

RESILIENT INSTALLATION GUIDELINES FOR SPC PRODUCTS

I. GENERAL INFORMATION

All instructions and recommendations should be followed for a satisfactory installation.

- All products must acclimate to the room conditions in which they are being installed for a minimum of 12 to 24 hours. Room conditions must be a controlled environment. Acclimate cartons lying flat, not on the end or on the side, stacked no more than five cartons high. Allow air movement between boxes and avoid storing flooring in direct sunlight.
- Resilient flooring should only be installed in temperature-controlled environments (60-85 degrees Fahrenheit.). It is necessary to maintain a constant temperature before, during, and after the installation. Therefore, the permanent or temporary HVAC system must be in operation before the installation of resilient flooring. Portable heaters are not recommended as they may not heat the room and subfloor sufficiently. Kerosene heaters should never be used.
- Variations in subfloor flatness should not exceed 3/16" in 10' or 1/8" in 6'. Grind high spots down and/or fill low spots with a quality patching compound. Allow the patch to completely dry before installation. Follow the patch manufacturer's installation guidelines.
- Use cementitious patching and leveling compounds that meet or exceed maximum moisture level and pH requirements. Use of gypsum-based patching and/or leveling compounds that contain Portland or high alumina cement and meet or exceed the compressive strength of 3,000 psi is acceptable.
- For renovation or remodel work, remove any existing adhesive residue so that 100% of the overall area of the original substrate is exposed.
- Most installations will need approximately a 10% cutting allowance added to the square footage of the room.
- Proper conditioning of the job site is necessary. Flooring planks should not be exposed to sudden changes in temperature. Excessive heat can cause uneven expansion and contraction and result in floor buckling. Window coverings can be installed to reduce excessive heat.
- Avoid exposure to direct sunlight for prolonged periods, doing so may result in discoloration. During peak sunlight hours, the use of drapes or blinds is recommended. Excess temperature due to direct sunlight can result in thermal expansion and UV fading.
- Store, transport, and handle the flooring planks in a manner to prevent any distortions. Distortions will not disappear over time. Store cartons flat, never on edge. Ensure that the flooring planks are lying flat at the time of installation.
- Installations of carpet, metal strips and other transition moldings should not push fully into the flooring and should allow for some slight movement. Do not nail or staple trim so that it restricts floor movement such as nailing into the floor or too tightly against the floor surface.
- Protect the floor from heavy-rolling loads, other trades, and movement of appliances by using a construction grade protectant such as Ram Board. Chair pads or mats are required under roller castors and leg protectors, a minimum of 1.5" diameter, are required under chair legs. Floating floors are not approved for use in areas with heavy rolling loads such as hospital beds and electric wheelchairs, i.e.
- Floating installation is typically used for residential and light commercial applications, while glue-down may be desired in commercial applications with heavy rolling loads. In either case, the planks should be installed 1/4" away from all vertical surfaces such as walls, cabinets, pipes, etc. When installed in bathrooms or other wet environments, the gap should be sealed with a good quality siliconized or acrylic caulk. The gap can then be covered with molding or a wall base, which should not be installed or nailed through the flooring. Base cabinets should not be installed on top of the planks or flooring.
- Floating floors are designed to expand and contract monolithically without restriction. Always allow proper expansion space. An expansion gap must be provided, continuously, at all vertical surfaces, allowing the material to expand and contract with no restriction. Floors that are restricted from freely expanding and contracting are subject to buckles and gaps. Buckling and gapping due to restricted movement is not covered under warranty.
- Where the room is larger than 40' but less than 80' in plank length or wider than 26' but less than 52' in plank width, a minimum of 1/2" expansion zone is required around the perimeter of the room as well as against any fixed objects.
- Stagger end joints by a minimum of 12" on a random basis.

