

LVT & LVP Installation Guide



—Tools needed—

100 lb. Roller
Measuring Tape

Safety Glasses
Expansion Spacers: 3/8"
Dust Mask

Straight Edge
T-Square
Utility Knife

How to Measure your Installation:

Measure the length and width of each room. Length x width= Square feet. Measure and add alcoves or offsets separately. Purchase a minimum of 10% extra to cover mistakes, trimming, and future needs or replacements.

General Information:

- Use personal safety precautions by wearing a Dust Mask, Safety Glasses, and gloves.
- Flooring should be transported and stored in a neatly stacked fashion on a smooth, flat surface.
- Protect carton edges, do not drop, and do not lean cartons against walls.
- Cabinets, built-in appliances, or heavy equipment should never be installed on flooring.
- Do not install in areas exposed to the movement of heavy objects or rolling traffic.
- Do not install in non-climate-controlled rooms such as sunrooms, solariums, and saunas.
- The flooring should be protected from prolonged exposure to sunlight or excessive heat.
- Maintain a climate-controlled environment with an ambient temperature range between 55F – 85°F and a humidity range of 30%-65% before, during, and after installation.

Before Installation:

- Check cartons to ensure the Pattern and Color are correct.
- Check the planks for color, finish, gloss, and quality.
- Planks installed with a visible defect will not be warranted.
- Plan to mix and install planks/tiles from several different cartons during installation to achieve the desirable plank/tile variations.
- Color, shade, or texture variations between samples, print color photography, and the actual material are not warranted.
- The Manufacturer will not warrant color, gloss, texture, or appearance from different dye lots.

Acclimation:

- Acclimate unopened cartons for a minimum of 12 hours and install the flooring in a climate-controlled environment:
 - 55F – 85°F with a relative humidity range of 30%-65%
- NOTE: Failure to maintain temperature can cause dimensional changes and permanent damage to the flooring.

Wood, Concrete & other Subfloor Basics:

- The subfloor surface must be smooth, flat, dry, clean, and solid.
- **Flatness:** any area higher or lower than 1/16" must be flattened out.
 - Voids or humps in the subfloor will compromise the locking mechanisms and permanently damage the planks.
- The subfloor should not slope more than 3/16" in 10' or 1/8" in 6'.
- Adhesive residue must be removed or skim-coated.

Crawl Spaces:

- Crawl spaces must be a minimum of 18" from the ground to the underside of the joists.
- A 6-mil black polyurethane is required to cover 100% of the crawl space earth with joints lapped 6" and sealed with moisture-resistant tape.
- The crawl space should have perimeter vents equal to a minimum of 1.5% of the crawl space square footage.

Wood Subfloors:

- The subfloor must be clean, dry, flat, smooth, structurally sound, and free of deflection, wide voids, and gaps.
- Subfloors should conform to US Voluntary Product Standard PS1-95.
 - Particle board subfloors are NOT recommended.

- Remove carpet staples and loose nails or protruding screws.
- Check for loose or uneven panels.
- The subfloor should be permanently screwed down every 6" along the floor joists to avoid deflection and noise.
- If an additional layer of APA-rated underlayment is needed, fasten and secure according to the underlayment manufactures recommendations.
- **Flatness:** any area higher or lower than 1/16" must be flattened out.
- The subfloor should not slope more than 3/16" in 10' or 1/8" in 6'.
- **Wood Subfloor Moisture testing is required:**
 - Test the wood subfloor with a calibrated wood moisture meter in several areas in each room.
 - Wood subfloor moisture should be less than 14%.
 - If greater than 14%, the property owner should have moisture problems resolved before installation.
- Do not install material on wood subfloors applied directly over concrete or on sleeper-construction subfloors over, on, or below-grade concrete.

Concrete, Gypcrete, and other floor slabs:

- Must be at least 90 days old and fully cured.
- Moisture and pH tests are required on all concrete substrates regardless of the grade or age of the slab.
- Must be moisture tested in accordance with ASTM Standards by the general contractor, flooring installer, or an independent testing firm.
- Professional moisture remediation may be required if:
 - Moisture tests are higher than 14% on wood, or 4% on concrete (with a concrete moisture meter)
- Moisture test results should be documented for your protection.
 - Moisture tests only indicate moisture conditions at the time of the test.

