

Mission Critical / ESD Floor Tiles

ElectraTile & Titanium ESD Tiles for Static Control

Installation Instructions

Revision Date: 06/25/2019

Method of Operation: ESD Tiles are made of a unique electrically conductive vinyl that is installed using a conductive and electrically grounded adhesive. Static electricity (typically generated as a by-product of movement) flows through the vinyl, into the conductive adhesive and is subsequently discharged at a safe controlled rate of speed to the electrical ground system of the building.

Note: The following instructions should be reviewed prior to installation. Every effort has been made to provide accurate and reliable information in this document. This document is intended as a guide for our customer's use with our recommended tools and materials. United SCP cannot accept any responsibility for loss or damage that may result from the use of this information due to the possibility of variations of processing or working conditions and/or workmanship beyond our control. **Note:** ESD Tile should not be used in exterior applications, golf shops, locker rooms, food processing facilities or commercial kitchens.

1. Basic Requirements: Flooring must be installed at the final stage in any type of construction. Area lighting and HVAC must be running and fully functional. Measure the room, add an overage of 3 to 6% and place your order.

2. Receiving, Inspection, Storage, Tile Preconditioning:

Receiving: We ship all tile orders FLAT (rather than on their sides). Inspect the shipment and insure that the cartons containing the tiles have been received flat. If the shipment has been damaged in any way take photos and report the damage to the driver or freight carrier immediately. Mark the damage on the bill of lading and contact United SCP's freight department at 719 676 3928 extension 7001.

Inspection: The highest quality of materials and workmanship is employed in the manufacture of United ESD Flooring and careful inspection is made before shipment. However, a quality installation is the responsibility of the installer. It is the installer's responsibility to verify the accuracy of the order and to insure the materials are checked for consistent dye lots, damage, defects and satisfactory color and pattern matches. An authorized United Static Control Representative must be contacted and notified of any defects before installation proceeds. United SCP is not responsible for the installation of the incorrect material, color or dye lot due to errors in fulfilling your order.

Storage and Tile Preconditioning: Store the tiles flat (not on edge). Allow the tile time to acclimate to that of the installation area. Flooring materials and room temperature must be maintained consistently at a range of 60° F to 75° F with the humidity at 60% or below for at least 5 days prior to, during and after the installation.

3. Moisture Testing of Concrete Slab: Substrates to receive flooring must be free of moisture excessive moisture content.

ElectraTile / United Static Smart SDT+: Do not install when relative humidity of concrete slabs exceeds 85% (per latest version of ASTM F2170 In-Situ Relative Humidity Test). Substrate pH reading should be between 7.0 and 10.0

Titanium / UZIN KE 2000 SL Adhesive: Do not install when relative humidity of concrete slabs exceeds 80% (per latest version of ASTM F2170 In-Situ Relative Humidity Test). Substrate pH reading should be between 7.0 and 10.0

If excessive moisture is present in the concrete do not proceed with the installation. Contact United for further information. United SCP is not responsible for moisture related installation failures.

4. Adhesives:

ElectraTile Adhesive: United SCP recommends using only United Static Smart SDT+ Conductive [Please click here for detailed instructions on using this adhesive](#) or follow the instructions that are printed on the container.

Titanium Tile Adhesive: United SCP recommends using only KE-2000 **SL** Conductive Adhesive for Titanium Series ESD Flooring. [Please click here for detailed instruction on using the KE-2000 SL](#) or use the instructions that are printed on the container. For assistance with the KE 2000 SL please contact United SCP or Uzin Utz North America at 720 374 4810.

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5. Recommended trowel size:

United Static Smart SDT+ is typically applied with a 1/16" x 1/16" x 1/16" Square notch trowel. See [details](#) on adhesive instructions for more information.

KE-2000 SL is applied using a 23/80 V notch blade. The blades are provided at no charge with each 4 gallon pail of the KE-2000. These blades are designed to fit a Wolff brand Ergo Star trowel handle and are available on line by [clicking here](#).

SUBSTRATE CONDITIONS: Substrate conditions such as flatness are important! Relatively minor deviations may shadow through the finished flooring. All substrates to receive the ESD flooring must be clean, completely dry and free of damage such as chips, pits, sealers, paint, oil and grease.

Permanent and non-permanent markers, pens, crayons, paint, etc. must not be used to write on the back of the flooring material or substrate as they may bleed through and stain the flooring material. If these contaminants are present on the substrate they must be removed prior to installation of the flooring material.

6. CONCRETE SUBSTRATES: General Information; Defects such as pits, gouges and deep scratches that are found in the concrete substrate must be corrected. Newly poured concrete slabs contain excessive moisture residues. Always test the vapor emissions of the concrete prior to installing ESD vinyl flooring (see section 3).