- Install product after all other trades have completed work that could damage the flooring.
- To minimize shade variation, mix and install planks from several cartons.
- Inspect all planks for damage before installing. If you have any concerns about the product fit or finish, please stop and contact your dealer or location of purchase. Claims will not be accepted for flooring that has been cut to size and/or installed.
- Installation Methods: Floating (on, above, or below grade) / Glue Down (on, above, or below grade)
- Required perimeter expansion spacing for Floating or Glue Down installation is as follows:
 - For areas less than 2500 sq ft, use a 1/4" gap
 - For areas larger than 2500 sq ft. use a 1/2" gap
- This flooring is waterproof and reliably secures the flooring panels on all four sides. However, excessive moisture in the subfloor could promote mold, mildew, and other moisture-related issues like the trapping of moisture emissions under the flooring, which may contribute to an unhealthy indoor environment.
- It is up to the flooring contractor to determine if a subfloor is not cured. Should the subfloor not be cured, a moisture barrier/mitigator like 6 mil poly should be used for a successful installation and to prevent the material from being damaged by (moisture) vapor from the subfloor.
- If the product comes with an attached pad, do not install an additional cushion beneath the flooring. This will void the manufacturer warranty.
- Crumb rubber underlayment is not an acceptable option for use with resilient floor coverings due to performance issues resulting from chemical incompatibilities.
- When adhering flooring to stairs use a permanent bonding adhesive (urethane adhesive or solvent-free construction adhesive.) The attached pad must be removed.

II. SUBFLOOR INFORMATION

All subfloors must be clean, flat, dry, and structurally sound. The correct preparation of the subfloor is a major part of a successful installation. Subfloor must be flat – subfloor flatness should not exceed 3/16" in 10' or 1/8" in 6.

A. Wood Subfloors

Do not install material over wood subfloors that lay directly on concrete or over-dimensional lumber, or plywood used over concrete. Refer to ASTM F1482 for panel underlayment recommendations.

1. Do not apply sheet plastic over wood subfloors.
2. Basements and crawl spaces must be dry. The use of a 6 MIL poly is required to cover 100% of the crawl space on earth. Crawl space clearance from ground to underside of the joist is to be no less than 18" and perimeter vent spacing should be equal to 1.5% of the total square footage of the crawl space area to provide cross ventilation. Where necessary, local regulations prevail.
3. **DO NOT** install over-sleeper construction subfloors or wood subfloors applied directly over concrete.
4. All other subfloors - Plywood, OSB, particleboard, chipboard, wafer board, etc. must be structurally sound and must be installed following their manufacturer's recommendations. Local building codes may only establish minimum requirements of the flooring system and may not provide adequate rigidity and support for proper installation and performance. If needed add a layer of APA-rated underlayment, fasten, and secure according to the underlayment manufacturer's recommendations.
5. Resilient flooring is not recommended directly over fire-retardant-treated plywood or preservative-treated plywood. An additional layer of APA-rated 1/4" thick underlayment should be installed.

B. Concrete Subfloors

NEW AND EXISTING CONCRETE SUBFLOORS SHOULD MEET THE GUIDELINES OF THE LATEST EDITION OF ACI 302 AND ASTM F 710, "STANDARD PRACTICE FOR PREPARING CONCRETE FLOORS TO RECEIVE RESILIENT FLOORING" AVAILABLE FROM THE AMERICAN SOCIETY FOR TESTING AND MATERIALS; [HTTP://WWW.ASTM.ORG](http://www.astm.org).

