



TIER HARDWOOD FLOORING INSTALLTION GUIDE

We recommend flooring should be one of the last items installed in any new construction or remodel project. It's best to install flooring after cabinets have been installed to prevent damage to the flooring. Please refer to the Installation / Warranty Guideline for room temperature and humidity information.

The installation areas should be consistent with normal, year-round living conditions for at least one week before installation of flooring. Maintaining an optimum yearly room temperature of 70° F and a humidity range of 35- 55% is recommended. Fully functional HVAC systems are the best way to ensure temperature and humidity control. The permanent HVAC system must be operational and functional and set to a minimum of 60°F (20°C) or a maximum of 80°F, for a minimum of 48 hours prior to, during, and after installation. Once the installation is complete the temperature should not exceed 85°F.

PRE-INSTALLATION SUBFLOOR REQUIREMENTS

Note: All subfloors must be flat to within 3/16" in 10' or 1/8" in 6'.

Wood Subfloors: Do not install material over wood subfloors that lay directly on concrete or over dimensional lumber, or plywood used over concrete. Refer to ASTM F1482 for panel underlayment recommendations. Do not apply sheet plastic over wood subfloors. Basements and crawl spaces must be dry. Use of a 6-mil black polyethylene is required to cover 100% of the crawl space earth. Crawl space clearance from ground to underside of joist is to be no less than 18" and perimeter vent spacing should be equal to 1.5% of the total square footage of the crawl space area to provide cross ventilation. Where necessary, local regulations prevail.

All other subfloors - Plywood, OSB, 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. TIER hardwood 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. Install cabinets prior to flooring to prevent damage to the flooring. TIER hardwood is not responsible for removal of cabinets in the event of a claim.

Concrete Subfloors Floors shall be smooth, permanently dry, clean, and free all foreign material such as dust, wax, solvents, paint, grease, oils, and old adhesive residue. The surface must be hard and dense, and free from powder or flaking. If the adhesive residue is asphalt-based (cut-back), or any other type of adhesive is present, it must be removed by industry accepted methods such as mechanical removal or wet scraping. Adhesive removal using solvents or citrus adhesive removers is not recommended. Solvent residue left in or on the subfloor may affect the new adhesive and floor covering.

WARNING: Drilling, sawing sanding or machining wood products can expose you to wood dust which is a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

WARNING!

Do not sand, sweep, scrape, drill, saw or mechanically remove existing resilient flooring, backing, etc., and or their 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. Grind high spots. Use cementitious patching and leveling compounds that meet or exceed NWFA'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. Follow the leveling compound manufacturer's instruction. Leveling compounds must be allowed to **thoroughly** cure and dry prior to installation of wood flooring. New concrete slabs must be dry. Maximum moisture level per CaCl test method is 5 lbs. per 1000 in 24 hr. Maximum level for ASTM 2170 In-situ Relative humidity test method - 85%. Do not install over concrete with a history of high moisture or hydrostatic conditions. pH level of concrete should be between 7-10. The final responsibility for determining if the concrete is dry enough for installation of the flooring lies with the floor covering installer.

EXISTING FLOOR COVERINGS:

TIER Engineered Wood Flooring can be installed over most existing hard-surface floor coverings (including ceramic tile) provided that the existing floor surface is clean, flat dry and structurally sound. Existing sheet vinyl floors should not be heavily cushioned and not exceed more than one layer in thickness. Installation is NOT allowed over any type of carpet. Do NOT install over wood floors/wood subfloors that are adhered directly to concrete.

GLUE DOWN INSTALLATION GUIDELINES:

Tools: Tape Measure, Utility Knife, saw (masonry blades are recommended), Guillotine style flooring cutter, Tapping Block or Rubber Mallet, Pull Bar, ¼" Spacers, T-Square, Safety Glasses, Broom or Vacuum and, if necessary, tools for subfloor repair.

