Installation & Maintenance Guide
Stone Plastic (or Polymer) Composite (SPC)

PLEASE READ COMPLETELY BEFORE INSTALLATION

Warranty Information: DesignCore Warranty Guidelines.

Thoroughly examine the flooring prior to installation for grade, color, finish and quality. Ensure adequate lighting for proper inspection. If flooring is not acceptable, do not install the floor. Please contact the seller immediately and arrange for replacement. Please note our products contain a standard color and pattern variation and installers should be working from multiple open boxes to ensure boards are blended throughout. The manufacturer cannot accept responsibility for installation of flooring with visible defects. Installation of this product warrants the acceptance by the installer or owner for the quality of the material, as well as jobsite conditions in which the material is being installed.

Prior to installation of any flooring, the installer must ensure that the jobsite and subfloor meet the requirements of these installation instructions. All necessary accessories, including trim, must be present at the jobsite prior to beginning installation. The manufacturer is not responsible for flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions.

When purchasing flooring, we recommend adding 5%-15% to actual square footage needed for cutting allowance and to compensate for culled material. It is acceptable that up to 5% of material be outside the range of acceptance and not be considered defective.

It shall be the responsibility of the Installer to document installation date, product SKU and Lot information, subfloor moisture content, site relative humidity and site temperature. This information must be documented by the installer and a copy provided to the property owner to ensure product warranty coverage.

Failure to follow all of DesignCore recommended installation guidelines will void warranty coverage.

Jobsite & Pre-Installation Guidelines:
SPC flooring should be one of the last items installed for any new construction or remodel project. All Lions Floor products must be installed per the manufacturer's guidelines. For any questions or specifications not specifically outlined herein, please contact DesignCore Technical department.

- If, prior to installation, this flooring is not acclimated to room temperature (between 65°F ~ 85°F) at job site between 24 ~ 48 hours and, if post-installation, such flooring is not continuously maintained at such temperature, will void the warranty.
- All "wet" work such as paint, drywall, concrete, masonry, plumbing must be complete and dry prior to the delivery of SPC flooring. Gutters and downspouts should be in place and the exterior grade complete to allow for proper drainage of water away from the building's exterior perimeter.
- HVAC should be on, operational and maintained between 65 – 85 degrees with a relative humidity of 35%- 55% range a minimum of 5 days prior to delivery, during and after installation of the flooring.
- If HVAC is not possible at time of installation the environmental conditions must be at or near

normal living conditions between 65 – 85 degrees and at the average yearly relative humidity for the area.

- We recommend using a Hydrometer to monitor interior climate and the use of a humidifier/dehumidifier may be required.
- Test wood sub floors for moisture content using moisture meter recommended for wood flooring. Take several readings of the subfloor and average the results. Subfloor is ready when moisture readings are of 14% or less. If readings are higher let subfloor remain open with HVAC on until readings come down to acceptable range.
- Concrete Moisture testing must follow ASTM F-2170 using a meter and probe method following meter manufacturer's instructions. We do not recommend ASTM F-1869 Calcium Chloride Testing due to inconsistencies in testing.
- Test the concrete subfloors moisture content by using an appropriate moisture meter. The moisture content for concrete subfloors must not exceed 85% Relative Humidity per ASTM F-2170. DO NOT install the flooring. Before moisture testing begins, the slab must be cured for a minimum of 60 days or less if readings are acceptable. When using a moisture meter, please refer to the recommended guidelines set forth for by the moisture meters' manufacturer.
- Basements and crawl spaces must be dry. Use of a 6-mil black polyethylene is required to cover 100% of the crawl space earth. Crawl space clearance from ground to underside of joist 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 in accordance with local regulations.
- A concrete moisture barrier is needed if slab tests higher than 85%. A 6 mil visqueen can be used under entire flooring install area. Overlap visqueen seams 6" and use waterproof tape on seams.

ALWAYS CHECK MOISTURE LEVELS BEFORE INSTALLING

<u>Preparing and leveling the sub-floor:</u>

1. The subfloor needs to be structurally sound.
2. The sub-floor should be free of any surface defect. If it is not, fill gaps with a Portland cement based leveling patch, sand/grind down any high areas and fill low areas.
3. The sub-floor must be level and flat to 3/16" (5mm) per 10' radius or 1/8" (3.2mm) per 6-foot radius.
4. Any gaps in the sub-floor should not exceed 3/16" (5mm).
5. Use flooring screws into floor joists if necessary to minimize squeaks in subfloor.
6. The surface must be clean and free of any contaminants such as wax, paint, grease, dust, oil, nails, staples, old adhesive, etc. and thoroughly swept and free of all debris.
7. For light weight concrete installation, ensure that the concrete is not low-density (below 3000 psi).
8. Plywood subfloor for floating flooring installation must be Exposure 1 plywood minimum 19/32" thick or Exposure1 must be minimum 23/32", both must be 4'x8' panels tongue and groove. Subfloor must not have more than 1/16" deflection movement.