Moisture Testing is Required for Concrete, Gypcrete, and other floor slabs On, Above, or Below grade:

- Concrete pH level should measure between 7 – 10
- Moisture Testing is required with a calibrated Concrete Moisture Meter.
 - 4% is the maximum allowable moisture content for concrete.
- The following tests are required if the concrete moisture measures more than 4%:
 - Anhydrous Calcium Chloride in accordance with ASTM F 1869. Maximum tolerance: 5 lbs. / 24 hours per 1,000 SF
 - RH In-Situ in accordance with ASTM F 2170. Maximum tolerance: 80%

Concrete meters in compliance with ASTM F 2659

- Tramex CEMX5
 - Measures slab temperature
 - Tramex CMEX5 provides App to document test results.
 - [Tramex Quick Check Video](#)
- Tramex CME5
- Wagner C555
- DeFelsko PosiTTest CMM

Over Hydronic Radiant Heat:

- The hot water tubing must be 1/2" below the slab.
- The system must be on and operational for at least 2-weeks prior to installation to reduce residual moisture.
- Acclimate and install the floor at an average temperature of 55 – 85°F.
- Increase temperature no more than 5 degrees at a time to avoid thermal expansion.
- Maximum operating temperature should never exceed 85°F.
- The use of an in-floor temperature sensor is recommended to avoid overheating.
- Contact the manufacturer of your radiant heating system for further recommendations.

Installation Checklist:

- **Subfloors:**
 - Must be clean, dry, flat, and structurally sound.
 - **Flatness: any area higher or lower than 1/16" must be flattened out.**
 - **The subfloor should not slope more than 3/16" in 10' or 1/8" in 6'.**
 - Fill all holes, saw cuts, and depressions with a Portland cement-based floor patch.
 - Fill control joints with a flexible polyurethane sealant designed to allow the slab to expand and contract.
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- DO NOT install any additional Foam Underlayment or install over heavily cushioned sheet vinyl.
 - Soft underlayment and soft substrates will diminish the product's inherent strength in resisting indentation and joint integrity.

- DO NOT install over hardwood flooring (glued or nailed), carpet, carpet pad, floating floors, or existing vinyl floors with more than 1-layer.
- Ceramic Tiles must be well bonded, and grout joints should be less than ¼" wide.
 - Check bond prior to installing, May require embossing leveler system (such as Mapei Plani Patch) over entire floor.
 - Fill grout joints wider than ¼" with Portland cement.
- **Expansion space:**
 - Required in the width and length direction of the planks, along the walls, and at all vertical surfaces, including cabinets, posts, partitions, doorjamb, pipes, pillars, stairs, floor vents, closet & door tracks, etc.
 - ¼" to 3/8" Expansion space is required for installations
 - NOTE: Failure to provide proper expansion space may cause buckling, gapping, cupping, or peaking.
- Undercut all doorjamb.
- Leave a credit card space (1/32") below the baseboard, moldings, and other finish trim.
- **DO NOT adhere, caulk, nail, or screw anything to or through the flooring, including:**
 - Baseboards, moldings, Transitions (T-molding, end caps, reducer, quarter round), metal, floor vents, closet door tracks, doors, furniture, cabinets, or wood transitions.

Plan the layout:

- **Measure** the width of the room and divide it by the width of the plank.
 - If the last row of planks will be less than 3" (76.2mm) wide, you will need to cut the first row of planks in such a way that the first and last rows will have the same approximate width.
 - Expansion spacers should be placed along all walls and at all vertical obstructions (walls, cabinets, fireplaces, etc.) and remain in place until installation is completed. Spacers must be removed before moldings are installed.
- **Transitions:**
 - Use quarter Round, T-molding, reducers, or end caps where the flooring planks may meet other flooring surfaces, exterior door tracks, glass windows, walls, or doorframes.
 - Leave expansion space between the planks and the transition trim and adjoining surfaces.
 - Transitions must be used when changing the direction of the planks.
- **Caulk:**
 - Do Not use Acrylic Caulk.
 - Use 100% Flexible (neutral curing, no-odor) Silicone Caulk.
 - In moisture-prone areas, around bathtubs, shower stalls, toilets, etc.
 - Fill voids/expansion gaps where the floor has been scribed to metal doorjamb, etc.

Installation:

When planks are installed over concrete or wood, use **Mapei ECO 399** adhesive (or similar) following the manufactures recommended Instructions. Spread rate will vary depending on subfloor and trowel size used.

Square the area and establish reference points on the substrate based on the recommended layout. Figure 1.