Recommended Adhesive(s): **(engineered wood flooring adhesive recommended by distributor)**

NOTE: IF ALTERNATIVE ADHESIVES ARE USED, A BOND TEST SHOULD BE PERFORMED TO ENSURE COMPATIBILITY. REFER TO THE ADHESIVE LABEL FOR PROPER TROWEL REQUIRED, SPREAD RATES AND INSTALLATION APPLICATION INFORMATION! Before you begin using the following instructions, please refer to the Pre-Installation Job Prep information above. TIER Hardwood Flooring recommends leaving 9/16" perimeter spacing between the perimeter walls, fixed structures, or adjacent surfaces. Work from several open boxes of flooring and "dry lay" the floor before permanently laying the floor. This will allow you to select varying textures, colors, and sheens, and to arrange them in a harmonious pattern. Remember, it is the installer's responsibility to determine the expectations of what the finished floor will look like with the end user first and then to cull out pieces that do not meet those expectations. Cut your material outside whenever possible to minimize airborne contaminants that may become embedded in the grain. When cutting inside, dust collection bags should be clean and in place. Always wear adequate eye protection and safety masks.

GETTING STARTED:

1. Select a starter wall. An outside wall is best as its most likely to be straight and square with the room. Measure out from this wall, at each end, the width of two planks including the tongue plus the space

needed (9/16") for expansion.

2. Snap a chalk line from these points, parallel to that wall.

3. Prior to installing the flooring, secure a straight edge inside the chalk line to act as a guide and to prevent the row of planks from shifting during installation. The straightedge could be a straight piece of lumber or piece of flooring. Alternatively, the first row can be face-nailed with finishing nails into the wood subfloor or sprig nailed into a concrete subfloor. Spreading the Adhesive using the proper trowel, hold the trowel at a 45° angle to ensure proper spread rate of adhesive. Apply pressure to allow the trowel to leave ridges of adhesive on the substrate with little adhesive left between the ridges. This will help to achieve the proper spread rate of the adhesive. Temperature and air flow across the adhesive can influence the open time of the adhesive. Urethanes may have a longer open time in areas of low humidity and will have a shorter open time in areas of high humidity.

(See Adhesive label for further information).

4. Installing the Floor: Spread adhesive from the chalk line/straightedge out to approximately the width of two planks. Install the first row of starter planks along the chalk line/straightedge and secure into position with the tongue facing the starter wall. NOTE: Proper alignment is critical. Misaligned starter rows can cause side and end gaps to appear in proceeding rows of flooring. When you have the starter rows complete, you can begin the next row.

5. When you are absolutely certain the first two starter rows are straight and secure, spread adhesive 2 to 3 feet wide across the length of the room. As a rule, never spread more adhesive than can be covered in 30 to 45 minutes. If the adhesive has skinned over remove dried adhesive and trowel on new adhesive.

6. Continue to install planks and push them into place. Place the tongue of the board into the grooves of installed boards and press into the adhesive. As you continue working across the floor try to maintain a 6" (inch) minimum space between end joints. Randomly install different lengths to avoid a patterned appearance. NOTE: Never strike a rubber mallet or hammer directly on the flooring to engage the tongue-and-groove. This practice can damage the flooring and - or the finish.

7. Remove the adhesive from the surface of the installed flooring as you work – this will help to save time. A damp rag with water or mineral spirits will remove adhesive. Frequently change towels to avoid leaving a haze on the flooring surface. DO NOT use water to remove urethane adhesives from the finish.

8. As you approach the end wall it may be necessary to cut the width of the last row – be sure to allow for the expansion space along the end wall. Once the final cuts are made, set planks into place.

9. After the floor is complete, remove the straight edge and glue down the first two boards.

10. Restrict foot traffic for a minimum of 6-8 hours and wait 24 hours before permitting moving of furniture onto the floor.

11. Clean any wet adhesive from the flooring with a lightly dampened clean cloth. If the adhesive has dried, use mineral spirits on a clean cloth. For Urethane adhesive use the recommended urethane adhesive remover.

12. Roll and cross roll floor with a 100-150 lbs. (45-70 kg) roller at the end of the installation to ensure proper transfer of adhesive. Final Inspection: After the floor has been cleaned, inspect the floor for nicks, scratches, gaps, or planks that may have moved during installation, as well as any other imperfections that need attention. Touch up nicks and scratches with touch-up products. In typical climates, the new floor can accept foot traffic within 24-48 hours. In areas where additional curing time is required, more time may be needed.