- The surface of a concrete subfloor must be dry, clean, smooth, and structurally sound. It must also be free of depressions, scale, or foreign deposits of any kind.
- The surface shall be free of dust, solvents, varnish, paint, wax, oil, grease, residual adhesive, adhesive removers, and other foreign materials that might affect the adhesion of resilient flooring to the concrete or cause a discoloration of the flooring from below. Spray paints, permanent markers, and other indelible ink markers must not be used to write on the back of the flooring material or used to mark the concrete slab as they could bleed through, telegraphing up to the surface and permanently staining the flooring material. If these contaminants are present on the substrate they must be mechanically removed before the installation of the flooring material.
- Many buildings built before 1978 contain lead-based paint, which can pose a health hazard if not handled properly. State and federal regulations govern activities that disturb lead-based painted surfaces and may also require notice to building occupants. Do not remove or sand lead-based paint without consulting a qualified lead professional for guidance on lead-based paint testing and safety precautions. For non-lead-based paint, a good paint remover for many concrete subfloors is a solution of Trisodium Phosphate and hot water, mixed and applied according to the manufacturer's instructions and recommended safety precautions. Paints with a chlorinated rubber or resin base that cannot be removed by Trisodium Phosphate may be removed by grinding with a concrete or terrazzo grinder. The manufacturer does not recommend the use of solvents to remove paints or old adhesive residues because the solvents can remain in the concrete and negatively affect the new installation. Be certain the worksite is well ventilated and avoid breathing dust whenever sanding. If high dust levels are anticipated, use an appropriate NIOSH designated dust respirator. All power sanding tools must be equipped with dust collectors. Avoid contact with skin or eyes. Wear gloves and eye protection, and long-sleeve loose-fitting clothes.

- After the concrete has cured and is dry, clean construction joints, saw cuts, score marks, and cracks, and fill with a patching compound on any grade level. Repaired areas must be finished flush with the surface of the concrete and allowed to fully dry before the installation of the floor covering.
- Actual expansion joints or other moving joints with elastomeric fillers are designed to absorb movement in concrete slabs. Cementitious underlayment, patches and resilient flooring installed across expansion joints often crack or buckle when the slabs move. The manufacturer does not recommend flooring products be installed across expansion joints or isolation joints. Expansion joint covers are available for use with various floor coverings and should be specified by the architect.
- Dusty concrete slabs may be primed with one coat of latex primer. Sweep or vacuum the concrete and apply the primer with a 3/8" nap paint roller. You may also prime concrete subfloors with the recommended flooring adhesive for the material about to be installed. After sweeping/vacuuming, apply the adhesive using a smooth-edge trowel. When using adhesive as a primer, allow the adhesive to dry completely. After drying, install the flooring following the recommended installation system. NOTE: A dusty concrete floor on-grade or below-grade may be a sign of alkali salts.
- A rough concrete floor can be ground smooth with a commercial diamond or carbide-equipped grinding machine. If the concrete subfloor is extremely rough or uneven, it may be too great a job to smooth this way. In this case, apply a cementitious underlayment. A smooth, flat, uniform surface is necessary as a good base for resilient flooring.
- Required Moisture Testing - maximum moisture level per ASTM 1869 CaCl is 8 lbs. and ASTM 2170 In-situ Relative Humidity 90% per 1000 sq. ft. in 24 hours.
- Do not install over concrete with a history of high moisture or hydrostatic conditions. Excessive moisture in the subfloor could promote mold, mildew, and other moisture-related issues like the trapping of moisture emissions under the flooring, which may contribute to an unhealthy indoor environment. The manufacturer does not warrant nor is responsible for damage to floor covering due to moisture-related issues.
- The pH level of concrete should be 7 or greater and less than or equal to 9 to proceed with the installation.
- The final responsibility for determining if the concrete is dry enough for installation of the flooring lies with the floor covering installer.

NOTE: IT MAY NOT BE THE FLOOR COVERING INSTALLER'S RESPONSIBILITY TO CONDUCT THESE TESTS. IT IS, HOWEVER, THE FLOOR COVERING INSTALLER'S RESPONSIBILITY TO MAKE SURE THESE TESTS HAVE BEEN CONDUCTED, AND THAT THE RESULTS ARE ACCEPTABLE BEFORE INSTALLING THE FLOOR COVERING. WHEN MOISTURE TESTS ARE CONDUCTED, IT INDICATES THE CONDITIONS ONLY AT THE TIME OF THE TEST.

Lightweight Concrete

All recommendations and guarantees as to the suitability and performance of lightweight concrete under resilient flooring are the responsibility of the lightweight concrete manufacturer. The installer of the lightweight product may be required to be authorized or certified by the manufacturer. Correct on-site mixing ratios and properly functioning pumping equipment are critical. To ensure proper mixture, slump testing is recommended.

