



ENBOISFLOORING.COM

## Hardwood Guidelines

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Our hardwood product collections are both beautiful, durable and backed by industry standard warranty coverage. With proper pre-installation testing and preparation, expert installation, floor care and maintenance, your new hardwood floor will give you years of beauty and function.

### GENERAL CONDITIONS

Please read all installation guidelines before proceeding with installation!

Installation constitutes acceptance of the hardwood flooring product and assures that all pre-installation requirements outlined here have been satisfied.

The manufacture warranty does not cover flooring failures resulting from a failure to perform required pre-installation and installation procedures, including but not limited to, owner/purchaser/installer negligence, accidental or otherwise.

### JOBSITE EVALUATION & PREPARATION

Prior to installation THE INSTALLER and OWNER should evaluate the jobsite before the hardwood flooring is delivered. This includes detecting and correcting possible jobsite and subfloor issues that might affect the hardwood flooring once it is delivered and installed.

#### Jobsite Conditions

- Owner/Purchaser and Installer are responsible for ensuring that exterior grading is complete with surface drainage offering a minimum drop of 3" in 10' to direct exterior water sources away from the structure where the flooring will be installed.
- One of the very first things you should understand about hardwood flooring is that Humidity Matters. The jobsite should be enclosed and climate-controlled. HVAC systems must be fully operational with a consistent room temperature of 65°- 85° F and relative humidity levels of 35%-55% before the flooring is delivered or installed.

- The engineered hardwood floors are not recommended for use in areas subject to repeated moisture exposure and possible water overflow areas such as bathrooms or laundry rooms.
- To eliminate potential trade-related damage, the manufacturer recommends that its hardwood flooring be one of the last jobs completed. Drywall taping, wall painting and other "wet" work should be completed and thoroughly dry prior to installation.

#### Subfloor Conditions

- The quality and preparation of the subfloor is critical to the proper installation of hardwood flooring.
- Subfloors must be structurally sound, clean and free of all debris, staples, nails, wax, grease, paint, sealers, old adhesives and other substances that may prevent a successful installation.
- Basements and crawl spaces must be dry. Use of a 6mil black polyethylene is required to cover 100% of the crawl space earth. Crawl space clearance from ground to underside of joist 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.
- Subfloors should be level and flat to 3/16" per 10' and must remain dry all year round. Subfloor moisture content must not exceed 3.5% for Concrete or 12% for Wood, Plywood or OSB/Particleboard.
- It is the contractor's / homeowner's responsibility to verify those measurements, and to ensure that the environment, including the crawl-space, is and will remain dry.

#### Acceptable Subfloor Types

- CDX Plywood
- Concrete – With a minimum compression strength of 3000 PSI
- OSB/Particleboard – Must be structurally sound. Floating installation only.

#### Wood subfloor must be:

- Clean, dry and well secured.
- Nailed or screwed down every 6 inches along the joists to remove squeaking.
- Leveled with high spots sanded down and low spots filled with a leveling compound. Leveling material should provide a structurally sound wood subfloor.
- Preferred: 3/4" CDX grade Plywood subfloor/ underlayment, 4'x8' sheets or 3/4" OSB subfloor/

underlayment grade, PS2 rated, sealed side down, with joist spacing of 19" on center or less.

- Minimum: 5/8" CDX Plywood subfloor/ underlayment, 4'x8' sheets, maximum 16" on center joist construction. Follow panel manufacturer's recommendations for spacing and fastening. Typical panel spacing and fastening for joist systems, 1/8" (3.2mm) around perimeter and fastened every 6" on bearing edges and every 12" along intermediate supports.
- Installation of flooring should not be made over joists spacing greater than 19" on center or parallel to the joists unless the subfloor has been properly strengthened, applying a second layer of underlayment may be necessary to bring the overall subfloor thickness to 1-1/8" (minimum).
- For existing wood floors install new flooring at right angles to the existing flooring.
- Do not glue hardwood flooring over particle board.
- Do not install over existing glue down hardwood floors.

**Concrete subfloor must be:**

- Clean and free of paint, sealers, adhesives or other debris. If present, concrete sealer must be removed by grinding and sanding.
- Fully cured for at least 60 to 90 days prior to installation.
- Installed properly with minimum 6-mil poly film moisture barrier between concrete and ground.
- Dry all year round. Do not install hardwood flooring over concrete if it will not remain dry at all times.
- Newly poured concrete must be cured for a minimum of 42 days before installation. Concrete subfloors must meet the requirements for the adhesive or adhesive system selected.

**Subfloor Moisture Testing Requirements**

Moisture testing of the jobsite and subfloors is critical to a successful hardwood flooring installation. Visual checks are not reliable.

If subfloor moisture exceeds acceptable levels, the source(s) of this moisture must be corrected before the hardwood flooring is delivered to the jobsite.

Excess moisture detected in the subfloor requires the use of a moisture barrier product, including but not limited to, PVC vinyl sheet (with felt-backed and vinyl wear layer) or, for concrete subfloors, a moisture retardant product that is approved as a concrete sealant for use in hardwood flooring installation.

**Acceptable subfloor moisture testing methods include:**

- Calcium Chloride Test. The maximum moisture transfer must not exceed 3lbs/1000 square feet with this test.
- Tramex Concrete Moisture Encounter Meter. Moisture reading should not exceed 4.5 on the upper scale.
- Relative Humidity Probe Test. Maximum moisture reading is 75%.

