

## INSTALLATION GUIDELINES FOR LOOSE LAY RESILIENT

### 1. TEST BEFORE STARTING INSTALLATIONS

All substrates to receive moisture sensitive floor covering must be tested for moisture.

#### CONCRETE SUBSTRATES:

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>.

- Substrates shall be smooth, structurally sound, dry, clean and free of all foreign material such as dust, solvents, grease, oils, old adhesive residue.
- Concrete floors shall be flat and smooth within 1/8" in 10 feet.
- ASTM 2170 - IRH (Internal Relative Humidity Test), three tests should be conducted for areas up to 1000 ft<sup>2</sup>. One additional test, for each additional 1000 ft<sup>2</sup>. RH less than 95%
- Follow adhesive guidelines for moisture and pH limits when installing using the glue down method.
- 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.
- On or below-grade slabs must have an effective vapor retarder directly under the slab.
- Wet curing 7 days is the preferred method for curing new concrete.
- Remove curing compounds 28 days after placement, so concrete can begin drying.
- Any large cracks or voids must be filled with a cementitious patching compound.

#### PH:

Concrete floors must be tested per the latest edition of ASTM F 710.

- PH reading must not exceed 10.0.
- Readings below 7.0 and in excess of 10.0 affect resilient flooring and adhesives.
- Rinsing the surface with clear water is the best way to lower alkalinity. "DAMP MOP" or apply 9050 primer.

**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.**

#### 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.

- a. Lightweight aggregate concretes having densities greater than 90 lbs. per cubic foot may be acceptable under resilient flooring.
- b. Concrete slabs with heavy static and/or dynamic loads should be designed with higher strengths and densities to accommodate such loads
- c. Surface must be permanently dry, clean, smooth, and free of all dust and structurally sound.
- d.

#### WOOD SUBSTRATES:

A moisture test is required using a pin-type moisture meter. The maximum allowable moisture content must not exceed 12%.

- Wood subfloors must be structurally sound and in compliance with local building codes. Overall subfloor thickness is 1" and flat – 1/8" in 10'
- Wood subfloors should be suspended with a minimum of 18" of well-ventilated air space below.
- Crawl spaces must be dry and have a vapor retarder covering the ground.
- Wood subfloors directly fastened to concrete, or sleeper construction, are not recommended.
- APA rated Sturdi-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. The materials used to treat the plywood may cause problems with the resilient or adhesive bonding. An additional layer of APA rated 1/4" thick underlayment should be installed.
- OSB is approved. It must be sturdy, flat and have minimal deflection. All other wood subfloors, i.e. particle board, wafer board, chipboard, etc. are approved but must be sturdy, flat and have minimal deflection.
- Underlayment panels can only correct minor deficiencies in the sub-floor while providing a smooth, sound surface on which to adhere the resilient flooring.
- Any failure 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

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carry a written warranty covering replacement of the entire flooring system.

- Always follow the underlayment manufacturer's installation instructions.
- Do not install over existing wood flooring.

## TEMPERATURE - AMBIENT:

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.

## TEMPERATURE – RADIANT HEAT:

Radiant heated substrates must not exceed 85°F (29°C) surface temperature.

- Several days prior to installing resilient products over newly constructed radiant heated systems, make sure the radiant system has been on and operating at maximum temperature to reduce residual moisture within the concrete.
- Three days prior to installation lower the temperature to 65 degrees, 24 hours after installation gradually increase the temperature in increments of 5° F to avoid overheating.
- After continuous operation of the radiant system, ensure the surface of the floor does not exceed 85°F.
- Radiant heat components must be a minimum of ½" separated from the flooring.
- Use of an in-floor temperature sensor is recommended to avoid overheating.

## 2. JOB SITE CONDITIONS

- a. It is recommended that resilient floor covering installation shall not begin until all other trades are completed.
- b. 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.
- c. Areas to receive flooring should be adequately lighted during all phases of the installation process.

## 3. MATERIAL STORAGE AND HANDLING

- All material must be stored in a warm dry area. Do not expose to very hot or cold temperatures. The material must be stored laying flat and cartons never on edge.
- Check to make sure color and lot numbers are the same on jobs requiring multiple cartons of tile or plank.
- Flooring material must be acclimated to the installation area at a minimum temperature of 65 degrees Fahrenheit and maximum temperature of 85degrees Fahrenheit for a minimum of 24 to 48 hours prior to installation.
- Store cartons 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. ADDITIONAL SUBSTRATES

All substrates to receive resilient flooring shall be dry, clean, smooth, and structurally sound.