6.1 All concrete subfloors must meet the requirements of the latest edition of ASTM F 710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. The concrete subfloor design must also meet and / or exceed both the static and dynamic load requirements for the intended use of the space.

All concrete slabs must meet the requirements for *ACI with a compressive strength of > 3,500 psi (24 MPa). Please refer to *ACI 302.1R-96, Guide for Concrete Floor and Slab Construction, PP.5 and 22.

All concrete substrates must be free of paint, grease, wax and materials that may interfere with the bond strength of the adhesive.

Please Note: In the event of underlayment or concrete failure the responsibilities for warranties and / or performance guarantees are the responsibility of the subfloor subcontractor not the manufacturer of the resilient flooring.

6.2 Existing Resilient Flooring: Installing United SCP vinyl Tile over existing resilient flooring is not recommended.

WARNING: Existing resilient flooring should never be cut, sawn, mechanically mended or dissolute. This operation may cause asbestos or asbestos dust diffusion. Inhaling asbestos can cause a number of serious diseases. Smoking in asbestos dust environment could cause serious lung injury. Check that the removal process is followed under the laws and regulations required by federal, state and local governments. Asbestos removal must be performed by asbestos specialty professionals who are properly trained and possess all required licenses.

WARNING: Adhesive Removal; once resilient flooring is removed, soluble asphalt adhesives are commonly found which are not easily recognizable. When it is uncertain whether asbestos residue is contained, you must treat it as it does contain asbestos. Inhaling asbestos may cause serious injury. Smoking where asbestos dust is present can cause serious lung injury. Suspend the operation immediately if asbestos contamination is uncertain and consult with an asbestos removal professional.

6.3 Curing and Parting Compounds: Curing and parting compounds on concrete substrates where ESD flooring will be installed may compromise the adhesion of the tiles resulting in installation failure. Many sealers and parting compounds may be removed by diamond grinding or otherwise preparing the substrate.

6.4 Gypsum Based Underlayment: Gypsum base underlayments and substrate leveling are not recommended for use with ESD vinyl Tiles.

6.5 Floor Fills / Toppings: Resin-reinforced self-leveling cement underlayments are recommended by their manufacturers for use as floor fills and / or toppings. NOTE: All recommendations and guarantees regarding the suitability of these products and their performance as underlayments for resilient floor coverings are the responsibility of the manufacturer and the installer of the underlayment system being used.

6.6 Portland Based Patching Procedures for concrete: Follow directions provided by the manufacturer.

6.7 Radiant Heated Floors: Please contact United SCP Inc. should installation be required over a radiant heated concrete substrate.

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6.8 Expansion Joints: Expansion joint covers are recommended by United SCP.

7. WOOD SUBSTRATES: General Information; Wood substrates must be constructed with at least 18 inches (45.72 cm) of well-ventilated air space beneath. Installing resilient flooring on sleepers over concrete is not recommended. For recommended grades of plywood performance, refer to the APA - The Engineered Wood Association.

CAUTION: Do not install resilient flooring over:

- Eroded or wet areas.
- A nailed slab or adhesive secured plywood or concrete.
- Over fireproof plywood.
- To crooked Floors or vibration sensed flooring.

Panel Substrates: APA panels guarantee continuous product quality. Receive written descriptions and related documents from the APA for successful panel construction. Do not install ElectraTile flooring over OSB or Luan OSB or CDC.

8. Bond Strength Testing: A bond test shall be performed on all substrates prior to full scale application of the ESD Tiles. Install a few pieces of the flooring material selected for the installation and adhere to the substrate with the recommended adhesive using the trowel size indicated on the pail. If, after 72 hours an unusual amount of force is required to lift the material from the substrate, and if after doing so, the adhesive has transferred to both the substrate and to the back of the flooring (approximately 50% on the flooring and 50% on the back of the tiles) the flooring is considered "securely bonded." It is the responsibility of the installer to insure that the tiles are adequately bonded to the substrate.

9. Install Grounding Strips: Our esd flooring products are easy to ground and ground foil tape is included at no charge with each order. [For detailed instructions on grounding ESD floor Tile please click here.](#)

10. Installation Pattern and Layout: Use a pair of perpendicular reference lines for establishing your layout instead of relying on measurements from walls, which are neither straight nor square to each other. To ensure the reference lines are square, use a 3-4-5 triangle rule as follows:

Establish your first reference line by measuring across opposite sides of the room. Mark the center of each side and then snap a chalk line between the two marks.

Measure and mark the center of that line. Then use a pencil, a framing square, and a straightedge held against its shorter leg to mark a second 4-foot-long line perpendicular to the first line.

Before snapping a second line across the room, insure the angle formed is truly 90 degrees by measuring out 3 feet from the intersection and marking with a penciled line. Then measure out 4 feet from the intersection and mark the spot on the chalk line. Measure the distance between the 3-foot and 4-foot marks.