Acceptable Installation Methods	
Above Grade	Float
On Grade	Float
Below Grade	Float

Existing Floors:
Installation over existing flooring requires the installer to consider potential issues related to moisture damage, adhesive failure and fastener failure.

Acceptable floor coverings include Solid wood, linoleum (1 layer only), terrazzo, ceramic, and stone tile. Tiled floors with grout lines will require a cementitious leveling compound to fill any grout lines, voids, or cracks. Unacceptable floor coverings include Carpet (any type), foam underlayment, cushioned-back vinyl, rubber, cork, laminates, free-floating floors, and wooden floors over concrete.

Recommended Installation Area:
This product is not suitable for any outside use, sunrooms/solariums, showers, saunas, seasonal porches, camping trailers, boats, RV's or rooms that have a potential of flooding. Do not install in rooms or homes that are not temperature controlled.

Exposure to long term direct sunlight can cause damage to your floor. Failure to properly shade or UV tint windows can discolor, fade, or buckle vinyl planks. Use window treatments or UV tinting on windows. SPC is not intended for use on vertical wall surfaces. Do not glue, nail, screw or fasten to substrate. Install cabinetry, island and peninsula counters, vanities, tubs, and showers first. Then install SPC around them with proper expansion space.

Inspect the Flooring:
Inspect material for color, finish, milling, texture and grade. Set aside pieces that may not be acceptable once installed. A maximum of four boxes may be opened for inspection prior to installation. The floors have been thoroughly inspected during the manufacturing process, but it is the responsibility of the installer/homeowner to do final inspection and cull-out boards that are not acceptable before installation.

Blending of Cartons

To achieve a uniform appearance across the entire floor, we require that you open and work from a minimum of four cartons at a time and lay out the flooring ahead of time. Be sure to mix the planks for the best aesthetic appearance. Make certain the room is well lit to ensure color is consistent and that any visual defects can be seen and removed prior to installation. "Racking the Floor" is essential to achieve a random appearance. Start by cutting several boards in random lengths, differing the lengths by at least six inches. As you continue working across the floor remember to maintain a six-inch minimum space between the end joints. Randomly install different lengths to avoid a patterned appearance. Never waste materials; the end cuts from starter rows should be used at the opposite side of the room to complete rows or may be used to start the next row.

EXPANSION SPACE

Undercut Door Casings:
Undercut all door casings 1/16" higher than the thickness of the flooring being installed. To do this, use a scrap piece of flooring as a guide. Lay it on the substrate and cut the casing with a handsaw or use a power jamb saw set at the correct height. Making sure you have ¼" space when flooring is placed under casing. Failure to undercut casings will result in automatic void in warranty coverage. No T-Molding is required when the SPC flooring is continuing thru a doorway. The door casing must be cut allowing the proper expansion space under casing. Make sure to follow total distance of continual run of flooring.

Coordinating Transition Moldings:
Always have all necessary transition moldings on site prior to beginning installation. Make sure all transitions and moldings have been coordinated with planks that have similar color and graining. Set them aside for use when a transitioning is necessary DesignCore cannot be held liable for color variations that may exist between flooring and coordinating trim accessories under any circumstances.

We require any installation of this floor that is installed in the floating method to use a T-Molding once the installation has gone more than 100 feet in any single direction. Installations of the flooring beyond this distance must use a T-Molding to release stress from the floor and allow the floating installation to properly expand and contract.

Floor Protection During Construction:
Always protect the surface of the installed flooring during construction. Cover the floor with quality rosin paper or other paper that will allow the floor to breathe and secure it to the baseboards; never tape directly to flooring. Do not use plastic or polyethylene sheeting to cover the floor. The flooring must be cleaned and completely free of any debris to minimize damage.
If you have any questions regarding installation of flooring not addressed in our guidelines, please contact our technical department.

