhesive onto the floor immediately after mixing and spread with a 1/32” x 1/32” x 1/32”. U-notched trowel. Ensure proper transfer covering 100% of the tile backing.

Note: Do not leave mixed epoxy adhesive in original can; the heat generated by this chemical mixture reduces the open time of the adhesive.

• After spreading the adhesive, let it flash off for 10 minutes, then lay the tile into the adhesive (do not force the tiles together tightly, rather place them so that seams are just touching). Take care to use kneeling boards or work off the tile whenever possible. Remove excessive adhesive from the surface of tile with a cloth moistened with a soapy solution or denatured ethyl alcohol or isopropyl alcohol (friction alcohol) while adhesive is wet.

• Open time of adhesive will vary depending on site conditions (i.e. temperature, humidity). The adhesive is still workable if it is wet and transfers to the fingers when touched. The installer should observe adhesive transfer to the back of the tile prior to and following cross rolling with a 100 pounds sectional roller. The back of the tile should be covered 100% with the adhesive. The floor **MUST** be rolled prior to adhesive hardening. A second rolling must be done 2 to 3 hours after the first rolling.

Clean-Up:
• Clean excess adhesive on the tile and tools promptly using a soapy solution or denatured ethyl alcohol or isopropyl alcohol (friction alcohol).

Note: epoxy adhesives cannot be removed after they have set.

Caution:
• Keep from freezing.

NOTE: Statguard® ESD Pure Vinyl Tiles Require Special Installation using Conductive Adhesive and Copper Foil Grounding Strips

Coverage:
• Two Part 81521 conductive adhesive covers up to 265 sq ft per U.S. gallon.

Note: coverage quantities shown are approximate and given for estimating purposes only. Actual job site coverage may vary according to substrate conditions.

One Part 81520 Conductive Acrylic Adhesive

Description:
One Part 81520 is an acrylic base conductive adhesive for the installation of Statguard® ESD Pure Vinyl Tile over clean smooth substrates.

Limitations:
1. Protect from freezing in transit and storage. If frozen, allow to return to room temperature without stirring.
2. Do not use when the substrate temperature is below 15°C (59°F) or above 30°C (86°F).
3. For interior installations only.
4. Do not use for the installation over impervious surfaces. For such installation, refer to 81521Two Part Conductive Adhesive.

Directions:
Remove the lid from the container and apply directly from the container.

Application:
• Using a 1/16" x 1/16" x 1/16" U-notched trowel, apply the adhesive evenly to the floor.

• Start laying the Statguard® ESD Pure Vinyl Tile after 10 minutes allowing the moisture to flash off. Laying of the tiles must start no later than 20 minutes. After the adhesive has been allowed to flash off, lay the tile into the adhesive (do not force the tiles together tightly, rather place them so that seams are just touching). Take care to use kneeling boards or work off the tile whenever possible. The adhesive is still workable if it is wet and transfers to the fingers when touched. Ensure that the adhesive has transferred to the back of the tile by lifting the corners.

IMPORTANT!!!
FLOOR PROTECTION
Following installation and cleanup of the tile, protect the tile from other subtrades by laying sheets of brown Kraft paper over the tile, and then lay plywood sheets.

CURING TIMES
Site conditions can greatly affect curing times of the adhesives. Visually check the tile installation to make sure curing of the adhesive is happening by pulling back the corner of the tile. If it will not peel back easily the curing process is underway. This must not be attempted prior to 24 hours following installation.

We recommend the following adhesive curing guidelines:
• Up to 24 hours following installation – no traffic.
• Between 24 and 48 hours – light traffic
• After 72 hours – moderate to heavy traffic, placement of furniture and rolling traffic.

• Avoid trapping air bubbles by cross rolling the floor with a 100 pound sectional.

Clean-Up:
• Clean excess adhesive off the tile and tools using soap and water. Dry adhesive is more difficult to remove.

Caution:
• Keep from freezing.

Coverage:
•One Part 81520 conductive adhesive covers up to 155 sq ft per U.S. gallon.

Note: coverage quantities shown are approximate and given for estimating purposes only. Actual job site coverage may vary according to substrate conditions.

Expansion and Control Joints:
• Provide for expansion and control joints where specified.

• Do not cover any expansion joints with adhesive.

• Cut floor covering on both sides along the edges of expansion joints.

• Insert the specified compressible bead and sealant for expansion and control joints.