**WARNING! DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW, BEADBLAST OR MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" 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)**

## RESILIENT FLOOR COVERING

- a. Must be single layered, non-cushion backed, fully adhered, and smooth.
- b. Show no signs of moisture or alkaline.
- c. Waxes, polishes, grease, and grime must be removed.
- d. Cuts, cracks, gouges, dents and other irregularities in the existing floor covering must be repaired or replaced.
- e. On heavily embossed resilient floors an embossing leveler may be needed to prevent telegraphing.

**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)

- a. Must be totally cured and well bonded to the concrete.
- b. Must be free of any residual solvents and petroleum derivatives.
- c. Waxes, polishes, grease, and grime must be removed.
- d. Cuts, cracks, gouges, dents and other irregularities in the existing floor covering must be repaired or replaced.
- e. Texture must be smooth.
- f. Show no signs of moisture or alkaline.

## CERAMIC TILE

Use caution with highly embossed tile. This type of tile plus grout joints should be filled with a high quality cementitious patching/leveling product.

## OLD ADHESIVE RESIDUE

If the adhesive residue is asphalt-based (cut-back) or any other type of adhesive is present, it must be dealt with in one of two ways:

- It may be mechanically removed such as: bead blasting or scarifying;
- A self – leveling Portland based underlayment may be applied over it. Check with the underlayment manufacturer for suitability, application instructions and warranties.

Never use solvents or citrus adhesive removers to remove old adhesive residue. Solvent residue left in and on the sub-floor may affect the new floor covering or adhesive.

## 5. SHAW ADHESIVES

### SHAW S150-95, 4100

Refer to label directions for proper application and trowel requirements

## 6. INSTALLATION

- a. Material should always be visually inspected prior to installation. Any material installed with visual defects will not be considered a legitimate claim as it pertains to labor cost.
- b. When installing loose lay products you should mix planks from several cartons to blend minor shade variations.
- c. Flooring and subfloor room temperature should be between 65 and 85 Fahrenheit. Maintain proper temperature for 48 hours before and after installation. After that maintain a minimum 55-degree temperature. The building's heating and air-conditioning system should be turned on at least one week before installation. Failure to follow these guidelines may result in an installation failure. (i.e. flooring may expand or contract resulting in gapping)
- d. Planks should be installed tight to the wall unless:  
**Large areas – areas larger than 20' x 20' – apply a band of adhesive around the perimeter and leave 1/8" to 1/4" expansion space**  
**In areas subject to rolling loads, high foot traffic or where chair casters will be used apply full spread adhesive under the planks to prevent the planks from gapping and lifting.**
- e. **Do not install using the loose lay method over an acoustical underlayment – You must use the full spread method.**
- f. **Spans – long spans in excess of 20 feet or long corridors spot glue every 20' across the area to prevent shifting of the material.**

## LAYOUT OF THE ROOM

Before laying out the floor, check the wall you are starting from and make sure it is square to the opposite wall (planks should run lengthwise against the longest wall, and if possible, parallel to incoming sunlight). Simply measure the room from opposite ends of the wall to the far wall. If the measurements are different you can make adjustments on the first row of planks by scribing the plank on the over edge. As with all plank products it is best to start along the longest exterior wall.

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 in 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.

Lay the first row of planks out to determine if you need to adjust the length of the first plank to avoid a small piece of less than 6" on the opposite wall from where you started. When installing the plank, it is required to stagger the rows so that the end joint seams are a minimum 6" apart and the seams are not in a straight uniform line. We recommend the staggered random method. Do **NOT** stair step the material

Installation should start in a corner and proceed from that corner working across the room making sure that your end pieces against the wall are a minimum of 6 inches and staggering the end joints a minimum of 6 inches.

**The planks must be installed tight against the walls (room is less than 20') or secure the edge with adhesive and leave proper expansion gap throughout the entire installation (if this cannot be achieved use an approved lvt adhesive or a suitable DS/PS tape.).**

### FITTING THE BORDER:

Measure the distance from the last plank in the row to the wall. Mark the plank and cut it against the mark. Lay the plank in place, making sure that the cut edge is against the wall.

**Fitting Around Irregular Objects:** Make a pattern out of heavy paper to fit around pipes and other irregularities. Place the pattern on the plank, trace cutting along the trace lines.

For wet areas such as bathrooms caulk the perimeter of the floor with a silicone caulk.

Protect the finished flooring from exposure to direct sunlight to reduce fading and thermal expansion.

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