



## designer series installation instructions- Plywood T&G

### ecofinishes designer series engineered plywood T&G hardwood installation instructions:

- ecofinishes engineered hardwood flooring is a beautiful and unique natural product, which is characterized by distinctive variations in grain and colour. These natural variations in colour and grain are not flaws, but are a part of the natural beauty and uniqueness of hardwood flooring. Ecofinishes engineered hardwood 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.
- Flooring should be at the job site at least 72 hours prior to installation. Do not open boxes until ready to install.**
- In new construction, hardwood flooring should be one of the last items installed. All work involving water or moisture (plumbing, acoustical ceilings, dry wall taping, etc.) should be completed prior to wood flooring being installed. Heating and air systems should be fully operating **maintaining a consistent room temperature at 64.4-71.6°F and a constant relative humidity of 35-55%.**
- Flooring should not be delivered until the building has been closed in and cement work, plastering, painting and other materials are completely dry. Concrete and plaster should be cured and at least 60 to 90 days old. Check basements to ensure that they are dry and well ventilated to avoid damage caused by moisture.
- Handle with care. Do not stand on ends. Store engineered hardwood flooring in a dry place being sure to provide at least a four-inch air space under and around cartons.
- Do not store directly upon on grade concrete or next to outside walls. Cartons should be placed in the installation area
- The installer assumes all responsibility for final inspection of product quality. This inspection of all flooring should be done before installation. Carefully examine flooring for colour, finish and quality before installing it. If material is not acceptable, do not install it and contact the seller immediately.
- Prior to installation of any hardwood-flooring product, the installer must determine that the job-site environment and the sub-surfaces involved meet or exceed all applicable standards and recommendations of the construction and materials industries. These instructions recommend that the construction and sub-floor be dry, stiff and flat. ecofinishes declines any responsibility for job failure resulting from or associated with sub-surface or job-site environment deficiencies.
- Prior to installation, the installer/owner has final inspection responsibility as to grade, manufacture and factory finish. The installer must use reasonable selectivity and hold out or cut off pieces with defects, whatever the cause.
- Use of stain, filler or putty stick for defect correction during installation should be accepted as normal procedure.
- When flooring is ordered, 5% must be added to the actual square footage needed for cutting and grading allowance.
- Should an individual piece be doubtful as to grade, manufacture or factory finish, the installer should not use

### general installation tips

- Floor should be installed from several cartons at the same time to ensure good colour and shade mixture.
- Be attentive to stagger the ends of boards in adjacent rows at least 16" when possible. This will help ensure a more favorable overall appearance of the floor.
- DO install from closed/sealed cartons. DO NOT remove materials from their sealed container prior to installation.
- DO tighten panels by tapping against the recommended tapping block with a hammer. DO NOT tighten panels by striking directly with the tapping block or a hammer.
- DO use a starter board that is adequately fastened to a straight starting line.
- DO use ecofinishes approved underlayments on all floating floors over sub-floors that require it.

## subfloor requirements for all installation methods

- CLEAN - Scrape, broom clean, and smooth. Free of wax, paint, oil, sealers, adhesives, curing agents and other debris.
- LEVEL/FLAT - Within 3/16" in 10' and/or 1/8" in 6'. Sand high areas or joints. If the floor is to be glued down, fill low areas (no more than 1/8" at a time) with a cementitious leveling compound or additive latex patch of 3,000-PSI minimum compressive strength. Follow the instructions of the leveling compound manufacturer.
- STRUCTURALLY SOUND - Nail or screw any loose areas that squeak. Avoid sub-floor with excessive vertical movement.
- DRY - Check moisture content of the sub-floor with a reliable moisture meter.

## recommended subfloor surfaces

### 1. CONCRETE SLABS

Floating floors can be glued directly to concrete or floated over them. In glue-down applications, do not use a concrete sealer nor install over one. Surface preparation using mechanical methods such as sanding or scouring with open coat paper or a titanium disk is preferred. The concrete must be of high compressive strength. All concrete sub-floors should be tested for moisture content. Visual checks are not reliable. Acceptable test methods for sub-floor moisture content include:

NOTE: Test several areas, especially near exterior walls and walls containing plumbing.

- A 3% Phenolphthalein in Anhydrous alcohol solution. Chip the concrete at least 1/4" deep (do not apply directly to the concrete surface) and apply several drops of the solution to the chipped area. If any colour change occurs, further testing is required.
- Calcium Chloride test. The maximum moisture transfer must not exceed 3 lbs./1000 square feet with this test.
- Tramex Concrete Moisture Encounter meter. Moisture readings should not exceed 4.5 on the upper scale.

A "DRY" SLAB, AS DEFINED BY THESE TESTS CAN BE 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 BARRIER BETWEEN THE GROUND AND THE CONCRETE.

### 2. WOOD SUB-FLOORS & WOOD STRUCTURAL PANEL SUB-FLOORS

Plywood Subfloor: Must be APA grade rated sheathing or CDX minimum. Oriented Strand Board (OSB): Must be PS2 rated installed sealed side down. Particleboard must be a minimum 40-LB density, stamped underlayment grade and 3/4" thick.