HEAT WELDING PROCEDURE
a) Grooving
Ensuring that the adhesive has set, proceed to groove the seams by using a power or hand grooving tool. Adjust the grooving tool to cut a V-shaped groove, 2/3 of the tile thickness. Proceed to trim and weld all the tiles in one direction, then repeat this procedure in the other direction.

b) Welding
Remove all dust and shaving from the area by vacuuming the tile and at the grooved areas. Using a head welding gun insert the heat welding rod into the welding nozzle and preheat the welding gun. Temperature will vary depending on the welding speed. We recommend that you conduct a trial weld on a scrap piece of material. Working with seams in one direction at a time, cut a V-groove in the installed bead at the seam intersection and then complete the procedure in the cross direction.

c) Finishing Trim
• Allow the weld to cool, remove the excess welding bead using a **sharp** crescent knife and a trimming plate/guide.

• Make the finishing trim using the crescent knife without the use of the trimming plate/guide.

NOTE: If the welding rod is not allowed to completely cool before trimming, shrinkage of the welding can occur resulting in a concave joint finish. Always use a sharp crescent knife.

GROUNDING
• Copper foil grounding strips are to be installed prior to spreading the adhesive and installation.

NOTE: Statguard® ESD Vinyl Tiles Require Special Installation using Conductive Adhesive and Copper Foil Grounding Strips

• Take care not to break the Copper foil grounding strips when applying the grounding strips to the floor.

• Using lengths of Copper foil grounding strips 1/2" x 6 ft long apply the first 3 ft to the floor out from the wall into the floor area. Take the remainder of the tape and attach it to the wall ready for installation to the permanent grounding service or bus bar.

• This procedure should be repeated every 16 ft around the room's perimeter (note: electrical outlets are generally spaced every 8 ft apart).

• The Copper foil grounding strips is fragile and care must be taken during its installation.

• The Copper foil grounding strips adhesive must make good contact with the subfloor to ensure it does not move.

• Each extremities of the Copper foil grounding strips should be temporarily protected with masking tape until installation is completed.

• The Copper foil grounding strips shall be free of stress at the intersection of floor and walls.

• Care must be taken not to damage Copper foil grounding strips while walking in the room.

• If the Copper foil grounding strips is broken, there is no need to replace it entirely but simply join the broken tape with a piece of Copper foil grounding strips.

TESTING PROCEDURES

• The electrical resistance of the flooring must be measured in accordance with ESD.S7.1 test method or ASTM F 150.

Resistance top to top (RTT)

• The surface resistance must be measured using two 5 lb ± 1 oz electrodes placed approximately 36" apart connected to a megohmeter with 100 Volts open circuit voltage. Both electrodes must be at least 36" from any grounded object or wall.

• Apply 100 Volts and take reading 15 seconds after application of voltage.

• Take and record five measurements at different locations within 1,000 sq ft.

The surface resistance/RTT must be less than 10^6.

Resistance to ground (RTG)

• The resistance to ground must also be measured between one electrode placed 36" from the wall and the equipment ground. The other lead is to go to ground. Preferable the third wire ground of an AC Outlet. Again make five resistance to the ground measurements at different locations within the area.

The resistance to ground/RTG must be less than 10^6.

• Testing of the installation is to be performed by an Certified Desco Industries ESD Technician.

Surface Resistance Test Kit.

NOTE: Statguard® ESD Pure Vinyl Tile Require Special Installation using Conductive Adhesive and Copper Foil Grounding Strips

Limited Warranty

Statguard Flooring warrants that: Statguard® ESD Pure Vinyl Tiles will be free from defects in materials and workmanship for a period of ten (10) years after purchase, and will meet the recommended range of ANSI/ESD S20.20 for ESD Floors.

This warranty shall apply only if such products are installed following the Statguard Flooring Installation Instructions document including using the recommended conductive adhesive and copper foil grounding strips and have been tested by an authorized Statguard Flooring personnel after installation. Such warranty shall be voided is such products are removed from the site of their original installation.

Within the warranty period, a credit for purchase of replacement Statguard® ESD Pure Vinyl Tiles, or, at Desco's option, the Statguard® ESD Pure Vinyl Tiles will be repaired or replaced free of charge. If product credit is issued, the amount will be calculated by multiplying the unused portion of the expected ten years life times the original unit purchase price.

Call Customer Service at (781) 821-5609 for a Return Material Authorization (RMA) and shipping instructions and address. Include a copy of your original packing slip, invoice, or other proof of purchase date. Any material under warranty should be shipped prepaid to our factory. Warranty repairs will take approximately two weeks.

If your material is out of warranty, Statguard Flooring will quote repair charges necessary to bring your unit up to factory standards. Call Customer Service at (781) 821-5609 for a Return Material Authorization (RMA) shipping instructions and address. Ship your material prepaid.

Warranty Exclusions

THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE SPECIFICALLY DISCLAIMED. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean or repair products.

Limit of Liability

In no event will Statguard Flooring or any seller be responsible or liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.

STATGUARD FLOORING

90 HUDSON ROAD
CANTON, MA 02021
PHONE (781) 821-5609
FAX (781) 575-0172
StatguardFlooring.com