**Concrete Subfloor Test Method Used:**

\_\_\_\_\_ Calcium Chloride (ASTM F1869)  
\_\_\_\_\_ RH (ASTM F2170-02) 1869  
\_\_\_\_\_ Electronic Meter (Tramex or equivalent)

**Concrete Subfloor Moisture Reading**

\_\_\_\_\_ % Moisture Content of Concrete Subfloor

**A "DRY" SLAB, AS DEFINED BY THESE TESTS CAN STILL BECOME WET AT OTHER TIMES OF THE YEAR. THESE TESTS DO NOT GUARANTEE A DRY SLAB. ALL CONCRETE SLABS SHOULD HAVE A MINIMUM OF 6-MIL POLY FILM MOISTURE BARRIERS BETWEEN THE GROUND AND THE CONCRETE.**

Wood Subfloor Moisture Content

\_\_\_\_\_ % Moisture Content of Wood Subfloor

**Ambient Temperature Requirements**

The jobsite should be evaluated for a consistent room temperature of 65°- 85° F with relative humidity levels of 35%-55%. These levels must be maintained, before, during and after installation for the life of the installed hardwood flooring.

Flooring failures that are a consequence of not maintaining required ambient temperature levels, at all times, are not covered by the manufacturer warranty.

**PRODUCT INSPECTION, HANDLING & ACCLIMATION**

***Important steps must be taken prior to installation and is the responsibility of the Owner/Purchaser & Installer.***

These steps include, but are not limited to, product inspection and acceptance; proper handling and storage of the flooring/flooring cartons on-site; hardwood floor acclimation; individual plank inspection/selection and carton blending with aesthetic attention given to

character, grade, color and milling variation, and with sufficient quantity on hand to complete the job. Wood is a natural product that can vary in color, grain, and contains natural characteristics that varies from plank to plank and is to be expected. We do not warrant against these natural variations from plank to plank or variations from sample to plank.

The engineered hardwood floors are a product of nature with naturally occurring imperfections in line with an industry accepted rate of approximately 5% of the total flooring purchased, including but not limited to, finish imperfections, grading and color variations, milling and general cutting waste. Individual planks may also be affected by die lot variations due to the staining process.

### **Product Inspection and Acceptance**

It is the responsibility of the Owner/Purchaser & Installer to verify that the flooring delivered is what is expected by the Owner/Purchaser before proceeding to installation. This can be accomplished by randomly inspecting boards from 2-3 different cartons.

***DO NOT PROCEED TO INSTALLATION if the flooring product is not what was expected by the Owner/Purchaser. Do not continue opening cartons and do not discard cartons that were opened during inspection. Immediately notify the retailer where the flooring was purchased that there is a problem with your flooring delivery!***

The Installer must use reasonable selectivity and hold out or cut off pieces with defects, whatever the cause. Beautiful hardwood floors are a product of nature and therefore not perfect.

If you are not satisfied with the flooring prior to installation, simply return the cartons to your dealer for a full replacement. Accepting or rejecting the material must be done on full shipment of quantities only, not carton by carton or plank by plank.

Since improper installation can void the warranties. Only a professional hardwood floor installer should perform the installation.

If at any time during the installation of this flooring you have a question or a concern, STOP and call your dealer! Verify that the color, gloss, texturing and T&G fit are acceptable prior to starting the installation.

The manufacturer will only be responsible for obvious issues in flooring that has not been installed.

The manufacturer cannot honor claims due to a lack of on-site hardwood flooring inspection and acceptance by the Owner/Purchaser & Installer. The manufacturer will not accept responsibility for the installation of hardwood flooring with visible manufacturing defects.

### **Handling And Storage**

Once the flooring is delivered to the jobsite, inspected and accepted by the Owner/Purchaser & Installer, the flooring cartons should be stored on a dry, flat surface with good air circulation in the area where it will be installed.

DO NOT store cartons directly on concrete, in garages, basements, near outside walls or in areas where the temperature is uncontrolled to 35% to 55% RH.

Remove plastic shipping wrap and keep cartons closed. When moving or handling cartons care should be taken to prevent damage to the hardwood flooring inside. Damage caused by the improper storage and handling of the hardwood flooring product is not covered by the manufacturer warranty.

### **Acclimation Process**

Wood flooring needs to reach a "moisture content equilibrium" with the surrounding environment where it will be installed. The process of reaching equilibrium is referred to as "acclimation". Proper acclimation ensures that the wood flooring has adjusted to the area where it will be installed before installation begins:

- Always store cartons on a flat, dry surface in the area where they will be installed.
- Do not open cartons until the day of installation and protect from moisture.
- Jobsite must have a consistent room temperature of 65°- 85° F.
- Jobsite must have relative humidity levels of 35%-55% before, during and after installation.
- WMC must be within 4% of the subfloor before starting installation.

Flooring cartons must be placed in the area where they will be installed and allowed to acclimate for a minimum of 5 days.

Remove plastic wrap from flooring cartons if present, but do not open the flooring cartons or take out individual planks until acclimation has been achieved and the flooring is ready to be installed. Proper consistent temperature and

humidity levels in the installation area is key to the acclimation process. The required room temperature and humidity levels must be maintained for the life of the hardwood floor installation.

Once acclimation has been completed, the Installer should evaluate and record the moisture content of the hardwood flooring in relation to the subfloor.

### Acclimation Moisture Readings

\_\_\_\_\_ % Moisture Content of Subfloor  
\_\_\_\_\_ % Moisture Content of Hardwood  
\_\_\_\_\_ % Difference between Subfloor & Hardwood

The Installer should document that all pre-installation requirements have been met before proceeding to installation, including but not limited to, moisture testing and recording testing results using photos with location, date, time and initials of the Installer on each area of subfloor evaluated. The Owner should retain this documentation with this guide for future reference.

*The National Wood Flooring Association (nwfa.org) provides a "Jobsite Checklist" to help with this task. (NWFA Installation Guidelines, Section IV, Appendix M)*

## INSTALLATION

### INSTALLATION CONSTITUTES ACCEPTANCE

of the hardwood flooring product and assures that all pre-installation requirements outlined here have been satisfied.