Make sure existing floor or sub-floor is dry and well nailed or screwed down every 6" along each joist to avoid squeaking or popping before the floor is installed. The wood sub-floor must not exceed 13% moisture content. Measure moisture content of both sub-floor and wood flooring to determine proper moisture content with a reliable wood moisture meter. **The difference between the moisture content of the wood sub-floor and the wood flooring must not exceed 4%.**

### 3. APPROVED ACOUSTIC MEMBRANES

Floating floors can be floated directly over ecofinishes approved underlayments as per manufacturer's recommended installation instruction.

## ecofinishes installation methods

### floating-locking installation

**Note: it will be specified on your packaging if this is a Floating-Locking method of installation, otherwise please see the 3 methods of installation below for Tongue and Groove. Your Locking Engineered Hardwood Flooring is installed floating. Under no circumstances may panels be glued, nailed, or otherwise fixed (e.g. door stopper) to the sub-floor.**

### Installation

- With the first row of panels, remove the tongue and place this side against the wall.
- When cutting the last panel, allow for distance from wall at end of panel. Mark out off cut and saw off.
- Always saw from the upper surface of the panel (to avoid splintering the edges) – only when using an electric jigsaw or a hand-held circular saw should the patterned side be placed facing downwards.

A) Connect the panels of the first row on the short side.) Insert the panel into the groove of the first panel at an angle of 25o and lower the panel to lock it into place. Ensure that the row is straight.

B) Connect the panels of the second row on the short side over the entire room length. Rest panels on the groove of the first row without locking them. Starting from the left, insert the tongue of the panels into the groove of the previous row, lifting and locking about 2 m at a time. Note: for added strength, apply glue to the short side of the first and last rows. For intense traffic-ed areas, it is recommended to apply glue to all short sides.

**If the wall is not straight:**

Place the first row against the wall, using a spacer and pencil, transfer the contour of the wall to the panels. Saw along the markings Note: the first row of panels must be cut longitudinally if the final row of panels is going to be narrower than 5 cm.

Start each new row with the leftover piece from the preceding row. The transverse joints must be offset by at least 40 cm. Please take particular care to ensure that the first three rows are perfectly straight.

**ATTENTION EXEMPTIONS**

If you are unable to angle the panels (e.g. under a door-door frame or low fitted radiator) you have to cut away the locking edge of the lip of the bottom groove by using a wood chisel or a small block plane. Run a bead of glue on the modified tongue and groove. Tap the panels tight together by using a hammer and push block or pull bar. If necessary, fix it with an adhesive tape.

**Where there are heating pipes or room dividers:**

First cut the panel to the correct length.

Then lay the panel section beside the actual position, measure the recesses with the ruler and draw in.

Now drill out and cut the marked sections.

Remember the necessary distance (3/8"-9/16") on each side.

Join up the sawn off piece again tightly behind the heating pipe (using the spacer)

**If a doorframe has to be shortened:**

Lay a panel next to the frame (with the patterned side facing downwards).

Cut into the doorframe with a backsaw.

Then slide the panel under the frame with the patterned side upwards.

Don't forget to allow for freedom of movement.

**To finish off:**

Measure the exact width of the last panel row.

To do this lay a panel on the previous panel row.

Then lay a second panel to be measured with the tongue to the wall and use as a straight edge and saw the panel along the marking. Remember the wall spacing!

Fit the last panel carefully with the aid of the pull-iron. Finished!

**METHOD #1: FLOATING INSTALLATION (Tongue & Groove Only)****INSTALLING THE FLOOR**

-  **Recommended adhesive: Ecofinishes Tongue and Groove adhesive**
-  Install underlayment and vapor barrier AS PER MANUFACTURER'S INSTRUCTIONS
-  Select your first board; apply a continuous 1/8" glue bead to the top of the tongue on "the end of the board." Do not apply glue to the side-tongue at this time. Lay the first board with the grooves facing the edge of the starter board and the left wall of the room. (Always leave expansion space).
-  Complete the first row. Cut the last board allowing for 1/2" (12mm) clearance between the wall and the floor. (Use the remaining end of the cut board as a starter board for any row after the third row). Use an installation bar to pull the last board into place. Install wedges into the gap and tighten.
-  If any glue gets on the surface of the flooring, wipe off immediately with a damp cloth.
-  Start the second row by applying a bead of adhesive along the topside of the tongue of row one.
-  Cut a board in half for the first board of the second row. Avoid installation of any boards shorter than 24" in the first four rows which may reduce the strength of the floor
-  In the remaining rows, stagger joints at least 16" apart. When installing boards together, use a tapping block against the tongue, not the groove. Apply a bead of ecofinishes adhesive to the tongue on the end and side. Tap the boards into place by tapping with a hammer on the tapping block. DO NOT tap directly on the boards with the hammer. Install the rest of the floor. Be sure all joints are tight. Use spacers on the long and butt walls. Use an installation bar to tighten the joints from the ends. Remove excess adhesive with a damp cloth.
-  All provide an adequate expansion gap around the perimeter of the room, as all wood needs room to expand. A space of 1/2" should always be left between flooring planks and walls or any other fixed elements (such as heating pipes or doorframes).
-  Avoid heavy foot traffic on the flooring for at least 24 hours. Lift the furniture or fixtures back into place after 24 hours.

