INSTALLATION GUIDELINES FOR LOOSE LAY VINYL PLANK

GENERAL INFORMATION

Site Conditions

- It is recommended that floor covering installation shall not begin until all other trades are completed.
- 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.
- HVAC System: Must be operational, maintaining the following conditions **7 days** prior to, during and after installation.
- Temperature: The installation site must be between **65°F and 85°F** prior to, during, and after installation.
- Acclimation: **48-hour** acclimation required for both flooring and adhesive.

Substrate Testing

- All substrates to receive moisture sensitive floor covering require proper moisture testing.
- Moisture Testing per ASTM 1869 CaCl/MVER: Results must not exceed **8 lbs**.
- Moisture Testing per ASTM F-2170: Results must not exceed **90%.**
- pH / Alkalinity per ASTM F-3441: Results must be between **7-10.**
- If the subfloor exceeds these values, moisture mitigation should be performed.
- Perform Bond testing to determine compatibility of adhesive to the substrate.

Storage and Handling

- Store cartons of tile or 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.)
- Flooring material and adhesive must be acclimated to the installation area for a minimum of 48 hours prior to installation.
- When palletizing on a jobsite vinyl plank or tiles need to be stacked 2 rows high side by side with no airspace between. Then quarter turned for 2 rows side by side, not to exceed 12 boxes high. A 5/8" or thicker plywood must also be placed on the pallet first.
- Do not stack pallet's 2 high unless utilizing a 1" thick plywood in between pallets.

APPROVED SUBSTRATES

Concrete

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.

- 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 floor coverings.

WARNING: DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW, BEAD BLAST OR MECHANICALLY CHIP OR PULVERISE 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.

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Lightweight Concrete

- Lightweight aggregate concrete having dry densities greater than 90 lbs. per cubic foot may be acceptable under flooring.
- Concrete slabs with heavy static and/or dynamic loads should be designed with higher strengths and densities to support such loads.
- Perform Bond testing to determine compatibility of adhesive to the substrate 9050 primer can be utilized to promote adhesion.

Wood Subfloors

Wood subfloors must be structurally sound and conform to guidelines of ASTM F 1482 and in compliance with local building codes.

- A moisture test is required using a pin-type moisture meter. The maximum allowable moisture content must not exceed 12%.
- Flatness Tolerance for wooden substrates: 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.
- 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 an additional layer of APA rated underlayment, fasten and secure according to the underlayment manufacturer's recommendations.

  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.

  Underlayment panels can only correct minor deficiencies in the sub-floor while providing a smooth, sound surface on which to adhere the resilient flooring.
- Always follow the underlayment manufacturer's installation instructions. Any failure in the performance of the underlayment panel rests with the panel manufacturer and not with Shaw Industries, Inc.
- **DO NOT** install over sleeper construction sub floors or wood sub floors applied directly over concrete.
- 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.

Strip – Plank Wood Flooring

- Due to expansion/contraction of individual boards during seasonal changes a 1/4" (6.3mm) or thicker APA rated underlayment panels must be installed over these types of subfloors.
- Wood flooring installed directly over concrete is NOT an approved subfloor.

Crumb rubber underlayments are NOT an acceptable option for use with resilient floor coverings due to performance issues resulting from chemical incompatibilities.

Existing Floor Coverings

Resilient Flooring

- Must be single layered, non-cushion backed, fully adhered, and smooth.
- Show no signs of moisture or alkaline.
- Waxes, polishes, grease, and grime must be removed.
- Cuts, cracks, gouges, dents and other irregularities in the existing floor covering must be repaired or replaced.

NOTE: THE RESPONSIBILITY OF DETERMINING IF THE EXISTING FLOORING IS SUITABLE TO BE INSTALLED OVER TOP OF WITH RESILIENT, 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 MAY BE MORE SUSCEPTIBLE TO INDENTATION.

Quarry Tile, Terrazzo, Ceramic Tile, Poured Floors (Epoxy, Polymeric, Seamless)

- Must be totally cured and well bonded to the concrete and free of any residual solvents and petroleum derivatives.
- Waxes, polishes, grease, grime, and oil must be removed.
- Show no signs of moisture or alkalinity.
- Cuts, cracks, gouges, dents, and other irregularities in the existing floor covering must be repaired or replaced.

