INSTALLATION GUIDELINES FOR LAY IT RESILIENT FLOORING

PHILADELPHIA™ COMMERCIAL

General Information

These installation guidelines apply to Lay It products only. All instructions and recommendations should be followed for a satisfactory installation.

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1. TEST BEFORE STARTING INSTALLATIONS

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

CONCRETE SUBSTRATES

- Calcium Chloride – Tests must be performed per the latest edition of ASTM F 1869 and **shall not exceed 8lb. per 1000 sf in 24 hrs.**
- Internal Relative Humidity RH – Test must be performed per the latest edition of ASTM F 2170 and **shall not exceed 85%.**

New and existing concrete subfloors should meet the guidelines of the latest edition of ACI 302 and ASTM F 710, "Standard of 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.

a. 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 that might prevent adhesive bond.

b. Concrete floors shall be flat and smooth within 1/8" in 6 feet or 3/16" in 10 feet.

c. F-Number System: Overall values of FF 36/ FL 20 may be appropriate for resilient floor coverings.

d. ASTM 1869 - Three calcium chloride tests should be conducted for areas up to 1000 SF. One additional test required per additional 1000 SF.

e. 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.

f. Moisture vapor emission rate may not exceed 8 lb. /1000 ft2/24 hours or 85% using an RH test for loose lay installation.

g. Follow adhesive guidelines for moisture limits when installing using the glue down method.

Use only Portland based patching and leveling compounds. Do not install Philadelphia Commercial resilient flooring over gypsum based patching and/or leveling compounds.

LIGHTWEIGHT CONCRETE

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

a. Three internal relative humidity tests should be conducted for areas up to 1000 SF. One additional test, for each additional 1000 SF.

b. Internal relative humidity rate may not exceed 85%. Per ASTM F 710.

c. Surface must be dry, clean, smooth, free of all dust and structurally sound.

WOOD SUBSTRATES:

a. Wood subfloors must be structurally sound and in compliance with local building codes.

b. Wood subfloors should be suspended with a minimum of 18" of well-ventilated air space below.

c. Crawl spaces must have a vapor retarder covering the ground.

d. Wood subfloors directly fastened to concrete, or sleeper construction, are not recommended.

e. 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.

f. Philadelphia Commercial 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 adhesive bonding. An additional layer of APA rated 1/4" thick underlayment should be installed.

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°F. 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 1/2" separated from the resilient.
- Use of an in-floor temperature sensor is recommended to avoid overheating.

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."

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

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.

d. 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.

3. MATERIAL STORAGE AND HANDLING

a. All SHAW tile and planks must be stored in a warm dry area. Do not expose to very hot or cold temperatures. The material must be stored lying flat and cartons never on edge.

b. Check to make sure color and lot numbers are the same on jobs requiring multiple

cartons of tile or plank.

c. Flooring material must be acclimated to the installation area at a minimum temperature of 65°F and maximum temperature of 85°F for a minimum of 24 to 48 hours prior to installation.

d. Store cartons of tile or plank products flat and squarely on top of one another. Preferably, locate the material in the "center" of the installation area (i.e. away from vents, direct sunlight, etc.).

4. SUBSTRATES

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

WOOD SUBSTRATES

a. Must be sturdy, flat and have minimal deflection.

b. 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.

c. Do not install over sleeper construction subfloors or wood subfloors applied directly over concrete.

d. Underlayment panels can only correct minor deficiencies in the sub-floor while providing a smooth, sound surface on which to adhere the resilient flooring.

e. Any failure in the performance of the under layment panel rests with the panel manu facturer and not with Shaw Industries, Inc.

f. 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.

g. Always follow the underlayment manufacturer's installation instructions.

h. Do not install over existing wood flooring.

CONCRETE

a. 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."

b. On or below-grade slabs must have an effective vapor retarder directly under the slab.

c. Wet curing 7 days is the preferred method for curing new concrete.

d. Remove curing compounds 28 days after placement, so concrete can begin drying.

e. Concrete floors shall be flat 1/8" in 10 ft.

f. F-Number System: Overall values of FF 36/FL 20 may be appropriate for resilient floor coverings.

g. Any large cracks or voids must be filled with a cementitous patching compound.

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.

WARNING! Do not sand, dry sweep, dry scrape, drill, saw bead blast 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

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.

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

a. 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.

b. 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 adhesive and the new floor covering.

WARNING! Regarding complete adhesive removal: some solvent based 'cut-back' asphalt-based adhesives may contain asbestos fibers that are not readily identifiable. Do not use power devices, which can create asbestos dust in removing these adhesives. The inhalation of asbestos dust may cause asbestosis or other serious bodily harm.

5. SHAW ADHESIVES

SHAW 200 TPS, S150, 4100

Shaw 200 Luxury Vinyl Tile & Plank Adhesive is an advanced resin based, cross-linking pressure sensitive adhesive featuring high aggressive peel and shear strength. This solvent-free, non-flammable, easy troweling product provides excellent installation for luxury vinyl tile and plank over both porous and non-porous surfaces.

Recommended trowel sizes for use with Shaw 200 adhesive are:

Porous substrates: 1/16 x 1/16 x 1/16 sq.

Non-porous substrates: 1/16 x 1/32 x 1/32 U

SHAW S150 - Universal aerosol spray adhesive.

Shaw S150 aerosol spray adhesive is a water-based aerosol adhesive recommended for installations of vinyl sheet, plank and tiles, vinyl composition tile or cove base over porous and non-porous substrates.

SHAW 4100 – Solvent free resilient sheet, plank and tile adhesive.

Shaw 4100 solvent free adhesive is an installer friendly, premium high strength (non-staining) acrylic adhesive, designed to permanently install SHAW flooring. SHAW 4100 may be

used on all grades of concrete on, above or below grade in the absence of excess moisture, as well as suspended approved wood floors. SHAW 4100 is non-flammable, water (90% RH) and alkali (10 pH) resistant and freeze-thaw stable. SHAW 4100 has excellent resistance to plasticizer migration and sets to a tough permanent bond. Zero (calculated) VOC's. CRI Green Label Plus Approved.

6. INSTALLATION OF LAY IT RESILIENT

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 Lay It plank products you should mix planks from several cartons to blend minor shade variations.

c. Flooring and subfloor room temperature should be between 65°F and 85°F. Maintain proper temperature for 48 hours before and after installation. After that maintain a minimum 55°F 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. Lay It planks should be installed tight to the wall. If this cannot be accomplished you will need to secure the planks to the floor around the edges using SHAW 200 tps adhesive, Shaw S150 spray adhesive or a suitable DS/PS (double sided / pressure sensitive) tape.

e. In areas that there will be heavy rolling loads or where casters are not 2" you may need to apply an adhesive (SHAW 200 or SHAW S150) or double face/pressure sensitive tape under the planks to prevent the planks from gapping and lifting.

f. Do not install using the loose lay method over an underlayment – You must use the full spread method.

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 resilient 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.

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" and staggering the end joints a minimum of 6". The planks must be installed tight against the walls 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.

7. MAINTENANCE

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.

8. LIMITED WARRANTY

For complete warranty information, limitations and terms and conditions please call the Shaw Information Center: 1-800-441-7429.