The distance should be 5 feet — the 3-4-5 rule. If it isn't, make an adjustment and pencil a new line. Now snap a chalk line across the room that falls directly over the penciled line. After you have reference lines, use them to establish layout lines, which actually guide tile placement.

10.1 Application over porous concrete: Spread adhesive with a notched trowel in a size indicated on the pail of adhesive used. Do not use a larger trowel than recommended or apply excessive amounts of adhesive as this can slow drying time and bleed through the seams between the tiles. Do not apply either of these flooring adhesive with a roller or brush.

NOTE: Ensure that severe curling, lifting edges and/or lifting corners are addressed during bonding.

10.2 Application over dense non porous concrete: ESD flooring adhesives work best on porous substrates. If the substrate is not porous remove the sealers using a DiamoBrush prep tool, diamond grinder or by other means.

NOTE: always pretest the bond strength prior to proceeding with a full scale installation of the tile.

NOTE: ESD flooring tile should be placed into the adhesive while it is wet to semi wet. See details on the pails of adhesive.

Note: Ensure that severe curling, lifting edges and/or lifting corners are addressed during bonding.

NOTE: ElectraTile is a directional tile. Insure that all arrows on the back of the tiles point in the same direction.

NOTE: The ESD Tiles should be rolled utilizing a 100 pound vinyl flooring roller as soon as it is determined that shifting of tile or bleeding of adhesive will not take place (after approximately 20 minutes). **DO NOT ALLOW THE ADHESIVE TO OVER DRY.** Roll again 1 hour after installation. Re-roll as needed.

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NOTE: The adhesive's bond strength develops and increases over a period of several days to two weeks. Water and any subsequent cleaning products should not be introduced to the floor until the adhesive has achieved full cure. It is the responsibility of the user to determine whether or not the subfloor to be covered is porous. To determine if a subfloor is porous place a few drops of water in each of several areas. If the subfloor is porous, the water should be absorbed within 5 minutes.

Clean-up: Use warm soapy water. Use Mineral Spirits only if needed.

Initial Move In: Protect your esd flooring investment during the initial loading phase. Cover the newly installed esd flooring with Masonite, Ram board or thick cardboard sheets prior to rolling over the new substrate with heavily loaded forklifts, man lifts etc. Remove nuts, bolts, rocks, nails etc. from the wheels of heavy equipment prior to rolling over the protective coverings.

Initial Maintenance should not be performed for a minimum of 72 hours after the installation is complete to allow the adhesive to fully cure. Dry dust mop new flooring and damp mop as needed with warm clean water and ElectraClean.

Adhesive Residue: Careful installation will avoid the transfer of conductive adhesive to the top of the flooring. The KE 2000 SL and United Static Smart + adhesive residues may normally be removed with warm soapy water. Both adhesives are much harder to remove if left unattended and allowed to cure overnight. Insure that the area is dry once the clean-up is completed.

Long Term Maintenance: Refer to United SCP's [ElectraTile](#) or [Titanium](#) Maintenance Instructions for further details.

NOTICE:

1. United recommends always performing moisture testing, bond strength testing, and alkali testing and documenting the results before installing thee tiles over concrete.
2. Do not install Titanium or ElectraTile Tiles over existing resilient flooring. Should this be a requirement consider using Titanium Sheet Vinyl and our [peel and stick adhesive process](#).
3. Using chemical compounds or waterproofing treatments on concrete substrates where Alkalinity / hydrostatic pressures are apparent or water permeation is expected shall not be an alternative.

Installation must be suspended even though the appropriate action is taken and installation risk be discussed with all appropriate associates.

4. Do not install over lightweight concrete or gypsum base that cannot hold 100lb / cubic foot (1602kg / m3). Before tile installation, reinforce light weight concrete with at least 1 (25mm) thickness light weight concrete according to standard concrete mixing recommendations and consult with a concrete professional.

5. The manufacturers / suppliers Titanium Sheet Vinyl and their associated adhesives are the sellers of materials only. The information and statements contained in these installation instructions are believed to be correct and to represent current state of the art. However, since the seller has no control over method of application, conditions during application, dryness of building, presence of water barriers, environment where used, or surfaces to which the products are applied, there is no express or implied warranty for completed installations. It is solely the responsibility of the purchaser/installer to determine that the materials are fit for their particular purpose. Prerequisite for sale of our products is that the buyer purchases at their own risk and conducts installation tests prior to making a large installation, with no liability to us. In no event is seller responsible if materials with visible defects are installed.

Tech support is available 24/7 for our installers and customers by dialing 719 676 3928 and selecting option 8.

Approved for release: SRC 6/25/2019
Revision History: 06/24/19, added SDT+, replaced Shaw 5100 conductive adhesive for ElectraTile.

11/13/2019: Added secured hyperlinks

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