### Preparing for Installation

**STOP!** All questions or concerns regarding the grading or milling of this product are required to be resolved prior to installation. The manufacturer accepts no responsibility or liability for the cost of this product, replacement and/or labor when flooring containing grade, milling, distressing or finishing defects has been installed prior to resolutions. Installing this product assumes full acceptance of this flooring.

#### IMPORTANT!

- **Per 3M:** ScotchBlue™ Painter's Tape Original Multi-Surface 2090 is not recommended for use on prefinished flooring. The only adhesive tape which should be used with flooring is ScotchBlue™ Painter's Tape Delicate Surface 2080. Traditional "Blue Tape" contains chemical solvents that, over time, may penetrate and weaken the finish. DO NOT

use "Blue Tape". Even when using ScotchBlue™ Painter's Tape Delicate Surface 2080, do not leave tape on flooring for longer than 3 days. When possible, apply tape to baseboards or walls rather than flooring.

- **Inspect the Flooring:** Inspect material for color, finish, milling, and grade. Hold out pieces that may not be acceptable once installed. PLEASE NOTE: We do not accept responsibility for any costs incurred when plank(s) with visible defects have been permanently installed.
- **Undercut Door Casings:** Undercut all door casings 1/16" higher than the thickness of the flooring being installed. To do this, use a scrap piece of flooring as a guide. Lay it on the substrate and cut the casing with a handsaw or use a power jamb saw set at the correct height.
- **Blending of Cartons:** To achieve a uniform appearance across the entire floor, we highly recommend that you open and work from several cartons at a time and dry-lay the flooring, mixing the planks from several cartons. This will allow you to blend the planks for maximum aesthetic appearance. Make certain the room is well lit to ensure color is consistent and that any visual defects can be seen and removed.
- **Match Transition Moldings:** For best appearance, blend all transitions and moldings to planks that have similar color and graining. Set them aside for use as needed.
- **Layout of Flooring:** "Racking the floor" is essential to achieve a random appearance. Start by either using random-length planks found in the carton or by cutting four or five planks in random lengths, differing by at least six inches. As you continue working across the floor try to maintain a six-inch minimum between end joints.
- Randomly install different lengths to avoid a patterned appearance.
- **Never waste materials:** the end cuts from starter rows should be used at the opposite side of the room to complete rows or used to start the next row.
- **Expansion Space:** Allow a minimum 5/8" expansion around all vertical obstructions. Large spans exceeding 20' (6 m) in hardwood flooring width, in areas of high humidity, may require the addition of internal or field expansion. This can be accomplished by using spacers, such as small washers, every 10-20 rows, inserted above the tongue. Remove the spacers after several adjoining

rows have been fastened. Do not leave spacers in for more than two hours.

### **Glue-Down Installation Method**

All required pre-installation testing and preparation must be completed before proceeding. If moisture problems were detected during the pre-installation phase, a moisture barrier should be in place.

#### **Acceptable Subfloors**

- CDX Plywood
- Concrete – With a minimum compressive strength of 3000 PSI

#### **Adhesive Requirements**

Only a moisture cured polyurethane adhesive approved for hardwood floor installation is acceptable. Manufacture will not be responsible for problems that might arise due to moisture transference from a subfloor to the hardwood flooring. The use of a cheaper flooring adhesive or other brands of glue not approved for use with hardwood flooring will lead to flooring failure and void the manufacturer warranty.

#### ***Follow the instructions for the hardwood flooring adhesive carefully.***

- Allow for adequate cross ventilation when working with flooring adhesive.
- Allow proper set time before affixing the hardwood floor planks.
- Use the adhesive manufacturer recommended spreading trowel.
- Spread adhesive per the flooring adhesive instructions.

Using a trowel held at a 45° angle, spread hardwood flooring adhesive as recommended by the adhesive manufacturer, starting at the outside wall.

Once adhesive has set, lay the first row of flooring with the groove facing the wall. Use a hammer and tapping block to tap against the tongue side to pull planks together. When near a wall, use a crow or pull bar to close end joints.

Never tap against the groove side or the end joints of the plank as doing so will damage the flooring finish and void the manufacturer warranty.

**IMPORTANT!** Adhesive/masking tape applied directly to hardwood floor surface will damage the factory finish and void the manufacturer warranty.

Use wood wedges at walls to maintain the required 1/2" expansion space from the hardwood flooring plank.

To ensure that plank end joints are not too close to each other in adjacent rows, it is best to rack out 3 to 4 rows as installation proceeds. Allow a minimum of 10" to 12" between end joints in adjacent rows.

When the first section is completed, continue by repeating the process, checking plank alignment with the working line, section by section until installation is complete.

Be careful not to shift the installed floor on the wet adhesive. If needed, weights can be used to hold flooring planks in place at the perimeter until the adhesive cures.

*As each plank is laid, check for and remove excess flooring adhesive or spills immediately. Failure to remove excess flooring adhesive or spills from the flooring surface will damage the factory finish and void the manufacturer warranty.*

When wiping up excess T&G glue or spills, use a dry or damp soft cloth. Do not use paint thinner or harsh adhesive-removing chemicals on the hardwood flooring surface as doing so will damage the finish and void the manufacturer warranty.

As installation proceeds, cut the last plank in each row allowing for the required 1/2" expansion space. Use a crow or pull bar to install the last plank ensuring a tight fit.

Leave the 1/2" expansion wedges in place until the flooring adhesive is fully dry.

Do not allow foot traffic for at least 8 hours and allow a minimum of 24 hours before heavy furniture is moved onto the hardwood flooring.

#### **Finishing the Job**

Remove the 1/2" expansion spacers from the perimeter. Install or reinstall base and/or quarter round moldings to cover the expansion space. Install transition pieces such as reducer strips and T-moldings as needed.

Clean and remove all dirt and debris from your new floor by dry dust mopping. Follow "Floor Care and Maintenance" instructions to ensure the longevity and lasting beauty of your new floor.

