



HAND-SCRAPED FLOORING INSTALLATION INSTRUCTIONS

READ THESE INSTRUCTIONS THOROUGHLY BEFORE BEGINNING INSTALLATION. IN ADDITION TO THESE INSTRUCTIONS, WE RECOMMEND THAT THE INSTALLER FOLLOW ALL INSTALLATION GUIDELINES SET FORTH BY THE NATIONAL WOOD FLOORING ASSOCIATION (WWW.NWFA.ORG). WHERE THESE INSTRUCTIONS DIFFER FROM NWFA GUIDELINES, THIS DOCUMENT TAKES PRECEDENCE. THESE INSTALLATION INSTRUCTIONS DO NOT APPLY TO ECOTIMBER PRODUCTS OTHER THAN ENGINEERED HAND-SCRAPED FLOORING. 042607

PRE-INSTALLATION JOBSITE REQUIREMENTS

Carefully examine the flooring prior to installation for grade, color, finish and quality. Ensure adequate lighting for proper inspection. If flooring is not acceptable, contact your distributor immediately and arrange for replacement.

EcoTimber cannot accept responsibility for flooring installed with visible defects. Prior to installation of any flooring, the installer must ensure that the jobsite and subfloor meet the requirements of these instructions. EcoTimber is not responsible for flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions.

Hardwood flooring should be one of the last items installed in any new construction or remodel project. All work involving water or moisture should be completed before flooring installation. Water and wood do not mix. Installing flooring onto a wet subfloor will most likely cause cupping, tip & edge raising, telegraphing of core and subsequent gapping.

Permanent HVAC should be on and operational and maintained between 65-75 degrees Fahrenheit with relative humidity of 35%-55% **for a minimum of 7 days prior to delivery**, as well as during and after installation of the flooring. **When installing over radiant heat, additional restrictions apply – see below.** Humidity levels below 35% will most likely cause movement in the flooring, including gapping between pieces and possible cupping and checking in the face.

Store the wood flooring in the UNOPENED boxes at installation area for 24 -72 hours before installation to allow flooring to adjust to room temperature. Do not store the boxes of flooring directly on concrete. These engineered wood floors DO NOT need any moisture equalization prior to installation and should be installed from just-opened boxes. DO NOT OPEN more than a few boxes in advance of installation and only the number of boxes that will be installed within the next few hours. Only open enough boxes to ensure a good mix of lengths and color.

When installing EcoTimber wood flooring over radiant heat, use the floating installation method only, and always use EcoTimber Floating Floor Pad as your underlayment. This flooring is not warranted for installation over electric radiant heat systems. Only hydronic systems are approved. Please carefully read the “Radiant Heat” section below (p. 5) before finalizing product selections.

PRE-INSTALLATION SUBFLOOR REQUIREMENTS

Acceptable subfloor types:

- CDX plywood - at least 5/8” thick for joist spacing up to 16” on center, minimum 3/4” thick for joist spacing greater than 16” on center (19.2” maximum)
- Underlayment grade particleboard (minimum 40 lb. density) - floating/glue-down only
- OSB - at least 3/4” thick, PS 2-92 rated or PS 1-95 rated
- Concrete slab - floating/glue-down only
- Existing wood floor - must be smooth, level, well-adhered and unfinished (if gluing new flooring)
- Ceramic tile - floating only
- Resilient tile & sheet vinyl - floating or glue-down only; for glue-down tile/vinyl must be new and non-urethane-coated



All Subfloors must be:

- Dry and will remain dry year-round. Moisture content of wood sub floors must not exceed 12%, wood flooring moisture content must be within 3% of wood subfloor moisture content, and concrete must not exceed 3 lbs. per Calcium Chloride Test (test method ASTM 1869-89), or 2 lbs. when installing over radiant heat.
- Structurally sound
- Clean: Thoroughly swept and free of all debris. For glue-down installations, subfloor must be free of wax, grease, paint, sealers, old adhesives, etc., which can be removed by sanding.
- Level: Flat to 3/16" per 10-foot radius

Wood subfloors must be dry and well secured. Nail or screw every 6" along joists to avoid squeaking. If not level, sand down high spots and fill low spots with an underlayment patch.

Concrete subfloors must be fully cured, at least 60 days old, and should have minimum 6-mil polyfilm between concrete and ground. Subfloor should be flat and level within 3/16" per 10' radius. If necessary grind high spots down and level low spots with Ardex® K-15 Portland Leveling Compound.

All concrete should be tested for moisture using a Calcium Chloride Test, and the result must not exceed 3 lbs. (2 lbs. if installing over radiant heat). Ceramic tile, resilient tile and sheet vinyl must be well-bonded to subfloor, in good condition, clean and level. Do not sand existing vinyl floors, as they may contain asbestos.

If gluing down on concrete (even if you believe it is dry) which is on or below grade, it is highly recommended to install sheet vinyl first and then glue the wood flooring on top of the vinyl, as this provides an effective permanent moisture barrier. Another alternative to sheet vinyl is to use the Bostik® or Taylor® Moisture Barrier Systems, which are warranted by their manufacturers.

Remember, a concrete slab on/below grade that measures dry today may become moist in the future due to rising groundwater. Installing a moisture barrier now may be viewed as an insurance policy against concrete becoming wet in the future. This will lead to subsequent floor failure. EcoTimber is not responsible for site related moisture issues.

When installing EcoTimber Hand-scraped wood flooring over radiant heat, use the floating installation method only, and always use EcoTimber Floating Floor Pad as your underlayment.