For best results, planks/tiles should be installed starting from the center of the room. Measure and mark the center of each end wall. Connect center points with a chalk line. Locate the center and establish a second chalk line at a right angle to the existing line. (Figure 1) Planks/Tile should be installed in a pyramid fashion. Carefully place the first tile at the junction of the chalk lines. Continue laying the planks/tiles, making sure each one is flush against the chalk line and tight against adjoining tile. (Figure 2) (Figure 3).

Apply the adhesive to the substrate and allow proper open time. Open and working times are dependent on the ambient temperature, humidity, substrate porosity, temperature, and air movement. It is the installer's responsibility to modify the open time and working time for jobsite conditions.

Use established reference points and install the flooring.

Install planks in the same direction, in pattern, and offset the planks end joints by a minimum 6". To achieve a more aesthetic, natural appearance, avoid stair-step and H-pattern layouts by using random sizing 6" and larger to start row. Figure 1 & 2.

Planks/Tiles should be lightly butted together when placing the flooring in the adhesive. Do not force planks/tiles together creating a ledge condition at the seams and corners. Sliding Planks/tiles will force the adhesive out between the seams.

Periodically, lift the corner of an installed plank/tile to ensure proper transfer of adhesive.

Inspect the floor surface, especially seams, and remove any adhesive on the surface.

Be sure to leave a minimum of 1/4" – 3/8" expansion space around all fixed objects, floor vents, door jamb and doorframes.

To fit partial tiles, lay the piece to be cut exactly over the last full piece, place another full piece against the wall and make the cutting line where they overlap (Figure 3) (Adjust cut for expansion). Make sure the cut edge of the flooring is against the wall to ensure the factory-finished edges are next to each other. To fit the floor around the door jambs, pipe or other protrusions, cut a paper pattern to fit, and trace it on the face of a piece. Cut the piece and try fitting it into place before installing.

When installation is complete, **roll flooring in both directions using a 100 lb. (45-50 kg) sectional floor roller**. Install trim to cover any exposed space or uneven cuts at walls or vertical obstructions. Do not affix trim to the floor. Use small hand roller in areas that cannot be reached with larger roller.

Figure 1

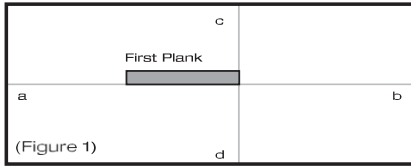


Figure 2

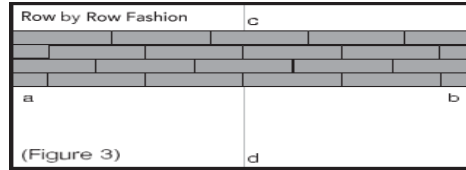
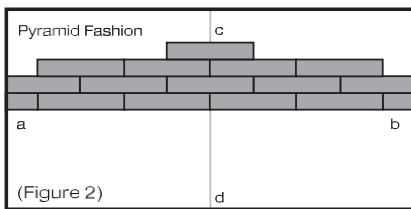


Figure 3



Fitting around irregular objects:

1. Make a pattern out of heavy paper to fit around pipes or irregular objects. Place the pattern upon the plank and trace. Cut along trace lines using a utility knife.
2. Be sure to leave a minimum of 1/4" to 3/8" expansion space around all fixed objects, floor vents, pipes, pillars, doorjamb, doorframes, etc.

Complete the installation:

1. Remove the spacers and replace the molding or wall base.
2. Nail the base or quarter round to the wall, not the flooring.
3. Leave a credit card space (1/32") below the baseboard, moldings, and other finish trim.
4. **DO NOT adhere, caulk, nail, or screw anything through the flooring, including:**
 - a. Baseboards, moldings, Transitions (T-molding, end caps, reducer, quarter round), metal, floor vents, closet & door tracks, furniture, cabinets, or wood transitions.

Post Installation Floor Protection:

We recommend that the installation of the new flooring material not be performed until all other trades have completed their work. Proper precautions must be taken during and after installation process to avoid damage to the newly installed floor.

Immediately after Installation:

All Traffic must be restricted for a minimum of 24 hours after installation.

All Heavy traffic, rolling loads, pallets jacks, furniture, and appliance placement must be restricted for a minimum of 72 hours after installation.

Flooring must be swept or vacuumed to remove loose dirt and grit prior to the application of proper floor protection.

***Warning:** Do not sand, dry scrape, bead blast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cut back adhesive", or other adhesives. These products may contain asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Local building requirements may require the existing floor material be tested to determine if there are asbestos materials. Review the Resilient Floor covering Institute [Recommended Work Practices for Removal of Resilient Floor Covering](#) instructions.

Contact your Dealer for further information.

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