

General Information & Limitations

This floor covering is designed to be installed as a "floating floor". Do not secure individual flooring to the subfloor with mechanical fasteners or adhesives. Do not install cabinets, kitchen islands, or other non-movable objects on top of or through the flooring. Use non-rubber backed entrance matting at all outdoor entrances; this will improve air quality and reduce maintenance. The optimal operating temperature is between 50°F - 100°F (10°C - 38°C).

Do not use any additional acoustic underlayment as the extra deflection may break the locking joints, resulting in an installation failure.

Felt glides ≥ 1 -inch sq. (645-mm²) must be used on all furniture that may slide on the floor. Do not move heavy or sharp objects across the floor; use protective boards. Regular use of blinds or curtains is recommended, especially in areas like 3-season rooms which are acceptable ≤ 500 -foot².

The installation and maintenance instructions along with the limited warranty must be read, understood, and followed before installation commences. This flooring is for dry interior applications only and should be installed by professional installers; they must also have enough professional liability insurance coverage (aka Errors and Omissions Insurance) for the project. Also, it is required by the flooring contractor to document every process, including testing, subfloor preparation, and the installation with video or photographs, as this may be required in the unlikely event of a claim. Do not install with any visible defects or damage, doing so assumes acceptance and full responsibility for the damaged material. Check the lot numbers on the packaging and do not install the flooring if they do not match; contact the technical department at 602-432-6341 or jeff.powerhold@gmail.com.

Quick Reference (Residential Use)

Concrete moisture limit	$\leq 90\%$ RH per ASTM F2170 or use a 6-mil, PE sheet vapor retarder
Flatness tolerance	$\leq 3/16$ -inch over 10-foot and $3/32$ -inch over 1-foot in all directions
Acclimation temperature	Between 65° F to 85° F
Acclimation period	Confirm flooring is between 65° F to 85° F or acclimate for ≥ 48 -hours
Installation temperature	Between 65° F to 85° F
Optimal service temperature	Between 50° F to 100° F
Expansion gap	Yes, $5/16$ " (8 mm) minimum (see below)
Expansion joints (large areas)	Not normally required (see below)
Doorway transition requirements	Not normally required (see below)
Acoustic underlayment	Not recommended, already attached
3-Season rooms	Recommended up to 500-foot ²

Subfloor Preparation

Warning: The Occupational Safety and Health Administration (OSHA) has exposure limits for people exposed to respirable crystalline silica; these limits must be followed. All local, state and federal regulations must also be followed; this includes but is not limited to the removal of in-place asbestos and/or lead-containing material. Do not use solvent/citrus-based adhesive removers. When appropriate, follow the Resilient Floor Covering Institute's (RFCI) "Recommended Work Practice for Removal of Existing Floor Covering and Adhesive". All appropriate Safety Data Sheet (SDS) must be read, understood, and followed. Always wear safety glasses and use respiratory protection or other safeguards to avoid inhaling any dust.

Waterproof: Although this flooring is waterproof, it is not a waterproof barrier. The following requirements are precautionary as high moisture, combined with any organic material trapped beneath the flooring may facilitate mold growth. Property damage and/or resulting health issues as a direct result of mold is not covered by the limited warranty of this flooring. Do not leave any liquid on the flooring surface, wipe up spills immediately, and allow the floor to dry before allowing foot traffic. If required, for small areas only and providing a constant temperature is maintained, the expansion gaps can be made waterproof using a caulked flexible grout (not supplied).

Concrete Subfloors: On and Below Grade: All on and below-grade concrete slabs must have a confirmed and effective vapor retarder installed directly underneath the slab that meets the requirements of "ASTM E1745 Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs". Also, be tested following the protocol of ASTM F2170 Standard Test Method for

Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes. The results must be $\leq 90\%RH$ or have an appropriate (≥ 6 -mil thickness) polyethylene (PE) sheet (vapor retarder), installed directly over the prepared substrate. The vapor retarder is not included but is available from home improvement stores.