**METHOD #2: GLUE-DOWN INSTALLATION (Tongue & Groove Only)**

-  **Recommended adhesive: Mapei Ultrabond 980 Urethane Adhesive**
-  **Trowel recommended by adhesive manufacturer**
-  When used, acoustic underlayments must be glued down over sub-floor prior to gluing down flooring using the same recommended adhesive. Do not install flooring on underlayment for at least 24 hours in order to let the adhesive set.

- The use of a pound weight roller, minimum 100 lbs (45 kgs) is required before adhesive dries. Use protective padding on roller to protect the floor.
- Use the straightest boards available for the first two rows. The first row of planks should be installed with the edge of the groove lined up against the starter board. The tongue should be facing the ending wall. The first row must be aligned and seated in the adhesive as all additional rows will be pushed back to this original row.
- Use wedges against the starting wall to prevent movement. Tighten or loosen as necessary to allow for variations in the wall, always keeping planks aligned with the chalk line.
- When installing planks, engage the end-joint first as close to the side (long) tongue and groove as possible and then slide together tightly to engage side (long) joint tongue and groove. To avoid adhesive bleed-through and memory pull-back, avoid sliding pieces through the adhesive as much as possible when placing them in position.
- Check for a tight fit between all edges and ends of each plank. End-joints of adjacent rows should be staggered 16" when possible to ensure a more favorable overall appearance.
- Use a glue-down tapping block and a hammer to tighten all joints.
- To eliminate minor shifting or gapping of product during installation, use 3M 2090 Blue Mask Tape to hold the planks together. After installation is complete, remove all the 3M 2090 Blue Mask Tape from surface of newly installed flooring. Do not let tape remain on flooring longer than 24 hours. Avoid use of masking tape which leaves an adhesive residue.
- Be sure not to spread adhesive too far ahead of your work area.
- Complete the installation using this same technique for the remainder of the floor.
- Remove the starter board and install the final row as above.
- Avoid heavy foot traffic on the flooring for at least 24 hours. Lift the furniture or fixtures back into place after 24 hours.

### **METHOD #3: STAPLE-DOWN INSTALLATION (Tongue & Groove Only)**

- **Recommended nailers: Recommended Nails:**
- **Power Nailer Model 200 (Pneumatic) E Cleat Nail 1 ½"**
- **Power Nailer Model 250 (Manual) E Cleat Nail 1 ½"**
- **Primatec R 610 (Manual) T Cleat Nail 1 "**
- Use the straightest boards available for the first two rows. The first row of planks should be installed with the edge of the groove lined up against the starter board. The tongue should be facing the ending wall.
- Set air compressor to 70-80 PSI. Adjust air pressure to ensure proper setting of staples. If tongue damage occurs, lower the air pressure.
- Complete the first row. Cut the last board allowing for ½" (12mm) clearance between the wall and the floor. (Use the remaining end of the cut board as a starter board for any row after row three).
- Use wedges against the starting wall to prevent movement. Tighten or loosen as necessary to allow for variations in the wall, always keeping planks aligned with the chalk line.
- Check for a tight fit between all edges and ends of each plank. End-joints of adjacent rows should be staggered 16" when possible to ensure a more favorable overall appearance.
- Install each successive row of planks by edge nailing the tongue side every 8" to within 2' from board ends. Upon reaching the last row to be installed, the planks should be ripped to allow proper expansion.
- Make sure that the flooring nailer is in good working condition and seats properly against the board to prevent top edge and surface damage.

**Heating Season (Dry):** humidifier is recommended to prevent excess shrinkage due to low humidity levels. Wood stove and electric heat tends to create very dry conditions.

**Non-Heating Season (Wet):** An air conditioner or dehumidifier or periodically turning on your heating system can maintain humidity during the summer months. Avoid excessive exposure to water during periods of inclement weather.

- Avoid gouges or cuts in your floor from sharp objects. While your hardwood floor is one of the most wear resistant floors on the market, sharp or pointed objects can nevertheless damage it.
- Don't walk on your floor with stiletto-style heels, spiked golf shoes or cleats; they may cause indentations in your floor.
- Re-arrange area rugs and furniture periodically so the floor ages evenly. UV sunlight will soften or darken the tone of different species of hardwood to varying degrees
- Keep pet's nails trimmed, or consider slippers available at pet stores.
- Use a dolly when moving heavy furniture or appliances. But first, put down a sheet of quarter inch plywood to protect the floor. Never try to slide or roll heavy objects across the floor.