

## 4MM 5MM WITH IN\*STEP LOCKING SYSTEM (Floating Installation Guidelines)

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### 1. TEST BEFORE STARTING INSTALLATION

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All substrates to receive moisture sensitive floor covering must be tested for moisture. All subfloors must clean, flat, dry and structurally sound.

#### CONCRETE SUBSTRATES:

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Internal Relative Humidity tests should be performed per the latest edition of ASTM F 2170. Calcium Chloride tests can be performed in addition per ASTM F 1869. 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, 100 BARR HARBOR DRIVE, WEST CONSHOHOCKEN, PA 19428; 610-832-9585; [HTTP://WWW.ASTM.ORG](http://www.astm.org).

- Substrates shall be smooth, structurally sound, permanently dry, clean and free of all foreign material such as dust, wax, solvents, paint, grease, oils, old adhesive residue, curing and hardening/curing compounds, sealers and other foreign material.
- If the adhesive residue is asphalt-based (cut-back), or any other type of adhesive is present, it must be removed by industry accepted methods such as mechanical removal or wet scraping.
- If a chemical abatement has been performed, use Shaw Surface Prep EXT to remove any residual chemicals present. Once Shaw Surface Prep EXT has been properly cleaned and removed, apply one coat of Shaw MRP for additional protection.
- Adhesive removal through the use of solvents or citrus adhesive removers is not recommended. Solvent residue left in or on the subfloor may affect the new adhesive and floor covering.

**WARNING! DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW, BEAD BLAST OR MECHANICALLY CHIP OR PULVERISE EXISTING RESILIENT FLOORING, BACKING, LINING FELT , ASPHALTIC " CUT BACK" ADHESIVES OR OTHER ADHESIVES.**

These products may contain either asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a non-asbestos-containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content and may govern the removal and disposal of material. See current edition of the Resilient Floor Covering Institute (RFCI) publication Recommended Work Practices for Removal of Resilient Floor Coverings for detailed information and instructions on removing all resilient covering structures. For current information go to [www.rfci.com](http://www.rfci.com).

- Concrete floors shall be flat and smooth within 1/8" in 6 feet or 3/16" in 10 feet.
- F-Number System: Overall values of FF 36/FL 20 may be appropriate for resilient floor coverings.
- ASTM 2170 – IRH (Internal Relative Humidity Test), three tests should be conducted for areas up to 1000 SF; one additional test for each additional 1000 SF. Maximum – 95% RH or less.
- ASTM 1869 – Three calcium chloride tests should be conducted for areas up to 1000 SF; one additional test required per additional 1000 SF. Maximum – 10 lbs. or less per 1000 SF/24 hours.
- Do not install over concrete with a history of high moisture or hydrostatic conditions.

- In-Step is water/moisture resistant; however, excessive moisture in the subfloor may 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.
- Shaw Industries **does not** warrant nor is responsible for damage to floor covering due to moisture related issues.
- Use cementitious patching and leveling compounds that meet or exceed Shaw's maximum moisture level and pH requirements. Use of gypsum-based patching and/or leveling compounds which contain Portland or high alumina cement and meet or exceed the compressive strength of 3,000 psi are acceptable.
- For cracks or saw cuts deeper than 1", follow the preparation and application instructions for Shaw QuikFill. QuikFill is a 2-part urethane treatment that prevents future damage from moisture penetrating to the surface of the slab that may damage or breakdown adhesives or unapproved patching compounds.

## **LIGHTWEIGHT CONCRETE:**

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Internal Relative Humidity Tests should be performed per the latest edition of ASTM F 2170.

- Three internal relative humidity tests should be conducted for areas up to 1000 SF; one additional test for each additional 1000 SF.
- Internal relative humidity rate may **not exceed 95%** per ASTM F 2170.
- Surface must be dry, clean, smooth, free of all dust and structurally sound.