Do not use tape to secure floor protection during construction or renovation. Use ram board or like protect the floor.

NAIL DOWN/STAPLE INSTALLATION GUIDELINES:

NOTE: Nailing planks wider than 7.5" **without** a full spread adhesive will void all warranties. Nail down installation is not recommended.

Recommended Nail/Staple Systems: (we recommend using a quality pneumatic nailer)

ENGINEERED WOOD RECOMMENDED FASTENER SELECTION:

Board thickness 1/2" - 5/8" | 18 or 20 gauge engineered flooring staples or 1-1/4" or 1-1/2" long cleats

NAIL DOWN/STAPLE INSTALLATION INSTRUCTIONS:

Make sure to properly test subfloor before installation, following subfloor preparation instructions previously discussed. A 15 lb. felt paper moisture barrier should be applied to the plywood subfloor with 6" overlaps before installing the new wood floor per ASTM D-4869. Create a working line parallel to the starting wall, in multiples of our engineered plank width, to set up the baseline of installation. Starter Rows requires that installation be done by leading with the tongue. When starting at the wall, trim groove off the back of the boards being used for the starting row. Face nail the back edge of the board with 18- gauge nails. Then blind nail into the pocket above the tongue with one of approved nail/staple systems. Install the second row by sliding the groove side on to the tongue of the first row. Blind/edge nail it into place, with fasteners every 4" to 6" and 2" to 3" from each end joint. Stagger end joints at least 9". Continue nailing and gluing 2-3 rows at a time in this manner across the room. Avoid creating "H" patterns (where an end joint is adjacent to another end joint in the second to last row installed). Use cut ends to start the subsequent row, discarding any pieces shorter than 9". Use adjustable pneumatic power hammer or nailing machine with 1 1/2" – 2" nails as is required and make sure nailing foot is appropriate to the nails/staples used. To avoid damage to the tongue be sure to adjust for proper pressure on the compressor. Add each additional row of flooring, watching the pattern repeat and offset or stagger the joints as desired. (Generally, joints should either match in a specific pattern or be staggered by no less than six inches). Finished areas should be covered with a breathable protective paper, NEVER PLASTIC, immediately after installation to prevent damage. Do not tape protective paper to the finished surface of the wood for extended periods of time. Install molding and trim. (Always fasten moldings to the wall, not the flooring.) Do not allow foot traffic on finished floor for 24-48 hours after installation is completed.

Disclaimer: TIER Hardwood Engineered Harwood Flooring products are not warranted against squeaking, popping or crackling when using nail down/staple installation methods. Squeaking, popping, or crackling is normal, and these symptoms may be aggravated in arid areas or during dry conditions.

NAIL + GLUE ASSIST INSTALLATION INSTRUCTIONS:

NOTE: Nail + Glue Assist installation is recommended when nailing down/staple planks over 6.5" wide and less than 7.5" wide.

There are two recommended methods for glue assist.

Method one: Glue applied to subfloor This option can be used on most products and is the most efficient to employ. Select the area of substrate on which you'll be installing. As with any glue application, select an area that can be worked comfortably within the adhesive's open time. Apply beads of adhesive directly to the subfloor perpendicular to the direction of the flooring boards. Place beads maximum of 12" apart. Place boards onto glued area as normal and set fasteners. Clean up any excess glue immediately according to glue manufacturer's instructions.

Method two: Glue applied directly to floorboards. This glue assist option is recommended for products with long fixed length boards. Apply adhesive to the underside of each board. Apply an 1/4" bead parallel to each end, approximately 1" from the end. Apply in an 1/4" bead a serpentine pattern down the length approximately in the center of the board, keeping the glue 1" in from the edges of the board. Carefully set the board in place (to avoid getting glue on other surfaces) then nail in as normal. Clean up any excess glue immediately according to glue manufacturer's instructions. Glue end joints certain wide plank products also requiring gluing of the end joints for added stability.

