



# TULIP HARDWOOD FLOORS

## Responsibilities of the Owner/Installer:

Before beginning installation, the owner and installer will ensure the environment and subfloors meet the requirements as indicated in the installation guide. This should also include a final inspection of the flooring to ensure the product conforms to the purchased product.

Starting the installation indicates an acceptance of the job site conditions, including subfloor conditions, proper acclimation of the flooring, moisture testing, and environmental conditions (temperature/relative humidity).

Installed boards are considered accepted by the owner/installer, regardless of whether the owner is present at the time of installation.

## INSTALLATION GUIDE FOR HARDWOOD SOLID FLOORING

### Site Preparation:

Hardwood flooring should be the last step of any construction or renovation project. All “wet work” (drywalling, painting, etc.) should be completed.

Solid Hardwood should only be installed in an enclosed area with sufficient environmental controls to maintain temperature and humidity. This will ensure the floor and subfloor stay at a consistent moisture content to avoid excessive movement, which can lead to cupping, cracks, and other moisture related issues.

Prior to installation, the subfloor must be dry, and basement and crawl spaces must be dry and well ventilated. Do not install solid hardwood floors in any high moisture environments such as full bathrooms or leak-prone basements. To better acclimatize your worksite, ensure permanent HVAC has been in operation a minimum of 5 days before installation is to begin.

The moisture content of the subfloor and the flooring should be checked using appropriate methods. There should be no more than a 2% difference in moisture content between the subfloor and the flooring to be installed.

After installation, the temperature must be maintained at 65-75 F (or 18-24 C) with a constant relative humidity level of 45% (30%-50% range is acceptable). This is the range that is best for your health, which is also best for your wood flooring.



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## Subfloor Preparation:

- ☑ Clean all dirt, curing compounds, drywall mud, sealers, paint, wax, grease urethane, or any other material that may affect the integrity of the flooring material or adhesives used in the installation process from the subfloor using the shop vac and low grit sandpaper.
- ☑ Ensure the subfloor system is structurally sound and fix any squeaks between the joists and subfloor.
- ☑ Preferred subflooring:  $\frac{3}{4}$ " (23/32", 18.3mm) CDX grade plywood subfloor or  $\frac{3}{4}$ " (23/32", 18.3mm) OSB subfloor with Joist spacing at 19.2" on center or less. Minimum subfloor requirements:  $\frac{5}{8}$ " (19/32", 15.1mm) CDX Plywood, maximum 16" on center joist spacing. Per NWFA Guidelines.
- ☑ Using a levelling bar and level, ensure the subfloor is flat and level at all points. Fix any low spots with the appropriate leveling compound for the surface you are working on and remove any high spots by sanding them down. The maximum variation in level is to be no more than  $\frac{1}{4}$ " in 10' or  $\frac{3}{16}$ " in 6' for nail-down applications and  $\frac{3}{16}$ " in 10' or  $\frac{1}{8}$ " in 6' for glue-down applications per NWFA guidelines. On concrete floors grind high spots or use a Portland cement-based levelling material to fill the low spots. Be sure to follow the manufacturer's instructions on the levelling compound and only use products rated for flooring installation.

Complete a moisture check on the subfloor. Concrete subfloors should have no more than a 4.5% reading on a Tramex Concrete Moisture Encounter (Moisture Meter), and wood subfloors should have no more than a 12% reading with a pin type moisture meter and no more than a 4% variation between boards. If any moisture readings do not conform to these installation instructions, delay installation until the subfloor has been allowed to dry properly. Using a dehumidifier as well as properly ventilating the work area may increase the drying speed of the installation.

Be sure to plan your project and complete an installation sketch properly. Determine the starting point of your install, keeping in mind the shape of your room as well as whether or not you will be installing in multiple rooms with hallways. To install flooring parallel to the floor joists, a minimum layer consisting of  $\frac{1}{2}$ " plywood underlayment must be installed over the existing subfloor or 2" x 6" braces between floor joists every 16", however, some floor joists cannot be cross-braced.



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## Before You Begin:

Before beginning the installation of your flooring, be sure to carefully check the product for color, quality, and sizing. If you are not satisfied with your flooring, contact your store immediately. Installing the product constitutes final acceptance of purchase, and installed product may not be returned. Acceptance of product may only be done in its entirety, not by the individual bundle or individual plank. Wood is a natural product and as such, can vary in color, grain, and accenting characteristics from board to board. Samples should be used as a reference only, and we cannot warrant against any variation of these natural characteristics from the sample to the finished product. Minor width variations in planks are normal and expected as part of the look of the floor. If the heights of the boards are slightly different, small shims can be used to raise the lower pieces.