## Nail-Down Installation

Before you begin using the following instructions, please refer to the Pre-Installation Jobsite Conditions section above.

**IMPORTANT:** The manufacturer will not be responsible for any problems caused by damp or humid crawlspaces or basements. It is the contractor's responsibility to make certain crawlspaces are properly covered and ventilated. Additionally, the nail-down installation will only be as good as the subfloor. If the subfloor is unsound or unlevel, this situation must be corrected prior to installation. The manufacturer will not be responsible for any problems due to an unlevel or unsound subfloor, especially squeaking and popping.

### Acceptable Subfloor Type

- A minimum of 5/8" CDX Plywood

### Underlayment Recommendation

- Felt

**NOTE:** Our products are not warranted against squeaking, popping or crackling when using staple-down or nail-down installation methods. Some squeaking, popping or crackling is normal and possible when using staple-down or nail-down installation methods. These symptoms may be aggravated in arid areas or during dry conditions. This is not a manufacturing defect and is therefore not covered under our warranties (see warranty brochure for complete warranty coverage). You can help reduce squeaking, popping, and crackling by being sure that the subfloor is structurally sound, does not have any loose decking or joists, and is swept clean prior to installation.

### Setup and Use of Pneumatic Staplers and Nailers:

You must make certain that your stapler or nailer is setting the fastener properly, not damaging the planks, and that you are using the correct nailing schedule. When used improperly, cleats can damage wood flooring. If the tool is not adjusted properly the cleats may not be positioned at the proper angle and cause blistering, peaking, squeaking, or crackling of the floor. Some models may require the use of an adapter to adjust for proper thickness. Test the tool on a piece of scrap material first - set the stapler/ nailer flush on the tongue side of the plank and install a cleat. Should the cleat penetrate too deeply reduce the air pressure; if the cleat is not deep enough then increase the air pressure using an in-line regulator. The crown of the cleat should

sit flush within the nail pocket to prevent damage to the flooring and to reduce squeaking. The flooring manufacturer is not responsible for damage caused by the mechanical fasteners.

The recommended length for the staple or nail is 1 1/2" with a spacing of 4" – 6" along the length of the plank and 1" from each end.

Use wood wedges at walls or obstructions to maintain the required 1/2" expansion space from the hardwood flooring plank.

Staple or nail the first row of flooring with the groove facing the starting wall stapling or nailing in 4 to 6-inch spacing increments. Using a quality T&G glue product, glue the joint ends of each plank for added strength, and then, use a tapping block to ensure a tight bond between planks.

As each plank is stapled or nailed, check for and remove excess T&G glue or spills immediately. Failure to remove excess T&G glue or spills from the flooring surface will damage the factory finish and void the manufacturer warranty.

**IMPORTANT!** Any plank damaged by the process of stapling or nailing, should be pulled up and replaced with a new plank before proceeding. Flooring damaged during the staple or nail installation process is not covered by the manufacturer warranty.

To ensure that plank end joints are not too close to each other in adjacent rows, it is best to rack out 3 to 4 rows as installation proceeds. Allow a minimum of 10" to 12" between end joints in adjacent rows.

When the first section is completed, continue by repeating the process, checking plank alignment with the working line, section by section until installation is complete.

When wiping up excess T&G glue or spills, use a dry or slightly damp soft cloth. Do not use paint thinner or harsh adhesive-removing chemicals on the hardwood flooring surface as doing so will damage the finish and void the manufacturer warranty.

As installation proceeds, cut the last plank in each row allowing for the required 1/2" expansion space. Use a crow or pull bar to install the last plank ensuring a tight fit.

**IMPORTANT!** Adhesive/masking tape applied directly to hardwood floor surface will damage the factory finish and void the manufacturer warranty.

## Finishing the Job

Remove the 1/2" expansion spacers from the perimeter. Install or reinstall base and/or quarter round moldings to cover the expansion space. Install transition pieces such as reducer strips and T-moldings as needed.

Clean and remove all dirt and debris from your new floor by dry dust mopping. Follow "Floor Care and Maintenance" instructions to ensure the longevity and lasting beauty of your new floor.

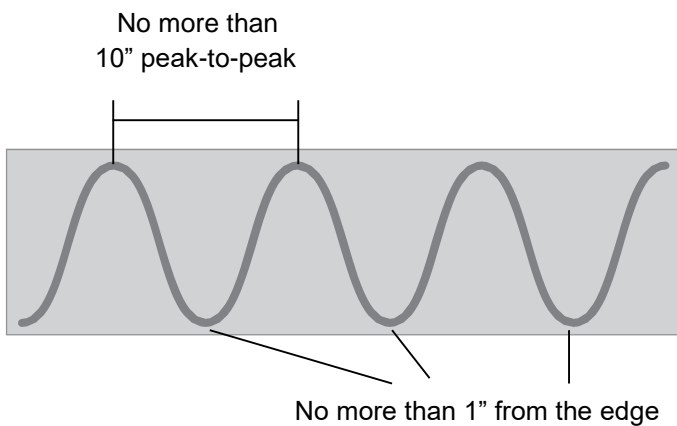
## Supplemental Adhesive:

*\*This Installation method is only valid for planks less than or equal to 7.5" in width\**

For all nail-down installations we require the use of supplemental adhesive in the form of Liquid Nails Subfloor & Deck Construction Adhesive (Supplemental Adhesive), available at retail stores nation-wide.

This adhesive should be applied as follows:

A 3/16" bead should be applied in a serpentine pattern across the width of, and the entire length of the back of the flooring or on the subfloor, as shown. Make sure that the "peaks and valleys" of the serpentine pattern are not more than 1" from the board edge and the spacing of the "peaks" is not more than 10".