Make sure to properly test subfloor before installation, following subfloor preparation instructions previously discussed. Create a working line parallel to the starting wall, in multiples of our engineered plank width, to set up the baseline of installation. Trowel spread the adhesive on the subfloor along the chalk line wide enough to allow the first row of flooring to be installed, being careful not to cover the line. Follow the adhesive manufacturer's recommendations for wet lay times before proceeding to the next step. Starter Rows requires that installation be done by leading with the tongue. When starting at the wall, trim groove off the back of the boards being used for the starting row. Face nail the back edge of the board with 18- gauge nails. Then blind nail into the pocket above the tongue with one of approved nail/staple systems.

Trowel spread enough adhesive to install 2-3 more rows.

Install the second row by sliding the groove side on to the tongue of the first row. Blind/edge nail into place, with fasteners every 4" to 6" and 2" to 3" from each end joint. Stagger end joints at least 8".

Continue nailing and gluing 2-3 rows at a time in this manner across the room. Avoid creating "H" patterns (where an end joint is adjacent to another end joint in the second to last row installed). Use cut ends to start subsequent row, discarding any pieces shorter than 9". Use adjustable pneumatic power hammer or nailing machine with 1 1/2" – 2" nails as is required and make sure nailing foot is appropriate to the nails/staples used. To avoid damage to the tongue be sure to adjust for proper pressure on the compressor. Add each additional row of flooring, watching the pattern repeat and offsetting or staggering the joints as desired. Generally, joints should either match in a specific pattern or be staggered by no less than six inches. Finished areas should be covered with a breathable protective paper, NEVER PLASTIC, immediately after installation to prevent damage. Do not tape protective paper to the finished surface of the wood for an extended period of time.

Install molding and trim. Always fasten moldings to the wall, not the flooring. Most adhesives require the installer clean adhesive off the flooring boards during installation.

Follow adhesive manufacturer's recommendations for this procedure.

Do not allow foot traffic on finished floor for 24-48 hours after installation is completed.

FLOATING INSTALLATION INSTRUCTIONS:

Make sure to properly test subfloor before installation, following subfloor preparation instructions previously aforementioned.

If needed, apply a moisture barrier to slab. Bostik, Dri-Tac, Sika or Titebond or similar are recommended.

After the moisture barrier has cured and dried apply a floating floor poly-foam underlayment, **(distributors recommended underlay)** Please follow underlayment installation instructions.

Floating floors is generally a more difficult installation to start, as the boards will move. It is imperative the first few rows be straight and gap free. Create a working line parallel to the starting wall, in multiples of our engineered plank width, to set up the baseline of installation. A bead of adhesive should be applied all along the TOP groove of each plank, any PVA glue meeting European DIN EN 204 D3 standard is recommended. Lay one row of flooring planks along the entire length of the work line. Work with the tongue side outward. NEVER engage material by striking the groove edge, use a tapping block against the tongue or board puller to avoid edge damage while engaging plank. Add each additional row of flooring, watching the pattern repeat and offsetting or staggering the joints as desired. Generally, joints should either match in a specific pattern or be staggered by no less than six inches.

A minimum 9/16" expansion space should be left around the perimeter. Finished areas should be covered with a breathable protective paper, NEVER PLASTIC, immediately after installation to prevent damage. Do not tape protective paper to the finished surface of the wood for extended periods of time. Do not allow foot traffic on the finished floor for 24-48 hours after installation is completed.

Disclaimer: Upon completion of the floating installation of a random length engineered wood floor, the floors surface may not appear as continuously flat as compared to a traditional long strip floating floor. Hollow sound and squeaking should be expected since the flooring is not secured to the subfloor by means of chemical fastening (gluing) or by mechanical fastening (staples, cleats, or nails). Hollow sound is NOT a defect caused by manufacturing, but rather the result of the way in which the floor is put installed.

RADIANT HEAT SYSTEMS:

Please contact your local distributors or our customer service department for more information.

See Warranty & Maintenance for more information. For more general installation instructions, see NWFA Installation Guideline for more details.

www.nwfa.org (800-422-4556)