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- Fill any low spots, holes, chips and seams that may telegraph through the new flooring.
- Grind any highly polished or irregular/smooth surfaces.
- Quarry tile or Ceramic tile grout joints and textured surfaces must be filled with an embossing leveler or substrate manufacturer approved material.

Raised Access Panel Subfloors

- Raised access panels must be stable, level, flat, free and clean of existing adhesives
- 24" x 24" panels are recommended.
- Lippage (variation of height) between panels must not exceed 0.0295" (0.75 mm)
- Gaps between panels must not exceed 0.039" (1mm)
- There should be no deflection of the individual panels – Concave less than 0.0295" (0.75 mm)
- Flatness 1/8" in 10'
- Stagger the flooring tiles/planks to overlap the access panels
- Telegraphing of access panel seams may be visible and is not considered a product defect nor warranted by the flooring manufacturer.

If needed overlay the panels with a ¼" (6 mm) plywood and properly fasten to the access panels prior to the installation of the floorcovering. Prior to underlayment installation, repair any loose or unstable panels. Use the appropriate installation methods for the product.

Radiant Heated Floors

The heating system's 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 °, after installation gradually increase the temperature in increments of 5° F to avoid overheating. The maximum operating temperature should never exceed 85°F. Use of an in-floor temperature sensor is recommended to avoid overheating. Contactthe 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.

SUBSTRATE PREPARATION

- Substrates must be structurally sound, clean, flat and dry.
- Substrates must be free of dust, dirt, oil, grease, paint, curing agents, concrete sealers, adhesives, loosely bonded toppings, loose particles and any other substance or condition that may prevent or reduce adhesion.
- Substrates must be flat and smooth within ⅛" in 6 feet or 3/16" in 10 feet.
- Fill depressions or cracks with a cementitious patching / leveling compound that meet or exceed Shaw Industries 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 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 break down adhesives or unapproved patching compounds.
- Curing compounds (DO NOT USE). If present, they can interfere with the bond of the adhesive to the concrete. Seek assistance from a substrate manufacturer if curing agents are detected.
- Green sweeping compounds can be used but must be swept and removed immediately.
- For dusting / powdering / porous concrete / lightweight concrete prime with a latex primer such as 9050.
- For patches / levelers prime with a latex primer such as 9050.

ADHESIVE AND APPLICATION

NOTE: FOR INSTALLATION OF PLANK AND TILES WITH ADHESIVES BELOW, PLEASE REFER TO ADHESIVE

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SPECIFICATION (*) FOR PROPER APPLICATION.

Open Time/Flash Time: Open time begins at the time of adhesive application to the period the adhesive is ready to accept flooring.

Working Time: Working time begins at the start of installation of flooring until the adhesive is inactive, too dry, or past working time stated by the adhesive guidelines.

Adhesive	Type	CaCl/MVER Limit	RH Limit	pH Limit
4200	Hard Set	12	99%	5-12
200	Transitional	12	99%	5-12
2200	Transitional	10	95%	5-12
Kwik Flash	Hard Set	N/A	95%	7-11
T-180	Hard Set	N/A	95%	7-11
S-150-95	Hard Set	N/A	95%	7-11

INSTALLATION

Important Information

- 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.
- When installing products you should mix planks from several cartons to blend minor shade variations.
- 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 65-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)
- 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 ¼" 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.**
- **Do not install using the loose lay method over an acoustical underlayment – You must use the full spread double glue down method.**
- **Spans – long spans in excess of 20 feet or long corridors spot glue every 20' across the area to prevent shifting of the material.**
- **Crumb rubber underlayments are not an acceptable option for use with resilient floor coverings due to performance issues resulting from chemical incompatibilities.**

Layout

- 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 the 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.

Installing Plank/Tiles

- 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 to 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.

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Post Installation

To prevent indentation, we recommend that you put protective non-staining pads on the legs of heavy furniture (pianos, chairs, tables etc.). Also, if you have furniture with rolling casters, the casters need to be a minimum of 2” diameter.

- 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.
- Do not use tape to secure floor protection during construction or renovation. Use ramboard or similar to protect the floor.

NOTE: Adhering tape to the surface of the flooring could damage the surface. DO NOT use tape to secure floor protection directly to the flooring surface during construction or renovation. Adhere tape to the protection material, such as Ramboard, and adhere the tape to base molding along the wall.

NOTE: Recommended to use floor protection after installation. DO NOT use a plastic adhesive-based protection system.

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