- Lightweight aggregate concretes having dry densities greater than 90 lbs. per cubic foot may be acceptable under resilient flooring.
- Concrete slabs with heavy static and/or dynamic loads should be designed with higher strengths and densities to support such loads.
- The surface must be permanently dry, clean, smooth, free of all dust, and structurally sound.
- Three internal relative humidity tests should be conducted for areas up to 1000 SF. One additional test, for each additional 1000 SF.

Radiant Heating

Radiant-heated subfloor systems can be concrete, wood, or a combination of both.

The heating systems components must have a minimum of 1/2" separation from the flooring product. The system must be on and operational for at least 2 weeks before installation to reduce residual moisture. Three days before installation lower the temperature to 65 degrees, after installation gradually increase the temperature in increments of 5° F to avoid overheating. The maximum operating temperature should never exceed 85°F. The use of an in-floor temperature sensor is recommended to avoid overheating. Contact the manufacturer of your radiant heating system for further recommendations.

Existing Floor Coverings

Flooring can be installed over most existing hard-surface floor coverings, provided that the existing floor surface is fully adhered, clean, flat, dry, structurally sound, and free of deflection.

- Existing sheet vinyl floors should not be cushioned and not exceed more than one layer in thickness. Soft underlayment and soft substrates will compromise the product's locking ability as well as diminish its indentation resistance.
- Installation is NOT allowed over any type of carpet.
- Do NOT install over wood floors adhered to concrete.
- This product can be installed over existing ceramic/porcelain tile products with up to a 1/4-inch-wide grout joint. If the grout joint width exceeds 1/4 inch, a cementitious patching compound should be used to fill the grout joint to make it smooth with the surface of the tile.
- If needed overlay the panels with a 1/4" (6 mm) plywood and properly fasten to the access panels before the installation of the floor covering. Before underlayment installation, repair any loose or unstable panels. Use the appropriate installation methods for the product.

III. INSTALLATION

Tools: Tape Measure, Utility Knife, Jigsaw, Tapping Block or Rubber Mallet, Pull Bar, 1/4" Spacers, T-Square, Safety Glasses, Broom, or Vacuum, and, if necessary, tools for the subfloor repair.

Installation of 6 Mil Poly Film Underlayment is recommended.

For use over concrete substrates - seams MUST be taped.

Optional over wood substrates – do NOT tape seams.

- Begin at the starting wall. Roll underlayment out parallel to the starting wall and allow the poly film to run 2 inches up the wall.
- After the flooring has been installed trim back the poly film from the wall.
- Roll the next course of the poly film parallel to the first run and overlap a minimum of 4 inches. Smooth out any wrinkles or creases in the poly film.
- Use clear tape to tape the seams together when installed over concrete substrates.
- Continue to install the flooring over top of the poly film taking care not to damage the poly film.

Note: Do not cover the entire area of the substrate to prevent damage or present a slip hazard. Roll the poly film out one row at a time.

Floating Installation:

SPC plank flooring is designed to be installed utilizing the floating method. Proper expansion space of 1/4" is required. Undercut all doorjamb. Do not fasten wall moldings and or transition strips to the planks.

Glue Down Installation:

SPC products are approved for glue-down installation over approved wood and concrete substrates. Follow adhesive label application instructions. Install flooring into wet adhesive to achieve a permanent bond. Maintain 1/4" perimeter expansion space. Refer to the adhesive label for moisture limits of the adhesive. Roll flooring immediately after installation with a 100 lbs. 3-section roller.

Installation Steps

Tile patterns must be installed in a staggered (offset) brick pattern. A minimum 1/3 offset or 1/2 offset is preferred.