1. If needed use a tapping block to help engage the boards together until the tongue-and-groove is flush and tight and no gaps are present between adjacent planks.  
NOTE: Never use a rubber mallet or hammer directly on the flooring to engage the tongue- and groove. This can damage the flooring and/or finish.
2. 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 along the end wall. Once the final cuts are made set planks into place.

3. The last few rows will need to be fastened by hand. To fasten the final planks into place, you must either manually blind nail and/or face-nail through the surface on the final planks. Drill pilot holes at a 45-degree angle to the floor and blind nail using 1" finishing nails. Alternatively, drill pilot holes in the face every 6" (try to drill holes in darker portion of the wood) and install with 1" finishing nails. Countersink nails and fill with appropriate colored wood filler – remove excess filler from surface with a clean rag and proper cleaner.

## Floating Floor Installation

Before you begin using the following instructions, refer to the Pre-Installation Jobsite Conditions section above.

### Acceptable Subfloors

- CDX Plywood
- Concrete – With a minimum compressive strength of 3000 PSI
- OSB/Particleboard – Must be structurally sound

### Underlayment Recommendations

- Rubber
- Cork

Begin laying the first row of flooring with the groove side facing the starting wall.

Use a hammer and tapping block to tap against the tongue side to pull planks together to ensure a tight fit. When near a wall, use a crow or pull bar to close end joints.

Never tap against the groove side or the end joints of the plank as doing so will damage the flooring finish and void the manufacturer warranty.

Use wood wedges at walls or obstructions to maintain the required 1/2" expansion space from the hardwood flooring plank.

To ensure that plank end joints are not too close to each other in adjacent rows, it is best to rack out 3 to 4 rows as installation proceeds. Allow a minimum of 10" to 12" between end joints in adjacent rows.

Apply a quality T&G glue in the top portion of the groove along the side and end joints of each plank to ensure a strong bond between them.

As each plank is installed, check for and remove excess T&G glue or spills immediately. Failure to remove excess T&G glue or spills from the flooring surface will damage the flooring finish and void the manufacturer warranty.

When wiping up excess T&G glue or spills, use a dry or damp soft cloth. Do not use paint thinner or harsh adhesive-removing chemicals on the hardwood flooring surface as doing so will damage the finish and void the manufacturer warranty.

As installation proceeds, cut the last plank in each row allowing for the required 1/2" expansion space.

Use a crow or pull bar to install the last plank ensuring a tight fit.

**IMPORTANT!** Adhesive/masking tape applied directly to hardwood floor surface will damage the factory finish and void the manufacturer warranty.

Leave expansion space wedges in place for a minimum of 8 hours to allow the T&G glue to fully dry.

Do not allow foot traffic for a minimum of 8 hours and allow a minimum of 24 hours before heavy furniture is moved onto the hardwood flooring.

### Finishing the Job

Remove the 1/2" expansion spacers from the perimeter. Install or reinstall base and/or quarter round moldings to cover the expansion space. Install transition pieces such as reducer strips and T-moldings as needed.

Clean and remove all dirt and debris from your new floor by dry dust mopping. Follow "Floor Care and Maintenance" instructions to ensure the longevity and lasting beauty of your new floor.

### Installation Over Radiant Heat Systems

All required pre-installation testing and preparation must be completed before proceeding. If moisture problems were detected during the pre-installation phase, an approved moisture barrier must be in place.

*Flooring failures due to improperly installed hydronic radiant heat systems are not covered by the manufacturer warranty.*

It is the Owner/Purchaser & Installer's responsibility to ensure that the hydronic radiant heat system is installed per the radiant heat manufacturer instructions and operating properly before proceeding to the hardwood floor installation.

### Approved Hardwood Flooring

- Engineered oak products only
- Less than 10.5" width flooring only

### Approved Radiant Heat Type

- Hydronic radiant heat systems only

### Installation Method

- Glue Down installation method only

### Acceptable Subfloors

- CDX Plywood
- Concrete – With a minimum compressive strength of 3000 PSI

### Underlayment Recommendation

- Cork

### Approved Hydronic Radiant Subfloor Systems

- Aluminum Hangers
- Channel Aluminum Board
- Sleeper Systems
- Lightweight Thermal Mass Concrete with min 3000 PSI compressive strength
- 1 1/8" T&G Warmboard

### Heating Control Requirements

Radiant heat installations must have a heat control system that helps maintain a constant baseline temperature and prevents overheating. Radiant heat temperatures that exceed 85 degrees will damage the hardwood flooring and void the manufacturer warranty. The manufacturer requires that an exterior thermostat be installed and working at all times. Unlike conventional heating systems which switch on as needed, radiant systems work most effectively with hardwood flooring if the heating process is gradual with small, incremental increases in relation to outside temperature.

### Radiant Heating System Acclimation Process

The hydronic radiant heating system must be operational and heated for at least 7 days prior to the installation of engineered oak flooring. Use an incremental control strategy that brings the subfloor through temperature changes gradually.

This incremental strategy should include being turned on at least 3 days prior to installation at a temperature of 70 degrees; then, raised to 85 degrees for a period of 3 more days. The installation site should be aired out every day to allow excess humidity to exit the structure. Once the radiant heat acclimation process is complete and the flooring is ready to be installed, turn off the radiant heat system to let the subfloor cool down to room temperature for 3 to 4 hours.

### Preparing for Installation



Before installation begins, it is the Owner/Purchaser & Installer's responsibility to ensure that the radiant heating system is functioning properly and is not on the same circuit for other floor covering types (that may allow higher temperatures). Failure to do so will cause excessive heat damage and shrinkage in the hardwood flooring and void the manufacturer warranty.

Radiant heating systems create a dry heat that can lower interior humidity levels. The manufacturer recommends adding a separate humidifier to the HVAC system to maintain the required indoor humidity levels of 35%-55%. Failure to maintain proper humidity level can result in excessive dryness of flooring.