## **WOOD SUBSTRATES:**

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- A moisture test should be performed using a pin-type moisture meter. The moisture content should be **13% or less**.
- Wood subfloors must be structurally sound and in compliance with local building codes.
- Wood subfloors should be suspended with a minimum of 18" of well ventilated air space below.
- Crawl spaces must have a vapor barrier covering the ground.
- Wood subfloors directly fastened to concrete, or sleeper construction are **not** recommended.
- APA rated Sturd-i-Floor panels are designed as combination subfloor/underlayment, but exposure to construction conditions including weather may necessitate installation of a 1/4" underlayment panel prior to resilient flooring installation.
- SHAW 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.

## **TEMPERATURE – AMBIENT:**

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Controlled environments are critical. Fully functional HVAC systems are the best way to ensure temperature and humidity control.

- **Do not** install resilient flooring products until the work area can be temperature controlled.

- Minimum installation temperature is 65°F with a maximum installation temperature of 85°F.

#### RADIANT HEAT:

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**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 prior to installation to reduce residual moisture. Three days prior to installation lower the temperature to 65 degrees, after installation gradually increase the temperature in increments of 5° F to avoid overheating. Maximum operating temperature should never exceed 85°F. Use of an in-floor temperature sensor is recommended to avoid overheating. Contact the manufacturer of your radiant heating system for further recommendations.

- *Electric Radiant Floors:* consist of electric cables (or) mats of electrically conductive materials mounted on the subfloor below the floor covering. Mesh systems are typically embedded in thin-set. When embedding the system components, use cementitious patching and leveling compounds that meet or exceed Shaw's maximum moisture level and pH requirements. Use of gypsum-based patching and/or leveling compounds which contain Portland or high alumina cement and meet or exceed the compressive strength of 3,000 psi are acceptable.
- *Hydronic Radiant Floors:* pump heated water from a boiler through tubing laid in a pattern under the flooring. Typically installed in channels under a wooden subfloor (or) imbedded in concrete slabs. Requires the installer follow a specific nailing pattern to avoid penetration of the heat system.

#### PH:

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- Concrete floors must be tested per the latest edition of ASTM F710.
- pH reading **must not** exceed 10.0 – Readings below 7.0 and in excess of 10.0 can affect resilient flooring.

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

## 2. JOB SITE CONDITIONS

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- It is recommended that resilient floor covering installation shall **not** begin until all other trades are completed.
- Areas to receive flooring shall be clean, fully enclosed, with the permanent HVAC set at a uniform temperature range of 65°F to 85°F and maintained following the installation.
- Areas to receive flooring should be adequately lighted during all phases of the installation process.
- Floors shall be smooth, permanently dry, clean and free of all foreign material such as dust, wax, solvents, paint, grease, oils, old adhesive residue, curing and hardening compounds, and sealers.
- Working and open times vary based on job conditions, substrate, temperature, and humidity.

### 3. MATERIAL STORAGE AND HANDLING

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- Flooring material must be acclimated to the installation area for a minimum of 48 hours prior to installation.
- Store cartons of plank products flat and squarely on top of one another. Preferably, locate material in the “center” of the installation area (i.e. away from vents, direct sunlight, etc.).

### 4. SUBSTRATES

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All substrates to receive resilient flooring shall be dry, clean, smooth, and structurally sound. They shall be free of dust, solvent, paint, wax, oil, grease, residual adhesive, adhesive removers, curing, sealing, hardening, or parting compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, and other foreign materials.

#### WOOD SUBSTRATES

- Double-layered APA rated plywood subfloors should be a minimum 1" total thickness, with at least 18" well ventilated air space beneath. Insulate and protect crawl spaces with a vapor barrier.
- Do not install over sleeper construction subfloors or wood subfloors applied directly over concrete.
- Underlayment panels can only correct minor deficiencies in the sub-floor while providing a smooth, sound surface on which to install the resilient flooring. Wood subfloors should be flat – 3/16" in 10' or 1/8" in 6'.
- Any failures in the performance of the underlayment panel rests with the panel manufacturer and not with Shaw Industries, Inc.
- It is recommended that your chosen APA underlayment grade panels be designed for installation under resilient flooring and carry a written warranty covering replacement of the entire flooring system.
- Always follow the underlayment manufacturer's installation instructions.

