

Foundation Series Vinyl Tile: Installation Guidelines

Before You Start:

1. Selection of Flooring: Several factors must be considered when specifying resilient flooring. A proper evaluation of site conditions, level of commercial traffic, and other external factors should be considered. Design and pattern, product durability, substrates and site conditions are all basic parts in the specification process to consider.

IMPORTANT! StaticWorx ESD Vinyl Tile should not be used in exterior applications, golf shops, locker rooms, food processing facilities, or commercial kitchens.

2. Basic Requirements: Flooring must be installed at the final stage in any type of construction. Allow enough time for adhesive to cure. Keep foot traffic off of the floor for at least 24 hours. Take precautions to properly protect the newly installed flooring if remaining work by other trades is to be completed. Heavy construction paper covered by plywood sheets is the best method for protecting newly installed resilient flooring.

3. Measuring: Installation inspection such as quantity, color, design, etc. must be checked and confirmed prior to installation. Be sure to use identical LOT numbers if required. LOT shows lot number and lot type. Lot numbers describe the date of production. Lot type describes lot type by alphabetic code. Identical lot codes mean identical lot numbers and lot type.

4. Room Temperature: Flooring materials and room temperature must be maintained within 60° F / 75° F (18 C and 25 C) for at least 24 hours before and after the installation.

5. Moisture Testing: Substrates to receive flooring must be free of moisture. For normal concrete substrates, Anhydrous Calcium Chloride Test results must not exceed 3lb / 1000sq ft / 24hours as stated in resilient flooring installation guide on concrete substrates.

6. Adhesives: Since applications vary depending on adhesive used, please refer to adhesive label for more detailed information regarding spread rates and drying times, or contact your StaticWorx Flooring Representative. StatBond is the only recommended permanent adhesive for Foundation Series tile.

Caution: Do not overspread conductive adhesives; they are difficult to remove from tiles after they dry. Apply a small area to determine the right amount of adhesive before spreading large areas with adhesives.

7. Recommended trowel size: StaticWorx conductive adhesives should be applied using a 1/16" by 1/32" by 1/32" U notched trowel.

SUBSTRATES: Conditions and Preparation

Substrate conditions affect a great deal to the overall appearance of StaticWorx Vinyl Tile. Substrates to receive installation must be clean, completely dry and free of damage.

1. CONCRETE SUBSTRATES

A.) Basic Conditions:

1. Any defects found from concrete substrates must be corrected. Newly installed concrete substrates contain excessive moisture residues. Ideal time for the moisture residue to dry completely is 28 days / inch (1day / millimeter). Usually the thickness of the concrete slab is set to 20 (50cm). Moisture dissipation time can depend upon thickness of the slab and other external conditions.
2. Substrates must be smooth and dry enough to receive resilient flooring.

B.) Notice:

1. StaticWorx recommends always performing a calcium chloride test, bond test, and alkali test and documenting the results before installing resilient flooring over concrete.
2. Do not install StaticWorx flooring over existing resilient flooring that is too heavily embossed, not adhered well to substrate, is dirty with excessive wax build-up, etc. StaticWorx recommends removing existing resilient flooring whenever possible. StaticWorx does not recommend removing flooring and adhesives containing asbestos by sanding, etc. Removing flooring and adhesives containing asbestos should be done by a qualified asbestos abatement company.

3. Using chemical compounds or waterproofing treatments on concrete substrates where Alkalinity / hydrostatic pressure is 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.

C.) Moisture: Moisture test must be performed for both new and existing concrete before installation. To perform this test, refer to ASTM 1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

D.) New and existing concrete substrates: New and existing concrete subfloors should 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 lightweight, should have a compressive strength of 3,500 psi (24 MPa) or greater. *ACI 302.1R-96, Guide for Concrete Floor and Slab Construction, PP.5 and 22.

NOTE: Regardless, in the event of underlayment failure, the responsibilities for warranties and / or performance guarantees is the responsibility of the subfloor subcontractor, not with the manufacturer of the resilient flooring.

E.) Aged Concrete Substrates: Concrete substrates must be free of moisture before the installation of resilient flooring. Aged concrete substrates must be free of paint, grease, wax and other foreign materials and it should be leveled. Perform underlayment reinforcement to cure the damaged or indented area.

F.) Painted Concrete: Concrete substrates must be free of paint, grease, wax and other foreign material before installing underpayments or tile ASTM test categories that judges condition of substrates are as follows:

ASTM D 4258 Cleaning test of coating concrete surface
ASTM D 4259 Abrasion test of concrete surface

ASTM D 4260 Alkalinity test of concrete surface
ASTM D 4261 Extension feasibility test of concrete surface
ASTM D 4262 Erosion PH test of concrete surface
Follow all ASTM guidelines for proper preparation.