***Installer should test the hydronic heating system and check that all radiant heat requirements have been met before proceeding to installation:***

- Hydronic Radiant Heat System
- Engineered Oak Product
- Floating Installation Method
- Exterior Thermostat Installed
- Sensor Attached to Heating Unit
- Radiant Heat Acclimation Completed
- Separate HVAC Humidifier
- Radiant Heat System Working Properly

### **Starting Installation**

Begin laying the first row of flooring with the groove side facing the starting wall.

Use wood wedges at walls or obstructions to maintain the required 1/2" expansion space from the hardwood flooring plank.

Use a hammer and tapping block to tap against the tongue side to pull planks together to ensure a tight fit. When near a wall, use a crow or pull bar to close end joints.

Never tap against the groove side or the end joints of the plank as doing so will damage the flooring finish and void the manufacturer warranty.

To ensure that plank end joints are not too close to each other in adjacent rows, it is best to rack out 3 to 4 rows as installation proceeds. Allow a minimum of 10" to 12" between end joints in adjacent rows.

Apply a quality T&G glue in the top portion of the groove along the side and end joints of each plank to ensure a strong bond between them.

As each plank is installed, check for and remove excess T&G glue or other spills immediately. Failure to remove excess T&G glue or spills from the flooring surface will

damage the factory finish and void the manufacturer warranty.

When wiping up excess T&G glue or spills, use a dry or damp soft cloth. Do not use paint thinner or harsh adhesive-removing chemicals on the hardwood flooring surface as doing so will damage the finish and void the manufacturer warranty.

As installation proceeds, cut the last plank in each row allowing for the required 1/2" expansion space.

Use a crow or pull bar to install the last plank ensuring a tight fit.

**IMPORTANT!** Adhesive/masking tape applied directly to hardwood floor surface will damage the factory finish and void the manufacturer warranty.

Once installation is complete, turn the radiant heating system on immediately to achieve further acclimation of the flooring to the installation site.

Leave expansion space wedges in place for a minimum of 8 hours to allow the T&G glue to fully dry.

Do not allow foot traffic for a minimum of 8 hours and allow a minimum of 24 hours before heavy furniture is moved onto the hardwood flooring.

### **Finishing the Job**

Remove the 1/2" expansion spacers from the perimeter. Install or reinstall base and/or quarter round moldings to cover the expansion space. Install transition pieces such as reducer strips and T-moldings as needed.

Clean and remove all dirt and debris from your new floor by dry dust mopping. Follow "Floor Care and Maintenance" instructions to ensure the longevity and lasting beauty of your new floor.

### **Protection During Construction or Remodeling**

If your hardwood flooring is installed while other trades are working at the jobsite, or afterwards, when doing any kind of remodeling or wall painting, it should be completely covered by a clean, dry, plain uncoated cardboard or heavy bond paper product.

**IMPORTANT!** Do not cover hardwood floors with plastic, red rosin, felt, wax paper or previously used cardboard. Damage to the factory finish caused by the use of improper floor covering materials will void the manufacturer warranty.

Before covering the hardwood flooring, it should be cleaned to remove grit, dust and other abrasive debris and thoroughly dry.

Do not use a wet cloth or wet mopping to remove drywall dust as doing so will create a pasty residue that will damage the factory finish and void the manufacturer warranty.

When covering the hardwood flooring area, the proper covering material should be overlapped 4 inches to the adjoining paper, secured with masking tape applied to the covering material only and then secured at perimeter walls or baseboards to prevent the covering from moving or shifting, and ensure that the tape itself, construction debris, dry wall dust and/or wet paint does not penetrate to the flooring below.

**IMPORTANT!** Adhesive/masking tape applied directly to hardwood floor surface will damage the factory finish and void the manufacturer warranty.

## GENERAL FLOOR CARE & MAINTENANCE

### Preventive Floor Care

- Place high-quality floor mats or area rugs with a soft felt backing near entrances and high traffic areas to prevent loose dirt, debris and other abrasive substances from being tracked directly onto flooring surface. Do not use rubber backed mats as these will damage the factory finish and void the manufacturer warranty.
- Hardwood flooring that is installed in the kitchen should be protected in areas subject to cooking splatter, spills and water splashes. High quality throw rugs with a soft felt backing should be placed in front of the cooktop, oven, sink and dishwasher to protect the flooring finish.

**IMPORTANT!** Water spills, splashes, hot oil or food debris that lands on an unprotected area of the hardwood flooring must be cleaned up immediately! Damage to the factory finish from a failure to protect it from, including but not limited to, water spills, hot oil and food debris is not covered by the manufacturer warranty!

- Apply felt furniture pads to movable furniture, including but not limited to, chairs, tables, sofas and heavy furniture to protect the hardwood factory finish.
- Rearrange rugs and furniture periodically so the hardwood finish ages evenly. UV sunlight exposure may change the flooring color over time and is not considered a manufacturing defect.

- Keep pet nails trimmed and filed in order to minimize scratches and indentations. All hardwood floors will indent with enough force or when exposed to sharp objects.
- Maintain a consistent room temperature of 65°- 85° F with relative humidity levels of 35-55%, for the life of the installed hardwood flooring at all times.
- Only use hardwood cleaning products specifically formulated for your flooring product finish. Improper use of cleaning products will damage the factory finish.

**IMPORTANT!** Required room temperature and humidity levels must be maintained at all times, even when the home or building is not occupied.

- Do not walk on the hardwood floor with sharp “stiletto” style high-heel shoes.
- Do not use harsh cleaning products, including but not limited to, ammonia, acetone, alcohol, bleach, STP, abrasive cleaners or furniture cleaners on hardwood floors.
- Do not use oil-based wax, oil soap, mineral oil, polish, or other household dusting products on hardwood floors.
- Do not wet mop hardwood floors as excess moisture will damage the finish and void the manufacturer warranty.
- Do not use a wet cloth to remove dry wall dust from the hardwood flooring as doing so will result in a pasty residue that will damage the flooring finish and void the manufacturer warranty.