## Installation Methods:

### Nail Down Installation:

***Note:** Our floors must be secured to a solid subfloor. We do not recommend a floating installation of our products.*

*Do not install solid flooring over radiant heat.*

## Preparation:

- ☑ Using a scrap piece, test the compressor PSI settings to ensure the flooring nailer sets the staple or cleat to the proper depth. The fastener should not be set too deep to compromise the integrity of the tongue and not too proud as to compromise the fit of the tongue and groove.
- ☑ Your flooring should be delivered at least 72 hours prior to installation. Heating and air conditioning should be on so that the flooring can acclimate to the conditions under which it will remain after installation.
- ☑ Our flooring is manufactured in accordance with accepted industry standards, which permit a defect tolerance not to exceed **5%**. The defects may be a manufacturing or natural type. These defects are to be trimmed out during the normal course of installation. It is the responsibility of the buyer or buyer's representative to look for imperfections prior to installation. There is no warranty for hardwood installed with visible defects. **Installation of the flooring constitutes final acceptance**; therefore, **do not install the flooring** if you have any concerns. The buyer's responsibility is to account for the additional 5% of the total square footage needed when placing an order.



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- ☑ The moisture content of the subfloor and the hardwood flooring should be measured. If the difference in the moisture content of the hardwood flooring and the subfloor is more than 2%, installation should not proceed until the two are within 2% of each other.
- ☑ Hardwood flooring requires  $\frac{1}{2}$ " –  $\frac{3}{4}$ " expansion space around the perimeter of the floor and at all vertical obstructions within the room. This space is covered by baseboard and quarter round after installation.
- ☑ As an added precaution, affix a vapor barrier directly over the subfloor to eliminate the possibility of moisture from the level below leaching into the hardwood flooring.
- ☑ Because of the natural variation in hardwood flooring, it is important to work out of 3 or 4 different boxes at a time to ensure a proper blend of shading. Close attention should be paid to date codes or "batches" as identified on the carton to ensure an appropriate mixing or how it may affect the floor's layout. Be sure to randomly install different lengths to avoid patterned appearance in the finished product by staggering end joints a minimum of 6" between pieces on adjacent rows. Avoid "H-Joints" or "Stair-Step" patterns.
- ☑ Proper nail spacing is one nail every 8"-10" with at least 2 nails in every board. Every board should be nailed so that there is a nail within the last three inches of both ends of the board.
- ☑ 2" nails should be used for machine nailing of this product.

## **Installation:**

- ☑ Select a starting point in the room. This is typically the longest run in the room. Keep in mind other factors such as room size, the squareness of the room, and other obstacles may affect the starting point. The use of spline affords the ability to change the direction of the installation. Staples and cleats penetrate the tongue of the flooring at an angle, like tent pegs and resist movement in the direction the fastener enters the subfloor. As a result, wood flooring tends to expand mainly in the direction the tongue is facing. In larger rooms, the one-directional movement can cause problems in the floor as the flooring expands. Starting the installation in the center of a large room can reduce these potential problems by forcing the expansion to go in two directions. This will help to reduce cupping and cracking.
- ☑ When starting along a wall, begin laying boards tongue side facing away from the wall along the chalk line. Using brad nails or finishing nails, secure the starter row along the wall edge, placing nails 1-2" from the end of the boards and every 4-6" along the side. Using nail punch, set the nails below the surface of the flooring and fill the holes with the appropriately colored filler.



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- ☑ Using the brad nailer, blind nail at a 45-degree angle along with the tongue of the starter row using the same spacing as above. 1-2" from each end and 4-6" apart along the side. It may be necessary to use this blind nail the next 2-3 rows before you have room to use the flooring nailer, depending on the size of your floor. A minimum 1 3/8" long nail is recommended to ensure proper hold down.
- ☑ Double-check your first row's straightness using the straight edge or level and make any corrections needed using a non-marking tapping block or pry-bar. Proper alignment on the first rows will make the rest of the installation process easier and prevent gaps and squeaks later in the installation.

## Final Touches

After the installation, clean the floor by sweeping up any dust and debris left behind. If additional work needs to be completed, it is recommended that the floors are covered to protect them from damage. Builder's paper or a vapor-permeable covering is a good choice. Do not use the empty flooring boxes, which can trap moisture and cause cupping and cracking. Coverings should be secured in place with a low adhesion tape to the baseboards or other moldings.

**Note:** *Do not apply tape directly to the flooring's surface as this may damage the finish of the floor.*

Before living on your newly installed hardwood floor, be sure to take the time to do a few finishing touches. Sweep or vacuum the entire floor and clean with the correct hardwood floor cleaner. Install any transition or molding pieces and fill any nicks or minor gaps with the appropriate filler product. Be sure to protect your floor when moving heavy appliances or furniture across the floor with a proper padded or solid protector.

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