G.) Existing Resilient Flooring: Installing StaticWorx 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. Keep in mind that these adhesives are not always easily recognizable. When it is uncertain whether asbestos residue is contained, you must treat it as it does contain asbestos. Asbestos inhaling may cause serious injury like asbestos pneumonic. Smoking where asbestos dust is present could cause serious lung injury. Suspend the operation immediately if asbestos contamination is uncertain and consult with an asbestos removal professional.

WARNING: DO NOT SAND, DRY SCRAPE, DRY SWEEP, SAW, DRILL, BEADBLAST, OR MECHANICALLY CHIP OR PULVERIZE IN ANY WAY EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC CUTBACK ADHESIVES OR ANY OTHER ADHESIVES. THEY MAY CONTAIN ASBESTOS.

H.) Curing and Parting Compounds: Curing and parting compounds on concrete substrates where resilient flooring will be installed may damage adhesion resulting in installation failure. "Curing compounds leave a film that can interfere with the adhesion of other materials to the treated surface; their use should be avoided on surfaces that will later be covered with resilient floor coverings, where applicable, a letter of compatibility should be issued prior to the use of a curing compound on a floor receiving a subsequent finish." - American Concrete Institute, ACI, publication 302.1R-96, Guide for Concrete Floor and Slab Construction. Letter of compatibility must come from the manufacturer of the compound.

I.) Gypsum Based Underlayments: Gypsum base underlayments and substrate leveling compounds are utilized for noise and fire proof purposes. Responsibility of underlayment compound use is attributed to underlayment manufacturer.

J.) Floor Fills / Toppings: Resin-reinforced self-leveling cement underlayments, cellular concretes, and gypsum based products 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.

WARNING: Latex patching reinforcement will not prevent moisture permeation through concrete slabs.

K.) Latex Patching Procedures: Follow directions given by the latex underlayment manufacture. Refer to the following guidelines:

1. Materials that might hinder the adhesive curing such as concrete residues, gypsum residues, powder, oil, grease, dust, paint and other foreign materials must be removed in advance.
2. Creased concrete and concrete debris must be leveled through grinding process.
3. Use of emulsification during surface leveling work may decrease strength of adhesives. Consult with relevant manufacturer in advance.
4. Use soap solution and clean water to remove dirt. Flooring must be clean and free of moisture.
5. All holes and indented areas must be mended before underlayment operation begins.
6. When underlayment operation is conducted, consult and use only the recommended products from latex substrates manufacturer.
7. Permeability of underlayments will not be efficient with concrete, ceramic, and terrazzo. For more information, refer to the underlayment manufacturer's technical guide.
8. Do not conduct latex patching underlayment below 50° F (10 C). Do not expose to sun directly.
9. Neutralize acid or alkali compounds on the subfloor before conducting the installation.

L.) Radiant Heated Floors: Radiant heated floors must be secure and underground beneath the concrete subfloor. Resilient flooring must be stored and installed at temperature that does not exceed 85° F (29.4

C.) If the existing floor is a radiant heated floor, a moisture preventive panel between the underground radiant heating device and the substrate must be pre installed to block moisture evaporation. Keep the radiant heated floor free from traffic for at least 48hours and keep the same temperature before and after the installation. Temperature from the radiant heat may be increased gradually.

CAUTION: If resilient flooring is installed on concrete slab with hot water pipe(s) under-ground and operated by the building's central heating system, this may cause discoloration of the resilient flooring. The responsibility of this matter is borne by the end user.

Caution: Keep radiant flooring temperature below 85° F (29.4 C) at all times.

M.) Extension Joints: Extension joints are inserted for the purpose of concrete crack prevention when subfloor slab is moving. Insertion of expansion joints right beneath StaticWorx resilient flooring may cause installation to fail.

2. WOOD SUBSTRATES

A.) 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.

B.) CAUTION: Do not install resilient flooring over:

- Eroded or wet areas.

Nailed slab or adhesive secured plywood or concrete floors (sleepers).

- Over fireproof plywood.
- To crooked Floors or vibration sensed floorings.

C.) Panel Substrates: APA panels guarantee continuous product quality. Receive written descriptions and related documents from the APA for successful panel construction. Do not install StaticWorx tile flooring over OSB or luan.

D.) Other Information: Old terrazzo, sealer, wax, oil and dirt must be cleaned and removed thoroughly. Heavily worn out areas must be reinforced. Consult with the underlayment manufacturer for surface treatment.

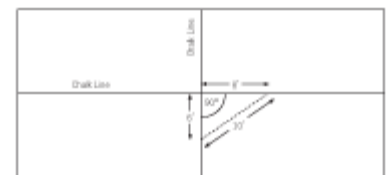


Figure A: Determining a perfect square for installation

E.) Over Existing Resilient Flooring:

Do not install over plank tile on concrete gypsum or cushion vinyl products and DIY Tile. Remove chemical compounds, wax, oil, dirt completely

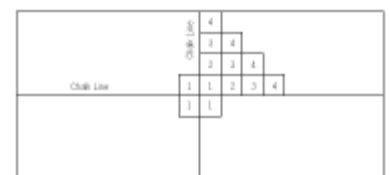


Figure B: Pyramid technique for laying out the flooring tiles.

and moisture test must be taken as well.