1. Before you start with the installation, it is important to determine the layout of the flooring. Proper planning and layout will prevent having narrow plank widths at wall junctures or very short-length pieces at the end of rows.
2. Install the planks parallel to the longest exterior wall as with all plank products.
3. Determine if the starter row will need to be cut. If the first row of planks does not need to be trimmed in width, it will be necessary to cut off the unsupported tongue so that a clean, solid edge shows towards the wall.
4. Installation of the product must start from the left side of the room, working to the right when working in front of the planks or facing the starting wall. Use spacers along the walls to maintain proper expansion space (1/4") and align the first plank.
5. Install the second plank in the row by aligning and dropping the end tongue over the end groove of the first plank. Apply light pressure to join the two planks together.
6. If needed, use a rubber mallet to fully engage the short side of the plank by lightly tapping the plank to engage and sit flush with the adjacent plank. Maintain an expansion gap of approximately 1/4" from the wall. Repeat this process to complete the first row.
7. Start the second row by cutting a plank to the desired length or use your cut piece from the previous row. Keep in mind that the plank must not be shorter than 12" to achieve the best appearance.
8. Install the first plank in the second row by inserting the long side tongue into the groove of the plank in the first row. This is best done with a low angle of the plank. Maintain light pressure into the side seam as you rotate the plank to the subfloor. Repeat the process with additional planks to complete each row. Very little force is required to seat the tongue into the groove. You should feel the tongue lock into the groove.
9. It is critical to keep the first two rows straight and square, as they are the "foundation" for the rest of the installation. Check for squareness and straightness often.
10. Continue installing planks and make sure to achieve a random appearance with an end joint spacing minimum of 12". Check that all planks are fully engaged; if a slight gapping is found, the gap can be tapped together by using a tapping block and a scrap of flooring to cover the tapping block to avoid damage to the planks.
11. To fully engage the short end, apply light pressure and press down to engage the end joint. If the end is raised using a non-marking rubber mallet to lightly tap the end (tongue side) about 1" from the seam. Do NOT tap directly on the seam.
12. When fitting under door casings, if necessary, a flat pull bar may be used to assist in locking the planks.
13. When fitting around obstacles or into irregular spaces, planks can be cut easily and cleanly using a utility knife with a sharp blade. It is often beneficial to make a cardboard template of the area and transfer this pattern to the plank.
14. Protect all exposed edges of the flooring by installing wall molding and/or transition strips. Make sure that no plank will be secured in any way to the subfloor.
15. For wet areas such as bathrooms caulk the perimeter of the floor with silicone caulk.
16. Protect the finished flooring from exposure to direct sunlight to reduce fading and thermal expansion.
17. Cutting resilient products into a fine point may lead to delamination. Use an ethyl cyanoacrylate-based glue to help fuse the resilient point together. Be sure to clean all glue from the top surface immediately. Alcohol-based glues may cause resilient products to swell.
18. Adhering tape to the surface of your resilient flooring could damage the surface. Do not use tape to secure floor protection directly to the floor during construction or renovation. Instead, adhere the tape to the material used to protect the floor and secure it to the base molding along the wall. A material such as a ram board can also be used to protect your flooring.

Maintenance

Initial Maintenance

- Sweep, dust mop, or vacuum to remove loose dirt and grit.
- Always use a neutral pH cleaner.
- Allow flooring to dry completely before foot traffic.

Daily & Weekly Maintenance

- Sweep, dust mop, or vacuum the floor daily to remove loose dirt and grit. Do not use a vacuum with bristles or a beater bar.
- Must clean liquid spills immediately.
- Damp-mop (do not flood floor) as needed.

Preventative Maintenance

- Chair pads are required under roller castor chairs.
- Furniture leg protectors, minimum of 1.5" in diameter, are required under all furniture legs.
- Use protective boards when sliding heavy furniture across the flooring.
- Never apply rubber mats directly on top of vinyl flooring.
- Place walk-off mats outside entry doors to prevent dirt and sand from entering the installation.
- Protect flooring from direct sunlight with window and glass door coverings to prevent fading.
- Any additional floor finishes are not required and not approved. The application of any additional floor finishes will void all warranties.