### Regular Care

- Dry dust mop or vacuum (raised beater or suction type) on a frequent basis to remove loose debris and dirt anywhere from the hardwood flooring surface.
- Use only hardwood floor cleaning products designed for hardwood floors such as Healthy Home by Christina Hard Surface Cleaner.
- Do not use steam or steam cleaners or power scrubbing machines on the hardwood flooring.
- When the hardwood floor requires refinishing, the manufacture recommends using the services of a NWFA Certified Professional. (nwfa.org)

## Residential Warranty

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The warranties described herein are given to the original retail purchaser only AND ARE SUBJECT TO THE PROCEDURES, LIMITATIONS, DISCLAIMERS AND EXCLUSIONS SET FORTH HEREIN. These warranties cover only approved product applications as recommended by the manufacturer.

### **Regarding All Warranty Coverage**

This warranty is not transferable and extends only to the original Owner/Purchaser. All pre-installation preparation, installation, floor care and maintenance must be in accordance with manufacturer's requirements.

This hardwood flooring is manufactured using a product with naturally occurring variations, including but not limited to, character, grain, color, mineral streaks, splintering and knots which are not considered manufacturing defects.

Variations between planks that are a result of collection specific wood working, including but not limited to, hand distressing, scraping, wire brushing, chiseling, smoking, carbonizing and color staining are not considered manufacturing defects.

As a product of nature, hardwood flooring will continue to expand and contract through normal heating and non-heating seasons. Properly installed hardwood floors may consequently experience slight separation between boards at different times during the year. If such normal expansion and contraction occurs, it is not covered by this manufacturer warranty.

### **Full Lifetime Structural Warranty**

Manufacturer warrants to the Owner/Purchaser, under normal residential use, that its products in their original manufactured condition, to be free from defects in lamination, assembly, milling, dimension and grading, for as long as the original purchaser owns the installed hardwood flooring product.

### **Limited Finish Warranty**

Manufacturer warrants that under normal residential conditions, with proper care and maintenance, the factory finish will not wear-through within twenty-five years.

This finish warranty shall not extend to indentations, scratches or surface damages arising from improper use, neglect or abuse. Gloss reduction is not considered finish wear-through and is not covered under this warranty.

### **Warranty Exclusions**

*This warranty **DOES NOT** cover the following:*

- Failure to perform required pre-installation jobsite testing and preparation.
- Failure to inspect and approve the hardwood flooring product prior to installation.
- Failure to install the hardwood flooring per manufacturer requirements.
- Failure to remove excess flooring adhesive and/or T&G glue during installation.
- Failure to care for and maintain flooring per manufacturer requirements.
- Failure to maintain consistent indoor temperature of 65°- 85° F and relative humidity levels of 35%-55% at all times for the life of the hardwood installation.
- Damages arising from accidents, negligence, abuse, or abnormal wear.
- Damages due to water saturation or exposure to extreme heat, dryness, harsh chemicals and industrial or cleaning products not for use with hardwood flooring.
- Damages due to excessive ground or concrete moisture caused by natural weather conditions, including but not limited to, rainfall, hurricanes, tornadoes, flooding and/or other natural disasters.
- Damages due to earthquake or other shifting of the ground.
- Damages due to a leaky faucet or broken pipe.
- Damages due to insect infestation after the product has left the manufacturer.
- Damages due to improper flooring finish work, including but not limited to, oil or stain application, sanding or refinishing after hardwood installation.
- Damages due to the use of adhesive or masking tape on the flooring surface.
- Damages due to the use of harsh chemicals, including but not limited to, acetone, paint thinner, alcohol or other cleaning products not suitable for hardwood floors.
- Damages due to wet mopping, steam/steam cleaners or power scrubbing machines.
- Damages to the flooring finish caused dry wall dust.
- Damages due to body lotion or cosmetics coming in contact with flooring surface.
- Scratches or stains caused by domestic pets or other animals.
- Expansion, contraction and cupping due to seasonal moisture variations.
- Floor color changes due to direct & indirect sunlight or other UV light exposure.

- Flooring purchased online or sellers not authorized to sell products.

### General Terms and Conditions

- This warranty is limited to the original Owner/Purchaser.
- The liability of manufacturer under this warranty shall be limited to the actual replacement cost of material and reasonable labor only.
- Incidental or consequential costs associated with the repair or replacement of a damaged flooring product are not the responsibility of the manufacturer.
- New or replacement hardwood flooring required to settle a claim are not guaranteed to match the existing installed hardwood flooring or retailer display samples.
- Manufacturer is not responsible for matching the hardwood flooring to other wood products, such as cabinets, stair railings, trim and moldings.
- No other warranties expressed or implied are made including merchantability or fitness for any particular purpose.
- Under no circumstances shall the manufacturer be liable for loss or damage associated with special, indirect, incidental or consequential damages.
- No installer, retailer, agent or employee of the manufacturer has the authority to increase or alter the obligations or limitations of this warranty.

### Manufacturer Inspection Rights and Claims

Manufacturer shall be allowed a reasonable time to inspect any hardwood flooring product claimed to be defective.

Claims submitted to manufacturer must be supported with the original sales receipt.

In the event of litigation, all controversies shall be submitted to the **American Arbitration Association. Venue shall be the County of Orange, State of California.**

### Commercial Warranty

The warranties described herein are given to the original retail purchaser only AND ARE SUBJECT TO THE PROCEDURES, LIMITATIONS, DISCLAIMERS AND EXCLUSIONS SET FORTH HEREIN. These warranties

cover only approved product applications as recommended by manufacturer.

### Regarding All Warranty Coverage

This warranty is not transferable and extends only to the original Owner/Purchaser. All pre-installation preparation, installation, floor care and maintenance must be in accordance with manufacturer's requirements.