Radiant Heated Subfloors: Must be warranted by manufacturer for installation of resilient flooring and never exceed 85 degrees

The following guidelines must be followed to maintain warranty coverage. Failure to follow ALL guidelines will result in termination of warranty coverage.

- Concrete must be allowed to properly cure and dry a minimum of 6 weeks prior to operation of radiant heat system.
- Over concrete, moisture vapor emission rate for concrete subfloors must not exceed 85% RH using ASTM 2170k and documented for warranty coverage.
- Wood subfloors must not exceed 14% moisture content.
- Subfloor must be flat to 3/16” over a 10’ radius or 1/8” over a 6’ radius.
- T-moldings must be used to separate heating zones.
- Operation of radiant heat system should be set to run at 2/3 of the maximum output for a minimum of 2 weeks prior to installation of flooring to further allow moisture from concrete to dissipate and reach a final moisture content. This must be done in both heating AND non-heating seasons.
- The use of a separate thermostat for each individual zone is required. An outdoor temperature sensor is highly recommended to adjust temperature according to anticipated heat loss.
- Reduce heat to a temperature of 65° 4 days prior to installation.
- After 48 hours post-installation, we recommend to slowly raise temperature of the heating system to its preferred operating level. Please exercise caution and expect to achieve peak after a period of 5 days.
- Do not allow the surface temperature to exceed 85°F with no more than a 5◦F variance in surface temperature over a 24-hour period.
- Seasonal expansion and contraction is expected and does not mean a defect is present within the product.

GENERAL INSTALLATION TOOLS

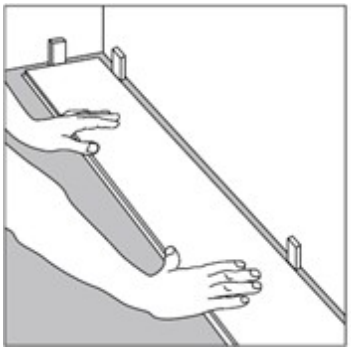
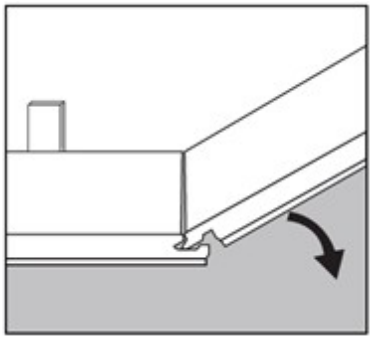
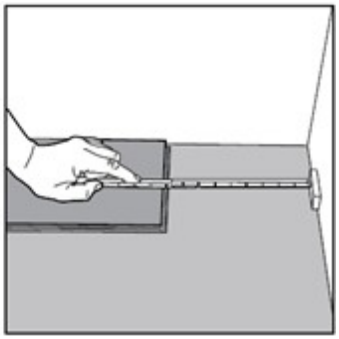
- Moisture Meter
- Tape Measure
- Pencil
- Chalk Line
- Hand Saw or Power Saw
- Utility Knife
- Tapping block
- Crowbar or Pry Bar
- Wood or Plastic Spacers (¼")
- Rubber Mallet

Floating Installation Instructions: Please refer to DesignCore for latest updates

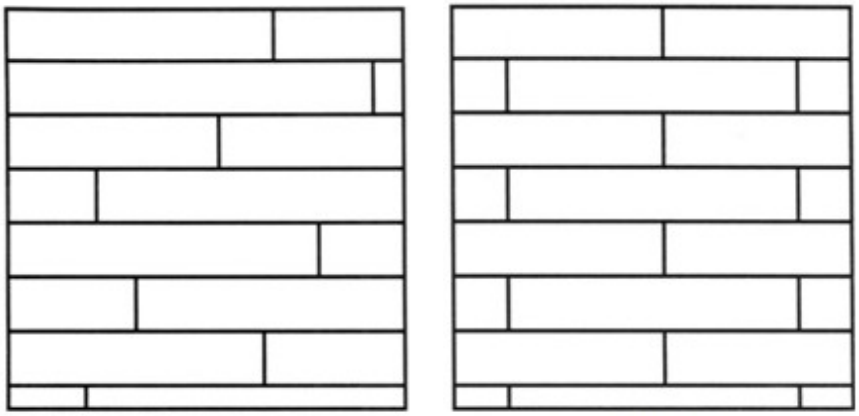
Step One - Establish a Starting Point

1.1 Remove any existing wall base, shoe molding, quarter round or doorway threshold.
1.2 If installation is above or at grade, poly-film is recommended but not necessary.
1.3 Determine the longest, straightest wall to begin installation; this is usually an exterior wall.
1.4 Measure the total width of the flooring (including the tongue), plus ¼" for expansion. Measure out this distance in at least 2 places from the starting wall and 12" from the corners. Then, snap a chalk line parallel to the starting wall.