#### CONCRETE

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- New or existing concrete subfloors must meet the guidelines of the latest edition of ACI 302 and ASTM F 710, “Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring”.
- On or below-grade slabs must have an effective vapor retarder directly under the slab.
- Concrete floors shall be flat 3/16" in 10' or 1/8" in 6'.
- F-Number System: Overall values of FF 36/ FL 20 may be appropriate for resilient floor coverings.

## **LIGHTWEIGHT CONCRETE**

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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 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 accommodate such loads.
- Surface must be permanently dry, clean, smooth, and free of all dust and structurally sound.

## **RESILIENT FLOOR COVERING**

- Must be single layered, non-cushion backed, fully adhered, and smooth.
- Show no signs of moisture or alkaline.
- Cuts, cracks, gouges, dents and other irregularities in the existing floor covering must be repaired or replaced.
- Crumb rubber underlayments are not an acceptable option for use with resilient floor coverings due to performance issues resulting from chemical incompatibilities.

**NOTE: THE RESPONSIBILITY OF DETERMINING IF THE EXISTING FLOORING IS SUITABLE TO BE INSTALLED OVER RESTS SOLELY WITH INSTALLER/FLOORING CONTRACTOR ON SITE. IF THERE IS ANY DOUBT AS TO SUITABILITY, THE EXISTING FLOORING SHOULD BE REMOVED OR AN ACCEPTABLE UNDERLAYMENT INSTALLED OVER IT. INSTALLATIONS OVER EXISTING RESILIENT FLOORING MAY BE MORE SUSCEPTIBLE TO INDENTATION.**

## **POURED FLOORS (EPOXY, POLYMERIC, SEAMLESS)**

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- Must be totally cured and well bonded to the concrete.
- Cuts, cracks, gouges, dents and other irregularities in the existing floor covering must be repaired or replaced.
- Must be free of any residual solvents and petroleum derivatives.
- Texture must be smooth.
- Show no signs of moisture or alkaline.

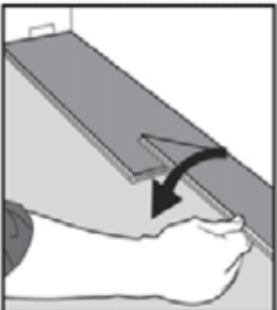
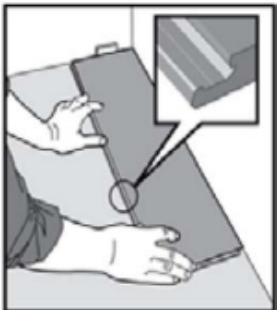
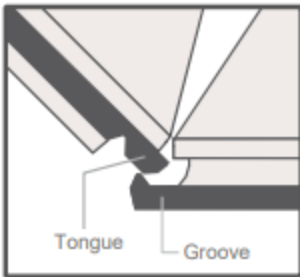
## 4. INSTALLATION

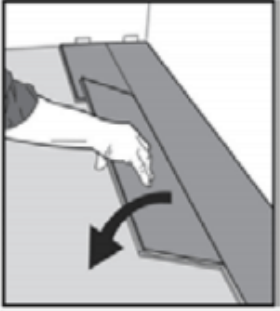
In-Step™ is designed to be installed utilizing the floating method. Never secure the planks to the subfloor. Always undercut all doorjambs. Never fasten wall mouldings and or transition strips to the In-Step planks. The width of the first row of planks should be approximately the same width as the last row. This may require cutting the first row plank to a shorter width. Measure across the room (inches) and divide by the width of a plank to see how many full width planks will be used and what size width will be needed for the last row. The last row should never be less than 2" in width. Use 1/4" spacers to maintain the proper expansion gap around the entire perimeter of the floor. Quarter Round molding will cover this expansion gap. **IMPORTANT:** this 1/4" gap must be maintained around cabinets, pipes, toilet flanges and any other obstacles in floor.

## RESILIENT FLOOR COVERING

INSPECT EACH PLANK CAREFULLY FOR DAMAGE PRIOR TO INSTALLING IT.

- Check groove on plank to make sure it is clean and free of debris. **Do not** install a damaged plank. If you have any concern about the product fit or finish, Call at for information.