The prepared substrate also must be clean (without contaminants), structurally sound, smooth (ridge-free) within a flatness tolerance of $\leq 3/16$ -inch over 10-foot and $3/32$ -inch over 1-foot in all directions. If required, smooth using a suitable (moisture content) leveling or patching underlayment, following the written instructions from the manufacturer.

Gypsum Subfloors: Any finished gypsum substrate must be and remain dry, fully bonded and structurally sound, clean (without contaminants), smooth (ridge-free) within a flatness tolerance of $\leq 3/16$ -inch over 10-foot and $3/32$ -inch over 1-foot in all directions. If required, smooth using a suitable gypsum-based leveling or patching underlayment. Follow the written instructions of the manufacturer, including any requirement to prime before application. The selected product must meet all building code requirements for the project, and its use, including the specific moisture condition of the subfloor. The underlayment must be allowed to fully cure/dry before proceeding,

Wooden Subfloors: The substrate must be clean (without contaminants), be and remain dry according to the NWFA guidelines for your region, structurally sound and smooth (ridge-free) within a flatness tolerance of $\leq 3/16$ -inch over 10-foot and $3/32$ -inch over 1-foot in all directions. Fix down any loose or squeaking boards. If required, use an underlayment grade plywood, with a minimum thickness of $1/4$ ". For bathrooms, etc., use exterior grade plywood.

All Other Subfloors and Substrates: Other substrates may be acceptable; however, they must be clean (without contaminants), structurally sound (well bonded), be and remain dry, smooth (ridge-free) within a flatness tolerance of $\leq 3/16$ -inch over 10-foot and $3/32$ -inch over 1-foot in all directions.

Unsuitable Substrates: Do not install over any carpet, cushion vinyl, rubber, cork, asphalt tile, or any other floating (unfixed) floor covering or underlayment. Do not install directly over any acrylic or water-based adhesive residue (remove or cover).

Radiant Heated Substrates: Radiant heating systems are acceptable providing they do not have direct contact with the flooring and is set at $70^{\circ}F$ ($21^{\circ}C$) for 48 hours before and during the installation. Never change the temperature more than $10^{\circ}F$ over twelve hours and do not exceed $85^{\circ}F$ ($29^{\circ}C$). Separate all rooms with radiant heat using a suitable transitional profile.

Installation Instructions

Acclimation: Depending on the temperature of the flooring, an acclimation period may not be required. Upon receipt of the flooring at the project, it is recommended to unpack the pallets and place all boxes directly on the flat prepared substrate (not stacked). The flooring must be between $65^{\circ}F$ and $85^{\circ}F$ before installation. Check the temperature, from the center of the boxes using a non-contact infrared digital thermometer, and do not proceed until the required temperature is reached. Alternatively, allow ≥ 48 -hours acclimation period.

Flooring Tool List (not included): Hepa filtered vacuum, safety glasses, dust mask, tape measure, pencil/sharpie, ~ 16-oz. white rubber mallet, framer's square, chalk line, utility knife with blades, hot air gun, and knee pads. Optional; guillotine-style cutter.

Preparation: Wherever possible, it is recommended to undercut door jambs and moldings back to the studs, leaving a $1/64$ -inch gap underneath to allow movement and avoid seeing the required expansion gap. Clean the entire area to be installed (Hepa filtered vacuum). Install any surface applied vapor retarder now, run seams in the opposite direction to the flooring. Leave at least 2-inches up the walls, to be trimmed off after the flooring installation, overlapped (≥ 6 -inch) all seams and seal with a waterproof tape.

The flooring should be balanced with equal sizes on both sides. Measure the width of the area, calculate and mark your starting line (chalk line). If the starting row (at the wall) is less than $1/2$ -width, move your line over by $1/2$ the width of the flooring. The layout should be in a random pattern with ≥ 6 -inches end-seam separation.

Before beginning, mix flooring from several boxes to ensure a random appearance. During the installation, inspect the flooring for visible defects, including damage, gloss, color or shade variations or dirt and debris in the locking mechanism (remove using a soft brush). If you have any concerns, do not install them.

Terminology: The “groove” is the side with the longer section at the bottom of the flooring; the reverse is the “tongue”.