Apply Adhesive: StaticWorx recommends using StatBond ESD Conductive Adhesives for optimum static control performance and bonding.

IMPORTANT — USE SUFFICIENT VENTILATION WHEN USING ADHESIVE.

Install Grounding Strips: To properly ground the flooring, place a 2" X 24" copper grounding strip on top of the adhesive (but under the tiles) and extend the strip up the wall at least 6" to 8". Be sure there is an accessible ground at the wall to tie into after the carpeting is installed. If there is no accessible ground, prior to installation a certified electrician can tap into the electrical circuitry and drop a wire (no smaller than #10 stranded copper wire) inside a wall and cut a small hole in the baseboard so the wire can emerge. StaticWorx recommends installing one copper grounding strip per 1,000 square feet throughout the installation. A thin coating of conductive adhesive should be applied on top of grounding strip to ensure good contact with flooring tile.

Installing Tiles: Measure the area to find the best starting point for a maximum size perimeter tile. Proper planning should avoid trimming perimeter tiles more than half their width. Since most rooms are not perfect rectangles, it is advisable to snap chalk lines at right angles to one another as guidelines for laying the tiles. To do this, find the center point of one wall in the room. Now check your measurement from the center point to the wall (in feet and inches.) If the measurement is less than six inches, you should move your center mark six inches in either direction so that your trim pieces at the walls are maximum size. Do the same for the remaining walls. The two center lines must bisect at right angles in the center of the room. To achieve a perfect right angle, which is essential for a proper install, form a triangle by measuring 6' X 8' X 10' (figure A). Starting with the center point, measure 6 feet on one line and mark that point. Go back to the center point and now measure out 8 feet from the other bisecting line and mark that point. If the angle is a correct 90°, the distance between these two end point marks should be exactly 10 feet.

Using the chalk lines as your guide, begin laying the tiles using the pyramid technique (figure B). Install one quadrant at a time following the numerical sequence. Do not spread more adhesive than tile can be installed into and rolled before adhesive sets. For proper esd performance, a good transfer of adhesive to tile is paramount.

NOTE: Slide tile into place over adjoining tile and lower into place. Cut tile to butt tightly into corners to minimize shifting of tiles. Work off the tile whenever possible. If working off the tile is not possible, use a kneeling board.

NOTE: The following instructions are guidelines for installation using Statbond ESD Adhesive only. Some

adhesives may have different installation requirements; always refer to the adhesive manufacturers instructions for specific handling information.

Porous Application:

A. Spread adhesive with a notched trowel (1/16 X 1/32 X 1/32" square or U notch). Maintain the appropriate notch throughout the installation. Do not use a larger trowel than recommended or apply excessive amounts of adhesive, since this can slow drying and cause bleeding. Do not apply this adhesive by roller or brush.

B. Flooring tile should be placed into the adhesive while wet. It is customary for the adhesive to be allowed to remain open for approximately 5 to 10 minutes but is not necessary. Tile should be rolled, utilizing a 75 – 100 pound, three-section floor roller, as soon as it is determined that shifting of tile or bleeding of adhesive will not take place. Roll again 1 hour after installation.

Non-Porous Application:

A. For non-porous applications use a 1/16 X 1/32 X 1/32" square notch trowel. Correct trowel notching must be maintained throughout the installation. Do not apply this adhesive by roller or brush.

B. Allow the adhesive to dry to the touch so that there is little or no transfer of adhesive to the finger. Once the adhesive dries to the touch, it is ready to accept flooring material. Rolling should take place immediately after the flooring material has been positioned into the adhesive. From the time the adhesive is allowed to dry to the touch to the time it must be covered is approximately 30 minutes. If adhesive is allowed to remain uncovered, after initially drying to the touch, for periods longer than the recommended 30 minutes, a loss in adhesion will result. Care must be taken by the installer not to spread more adhesive than can be worked appropriately within the 30 minute time frame. It is extremely important to roll in both directions, utilizing a 75 to 100 pound three-section floor roller.

NOTE: The adhesive's bond strength develops and increases over a period of several days. 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 two droplets of water in each of several areas. If the subfloor is porous, the water will be absorbed within a few seconds.

Clean-up:

Soapy water followed by Mineral Spirits.

DO NOT APPLY SOLVENT DIRECTLY TO FLOORING MATERIAL.

3. GROUNDING OF STATICWORX VINYL FLOORING

StaticWorx 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. Copper grounding strip should be laid over the adhesive and underneath the tile.

A. Building Ground

Connect copper foil grounding strap to the structural building steel or AC electrical ground. One strip should be installed for every 1,000 s.f. of flooring.

B. Electrical Ground

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

4. QUESTIONS/ASSISTANCE

Call StaticWorx Customer Service at (617) 923-2000 with any questions you may have, Monday-Friday between 8:30 am and 5:00 pm EST.

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