1. As with all resilient plank products, install the planks parallel to the longest wall with the tongue profile facing the wall. Determine if the starter row will need to be cut. If the first row of planks **does not** need to be trimmed in width, proceed. Installation of the product must start from the left side of the room, if you are working in front of the boards, working to the right.
2. Check groove on plank to make sure it is clean and free of debris. To start the first row, press the end seam of the second plank into the end seam of the first plank, and then lock them together by laying the plank down. Complete the entire first row in this manner. Maintain an expansion gap of approximately 1/4" from the wall.
3. 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. Install the second plank in the second row by aligning the end seam of the plank directly above the end seam of the preceding plank. Insert the long side seam at a slight angle first, and as the top surfaces meet, rotate the plank down into the locked position. If needed use a hand roller to secure the end seam.
4. Work across the length of the room installing planks along the wall in the first row and then aligning the planks in the second row. It is critical to keep these two rows straight and square, as they are the "foundation" for the rest of the installation. Check squareness and straightness often.
5. Cut the last plank in the second row and leave an expansion gap of a 1/4"–8 mm. Planks may be cut with a utility knife using the "score and snap" technique. The leftover of this plank may be used to start the third row if it's a minimum 6"–15 cm long.
6. Continue installing planks and make sure to achieve a random appearance with end pieces of minimum 6"–15 cm. and avoid stairstepping the planks. 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 in order to avoid damages on the planks.
7. When fitting under door casings, etc., the flexibility and convenient connection of In-Step becomes evident. If necessary, a flat pull bar may be used to assist in locking the planks. If needed remove the locking profile on the groove in order to slide the plank into place and apply Ethyl Cyanoacrylate (Super Glue) type adhesive or equivalent to the edges to glue planks together.
8. When fitting around obstacles or into irregular spaces, In-Step 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.
9. Protect all exposed edges of the In-Step by installing wall moulding and/or transition strips. Make sure that no plank will be secured in any way to the sub floor.

! Protect the finished In-Step installation from exposure to direct sunlight. Direct sunlight can result in thermal expansion causing the material to expand or buckle. UV rays can also fade or discolor the product. For wet areas such as bathrooms caulk the perimeter of the floor with a silicone caulk.

NOTE: 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 tape to the material used to protect the floor and secure it to the base molding along the wall. A material such as ram board can also be used to protect your flooring.

## HOW TO REPLACE DAMAGED LUXURY VINYL PLANK WITH IN\*STEP

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LVT flooring surface is very durable, but sometimes your floor can be damaged by falling objects or scratched by heavy furniture. If the damage cannot be fixed using filler, you may consider replacing the LVT. The following steps will guide you through a board replacement.

Make sure the new product is acclimated to 24 to 48 hours prior the board replacement.

1. Using a utility knife, cut through the center of the damaged plank running long ways.
2. Carefully remove cut pieces from the insert. You can use a utility knife to remove the plank from the floor.
3. Clean up any fallen debris from opening area.
4. It's recommended to use painters tape along the sides of the board to be replaced to prevent damage to the adjoining boards.
5. Prepare the replacement plank. Cut and remove tongue from the long side of the plank. This can be accomplished by using a utility knife.
6. Shave the ridge from the end joint of the replacement plank.
7. Using a utility knife, remove approximately 1.5 inches of the groove side from the long end of the plank.
8. Apply a small bead of any Ethyl Cyanoacrylate (Super Glue) type adhesive to the groove on the boards in the floor.
9. Insert replacement plank locking the side joint (groove side) on the long end.  
**NOTE: THE TONGUE END OF THE REPLACEMENT PLANK WILL OVERLAP THE EXISTING FLOOR PRIOR TO BEING FULLY INSERTED.**
10. Using a scrap piece of plank as a tapping device, tap the groove end into place. Insert the blade of a utility knife on the opposite side to lift and adjust the end as it is being tapped into place.
11. Press and hold to allow adhesive to set and bond or place a weight on the plank. Fast acting adhesives typically set in 30–60 seconds—see directions on adhesive instructions.