Step Two - Lay Out

2.1. Choose the longest and straightest boards and align the planks tongue with the working line, cut the last plank to the proper length leaving a ¼" from the end wall. Repeat this step for the second row,

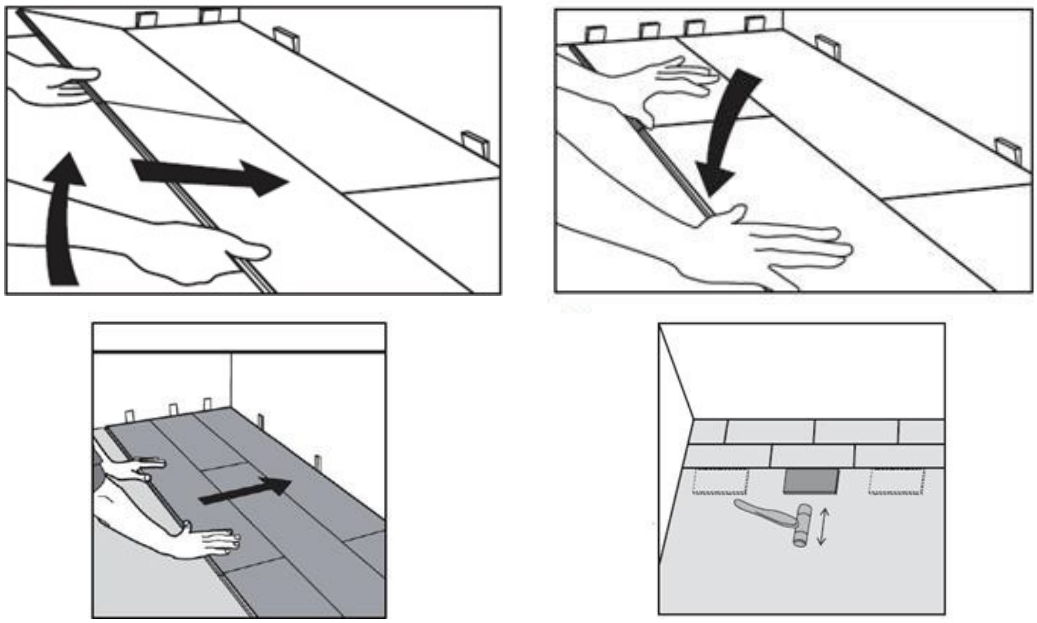


making sure to stagger the joints. The minimum end stagger is 6 inches.

Step Three – Rack the Floor

3.1. Once the first row is in place, continue to lay out the planks. Be sure to blend the planks and stagger the end joints a minimum of 6" apart to ensure a favorable appearance.

Step Four – Installation of Flooring



4.1. Once enough of the planks have been racked out, begin installing the planks by fitting the short side of the click system into the long side of the click system. Make sure that the click system is engaged evenly; any gapping can compromise the integrity of the installation. To ensure a tight fit, use a tapping block and rubber mallet on the long seams and tap down on the top of the plank at the short seams. Continue installing planks across the room ending at the far wall.

4.2. It may be necessary to rip the last row to allow for the minimum ¼" expansion. If the last row is

2” or less click the pieces to the last full uninstalled row and install them together. If needed use a light rubber mallet to make the remaining rows tight to the installed planks.

Step Five - Completing the Job

5.1. Clean the floor with any high-quality, p/h-neutral vinyl cleaner.
5.2. Install transition pieces -i.e. – stair nose, reducer, end cap, t-molding and base shoe. Please follow manufacturer’s installation guidelines for transitions.
5.3. Any unused material should be stored in a dry place in case future repairs are needed. We recommend saving at least 2 boxes.

SPECIAL INSTRUCTIONS FOR INSTALLATION ON STAIRS

Preparation
Remove existing floor covering if necessary and thoroughly clean the surface of all treads and risers. Remove all residue of old glue and underlay, sand the surfaces clean and vacuum to remove all dust and debris. Make sure the existing stair treads are free from noise when walked on. Add additional fasteners if necessary. If necessary, cut back the overhang of the existing tread flush to the riser (Figure 1).