Expansion Gaps: If the length or width that is \leq 65-foot, an expansion gap of at least 5/16-inch around the entire perimeter is required. If the overall length of the area is over 85-foot or if expected to get over 100°F (38°C), like 3-season rooms, use a 1/2-inch gap. Transitional profiles or thresholds must be wide enough to allow for the expansion gap, overlap the flooring by at least 1/8-inch and be fixed to the substrate only. Do not pinch or trap the edge of the flooring, preventing expansion or contraction.

Cutting: To cut the flooring, measure, mark and carefully use a sharp utility knife and a framer’s square to score the flooring a few times and then snap it along your cut and trim off any extra backing. Alternatively, cut using a guillotine style tile cutter. For complicated cuts, it is helpful to gently warm the flooring from the back using a heat gum (~ 6-inches away) before cutting.

Important: Do not directly tap any part of the locking mechanism as that will cause permanent damage. To remove installed planks, carefully disengage the long side in a full row by lifting at an angle of approximately 30° and pulling it out. To disengage an end joint, while keeping both sides of the joint flat, carefully slide one side towards you until separation. If the joint does not easily slide, use the mallet to re-seat the joint and then try again.

Installation: Beginning at the left corner, follow your starter line and if required, cut the width of the entire first row. The “tongue” side and end should be placed against the wall, using spacers to maintain an even gap and connect the end joints (see below). Cut the last piece to fit, allowing for the expansion gap, install it, and use spacers to firm up the row (reduce movement).

End Joints (drop & lock): Correctly align both ends, place the second end over the first and press firmly downwards into place, using your thumb until it clicks. To complete the locking, aim the center of a ~ 16-oz. white rubber mallet about 1-inch away from the joint, on the right or high side and tap the flooring downwards.

Side Joints: For the following rows, insert the long side tongue of the flooring into the previously installed plank groove at an angle of about 25°, ensure the joint is seated properly, slide the flooring towards the previous end joint (or spacer) until perfectly aligned. While pressing into the long side, lower the flooring into position. Complete the end joint, as before and continue with the installation.

The waste from the previous row may be used as a starter for one of the following rows, making sure the end joints are at least 6- inches apart from the previous row, and at least 9-inches in length.

During the installation, and only if required, use an ~ 6-inch scrap piece of flooring locked into the joint (not a tapping block) and lightly tap together any minor gaps with your mallet to properly connect the locking mechanism. After the first five or six rows are completed, turn yourself around and continue installing, working from the installed flooring. The benefit is you are now “pulling” the long side joints together, rather than “pushing” them, making the process even easier. When completed, remove all spacers and replace the wall base or moldings, leaving a 1/64-inch gap underneath to allow movement.

Maintenance Instructions

Precautions: For commercial installations, always post “wet floor” signs and/or “caution tape” when wet maintenance is going to be performed. Prohibit foot traffic until the floor is completely dry. Remove all metal objects before wetting the flooring. Follow facility’s Standard Operating Procedures (SOP).

Do not use dust mops treated with oils or silicones, acetone, strong alkaline cleaning agents, multi-surface cleaners, vinegar/ammonia/ citrus oil solutions, scouring powder, strong solvents, or abrasive cleaning pads, as these can damage the flooring. The application of a floor-finish is not usually recommended.

Regular Cleaning: Dust mop or vacuum (without a beater bar) the floor to remove any dirt or grit. Clean the floor as often as required by damp mopping using a flat microfiber mop and a suitable diluted vinyl floor cleaning solution (neutral pH), changing the pad as often as required.

Deep Cleaning (Commercial): This may be required when your routine cleaning is not meeting your expectations. Dust mop or vacuum the floor to remove dirt or grit. Wet mop the entire floor using a suitable neutral cleaning solution like Diversey Profi or similar. Allow the solution a dwell time of approximately 5 minutes. Scrub the floor using a suitable auto-scrubbing machine or single-disc, rotary floor scrubber (~ 175 RPM) with a white pad. For small areas, a medium nylon broom and wet vacuum may also be used. Remove the soiled solution using a wet vacuum. Rinse with clean water and then remove it using a wet vacuum.