This hardwood flooring is manufactured using a product with naturally occurring variations, including but not limited to, character, grain, color, mineral streaks, splintering and knots which are not considered manufacturing defects.

Variations between planks that are a result of collection specific wood working, including but not limited to, hand distressing, scraping, wire brushing, chiseling, smoking, carbonizing and color staining are not considered manufacturing defects.

As a product of nature, hardwood flooring will continue to expand and contract through normal heating and non-heating seasons. Properly installed hardwood floors may consequently experience slight separation between boards at different times during the year. If such normal expansion and contraction occurs, it is not covered by this manufacturer warranty.

### 25 Year Structural Warranty

Manufacturer warrants to the original Owner/Purchaser, under light commercial or normal residential use, that its products, in their original manufactured condition, to be free from defects in lamination, assembly, milling, dimension and grading and that its engineered top layer will not wear through or separate from its backing for a full twenty-five years from the date of purchase.

### 3 Year Finish Warranty

Manufacturer warrants that under light commercial traffic conditions, with proper care and maintenance the factory finish will not wear-through for a full three years.

This finish warranty shall not extend to indentations, scratches or surface damages arising from improper use, neglect or abuse. Gloss reduction is not considered finish wear-through and is not covered under this warranty.

### Warranty Exclusions

*This warranty DOES NOT cover the following:*

- Failure to perform required pre-installation jobsite testing and preparation.
- Failure to inspect and approve the hardwood flooring product prior to installation.
- Failure to install the hardwood flooring per manufacturer requirements.
- Failure to remove excess flooring adhesive and/or T&G glue during installation.
- Failure to care for and maintain flooring per manufacturer requirements.
- Failure to maintain consistent indoor temperature of 65°- 85° F and relative humidity levels of 35%-55% at all times for the life of the hardwood installation.
- Damages arising from accidents, negligence, abuse, or abnormal wear.
- Damages due to water saturation or exposure to extreme heat, dryness, harsh chemicals and industrial or cleaning products not for use with hardwood flooring.
- Damages due to excessive ground or concrete moisture caused by natural weather conditions, including but not limited to, rainfall, hurricanes, tornadoes, flooding and/or other natural disasters.
- Damages due to earthquake or other shifting of the ground.
- Damages due to a leaky faucet or broken pipe.
- Damages due to insect infestation after the product has left the manufacturer.
- Damages due to improper flooring finish work, including but not limited to, oil or stain application, sanding or refinishing after hardwood installation.
- Damages due to the use of adhesive or masking tape on the flooring surface.
- Damages due to the use of harsh chemicals, including but not limited to, acetone, paint thinner, alcohol or other cleaning products not suitable for hardwood floors.
- Damages due to wet mopping, steam/steam cleaners or power scrubbing machines.
- Damages to the flooring finish caused dry wall dust.
- Damages due to body lotion or cosmetics coming in contact with flooring surface.
- Scratches or stains caused by domestic pets or other animals.
- Expansion, contraction and cupping due to seasonal moisture variations.
- Floor color changes due to direct & indirect sunlight or other UV light exposure.
- Flooring purchased online or sellers not authorized to sell products.

## General Terms and Conditions

- This warranty is limited to the original Owner/Purchaser.
- The liability of manufacturer under this warranty shall be limited to the actual replacement cost of material and reasonable labor only.
- Incidental or consequential costs associated with the repair or replacement of a damaged flooring product are not the responsibility of En Bois Flooring Inc.
- New or replacement hardwood flooring required to settle a claim are not guaranteed to match the existing installed hardwood flooring or retailer display samples.
- Manufacturer is not responsible for matching the hardwood flooring to other wood products, such as cabinets, stair railings, trim and moldings.
- No other warranties expressed or implied are made including merchantability or fitness for any particular purpose.
- Under no circumstances shall En Bois Flooring Inc. be liable for loss or damage associated with special, indirect, incidental or consequential damages.
- No installer, retailer, agent or employee of En Bois Flooring Inc. has the authority to increase or alter the obligations or limitations of this warranty.

## Manufacturer Inspection Rights and Claims

Manufacturer shall be allowed a reasonable time to inspect any hardwood flooring product claimed to be defective.

Claims submitted to manufacturer must be supported with the original sales receipt.

In the event of litigation, all controversies shall be submitted to the **American Arbitration Association. Venue shall be the County of Orange, State of California.**

## Customer Service & Claims

### Internet Sales Policy

The manufacturer warranty applies only when the flooring purchase is made directly through an authorized flooring dealer. Online sales of hardwood flooring products are not covered by the manufacturer warranty. Online sales of hardwood flooring products are not covered by the manufacturer warranty.

Any flooring sale that has been misrepresented by the retailer/seller, including but not limited to, returns, off-color, or manufacturer defect resale, are not covered by the manufacturer warranty.

### **Claims Process**

All hardwood flooring claims must be filed within the warranty coverage period and go through the flooring retailer where the flooring was purchased.

The original purchase receipt must be submitted with the warranty claim.

Manufacturer reserves the right to have a manufacturer representative inspect the floor, remove samples for technical analysis and request proof that pre-installation, installation and floor care and maintenance are in accordance with manufacturer requirements.

If any portion of your floor should fail with respect to applicable warranty provisions, manufacturer will repair, refinish or replace the product at its sole discretion.

### **Save Your Original Receipt!**

Save your original purchase receipt to protect your hardwood flooring warranty! Document your purchase and save this information for future reference.

*Make sure that you have recorded the following information:*

- Date of Purchase
- Product Name & SKU
- Seller/Retailer Name
- Seller/Retailer Address
- Seller/Retailer Phone

Note: This document supersedes all electronic Installation, Care & Maintenance and Warranty Guidelines previously distributed for En Bois Flooring Hardwood products. Document date: 3/29/2023