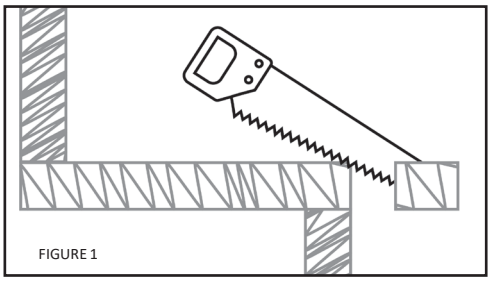


FIGURE 1

Check Run and Rise
Ensure stair treads conform with local building codes in your area for appropriate tread depth and step height. Most building codes require a rise or run difference of no more than 3/8” (10mm) throughout the entire stair system.

Adding An Underlayment (If Required)
If there is more than a 3/8” (10mm) variance on some stairs in the run, it may be worthwhile adding an underlay to some treads to minimize the height difference. To add an underlay, use a plywood type material cut to the size of the tread and affixed with urethane construction adhesive.

INSTALLATION

IMPORTANT: REMOVE ATTACHED PAD BEFORE INSTALLING ON STAIRS. SCRAPE OFF PAD AND CLEAN THE SURFACE TO REMOVE ALL UNDERLAY RESIDUE FROM THE BACK OF THE BOARD.

When installing on stairs it is recommended all flooring material be cut and dry fit prior to applying adhesive. If flush mount nosing is being used apply adhesive leaving dry spots on each end and one in the center. Use a hot melt glue on dry spots to help hold nosing from moving until adhesive has cured. Install nosing pressing firmly into the adhesive. Install flooring planks and press firmly into adhesive. Use painters’ tape to hold planks and nosing in place for 24 hours until adhesive has set. Do not allow traffic on stairs for 24 hours. On top step if flooring planks are being installed on landing that is a floating installation you must use an overlap nosing that will allow expansion space between nosing and floating planks.

Care & Maintenance:

With today's advances in vinyl flooring stains and finishes, cleaning vinyl has never been easier. There are other steps you can take to minimize maintenance and maintain the beauty of your vinyl floors. Regular maintenance requires little more than sweeping with a soft bristle broom if your floor includes a beveled edge that could collect debris.

- Clean your floors periodically with a professional vinyl floor cleanser. DesignCore recommends a P/H Neutral vinyl cleanser, such as Bona®.
- For moderately soiled areas, use a mild solution of isopropyl (rubbing) alcohol and distilled water. Dilute the mixture by mixing one-part alcohol and 2 parts distilled water. For tougher spots, use a higher concentration of isopropyl alcohol and distilled water.
- Avoid using any cleaning agents containing wax, oil or polish. Left over residue will form a dull film.
- Always spot test in an inconspicuous area.
- Do not use any wood care floor cleaning products on vinyl floors. Self-polishing acrylic waxes can cause the surface to become slippery and appear dull quickly.
- Do not use vinegar as a cleaning solution, its acidic properties will harm the finish.
- Use area rugs both inside and outside doorways to help prevent grit, dirt and other debris from being tracked onto your floor. Please use a breathable rug pad underneath all throw rugs to prevent scratching.
- Place an area rug in front of the kitchen sink.
- Do not wet-mop the floor. Standing water can dull the finish, damage the floor and leave a discoloring residue.
- Do not use a steam mop of any kind. Damages associated with steam mop use will void warranty coverage.
- Wipe up spills immediately.
- Protect your floor with floor protectors that are made of non-staining felt under the legs of furniture to help prevent scuffing and scratching; Larger pads may be required on bigger objects. Scratching due to insufficient protection are not covered under by the warranty.
- Avoid walking on your vinyl floors with cleats, sports shoes and high heels. o A 125-pound woman walking in high heels has an impact of 2,000 pounds per square inch. An exposed heel nail can exert up to 8,000 pounds per square inch. This kind of impact can dent any floor surface.
- When moving heavy furniture, do not slide it on the flooring. It is best to pick up the furniture completely to protect the floor from damage.

Floor Repairs:

- Very light and small surface scratches can be repaired with a staining "touch up" pen of the appropriate color or by using an almond stick. Please refer to manufacturer's recommendations on proper application.
- Slightly deeper scratches can be repaired by means of colored putty, acrylic and/or stains. Fill the scratches with the putty, level with putty knife and use terry cloth towel to wipe off excess.
- Very deep scratches or gouges may require the replacement of planks.