INSTALLATION TOOLS

For all installation methods:

- Tape measure
- Wood or plastic spacers (1/2")
- Chalk line
- Tapping block
- Crosscut power saw
- Pry bar or pull bar
- Pencil
- Hammer
- 3M® 2080 Blue Tape

For glue-down installation method (recommended), you'll also need:

- Flooring adhesive: EcoTimber® HealthyBond Adhesive or Bostik® Best
- On concrete slabs that are on/below grade, we strongly recommend installing sheet vinyl first and then installing the wood floor on the vinyl or using the Bostik® or Taylor® Moisture Barrier Systems. With EcoTimber® HealthyBond® Adhesive, use the Taylor® 500 Nu-Flor Concrete Barrier.
- Trowel per flooring adhesive manufacturer's recommendations.

For staple-down installation, you will also need:

- Pneumatic stapler appropriate for 1/2" thick engineered flooring and 1-1/4" or 1-1/2" long narrow-crown staples (always test stapler to ensure that it is not damaging the flooring or causing dimpling before proceeding with installation)
- Air compressor



For floating installation, you'll also need:

- EcoTimber® Floating Floor Pad (required over radiant heat) or equivalent 1/8" thick underlayment
- 6-mil polyfilm (if installing on or below grade and not using EcoTimber® Floating Floor Pad)
- Eurobond® D3 T&G Adhesive or Franklin® Titebond 2 PVAC glue
- Clear waterproof packing tape

STARTING YOUR INSTALLATION – ALL METHODS

Make sure subfloor is tested for moisture first and is properly prepared.

Since wood expands with any increase in moisture content, always leave at least a 1/2" expansion space between flooring and all walls and any other permanent vertical objects, (such as pipes and cabinets). This space will be covered up once you reapply base moldings around the room. Use wood or plastic spacers during installation to maintain this 1/2" expansion space.

No area of connected flooring can span greater than 30 feet in width or 90 feet in length. For larger spans, install T-moldings or other transition pieces that allow the flooring to expand and contract.

Begin installation next to an outside wall. This is usually the straightest and best reference for establishing a straight working line. Establish this line by measuring an equal distance from the wall at both ends and snapping a chalk line. The distance you measure from the wall should be the width of a plank plus about 1/2" for expansion space. You may need to scribe cut the first row of planks to match the wall in order to make a straight working line, as most walls are not straight.

Work from several open boxes of flooring and "dry lay" the floor before permanently installing it, but **never open more than a few boxes in advance**. This will allow you to select the varying grains & colors and to arrange them in a harmonious pattern. The actual floor may differ in grain and color from the samples used in selecting the product. This is not a product defect. It is the installers' responsibility to work with the end user to determine the expectations of what the finished floor will look like. If the range of color in the shipment does not appear satisfactory after opening a few boxes, do not begin installation. Contact EcoTimber immediately to arrange a return.

Dry lay a few rows, (no glue or nails), before starting installation to confirm your layout decision and working line. When laying flooring, stagger end joints from row to row by at least 8". When cutting the last plank in a row to fit, you can use the cut-off end to begin the next row. If cut-off end is 8" in length or less, discard it and instead cut a new plank at a random length (greater than 8") and use it to start the next row. Always begin each row from the same side of the room.

To draw planks together, always use a tapping block, as tapping the flooring itself will result in edge damage. **Never apply pressure to the groove edge of the flooring – only use the tapping block against the tongue.** When near a wall, you can use a pry bar or pull bar to pry close the side and end joints. Take care not to damage edge of flooring. For glue down & floating applications, use 3M® 2080 Blue Tape to hold any pieces which might have side bow and need to be held straight & tight until the adhesive sets. Do not allow tape to remain on floor longer than 30 minutes and remove tape prior to cleaning floor with a cleaner or solvent. Do not apply tape to flooring that has been previously wiped with a solvent.

GLUE DOWN INSTALLATION – RECOMMENDED (if not installing over radiant heat)

Carefully review the adhesive manufacturer's instructions for proper trowel size, minimum temperature, adhesive set time and open times before beginning installation of flooring.

PLEASE NOTE: when using EcoTimber® HealthyBond® Adhesive, after troweling the adhesive out in an area, you must wait 10 minutes before laying the planks in that area. This will allow moisture from the adhesive to "flash off." FAILURE TO ALLOW ADEQUATE FLASH TIME WILL RESULT IN CUPPING/BUCKLING.

Make sure subfloor is tested for moisture content first and is properly prepared.



On concrete subfloors that are on or below grade (ground level), always assume the worst. Even if they measure dry, we now recommend taking one of the following two installation steps to ensure a trouble-free installation:

Method #1: Install a sheet vinyl floor first and then glue down our wood floor over the sheet vinyl. Follow the vinyl manufacturer's installation recommendations.

Method #2: Taylor® and Bostik® now offer Moisture Barrier Systems on which they provide a warranty that moisture will not pass through and damage your wood flooring. With EcoTimber® HealthyBond® Adhesive, use the Taylor® 500 Nu-Flor Concrete Barrier. Follow manufacturer's recommendations for application/installation.

Carefully review the adhesive manufacturer's instructions for proper trowel size, minimum temperature, adhesive set time and open times before beginning installation of flooring.

Once the spread adhesive has setup sufficiently per adhesive manufacturer's instructions, lay the first row of flooring with groove facing the wall, and continue laying flooring. Always check your working lines to be sure the floor is still aligned. Use tapping block to fit planks together, but be careful not to let installed floor move on the wet adhesive while you are working.

When first section is finished, continue to spread adhesive and lay flooring section by section until installation is complete. Use a damp cloth to **IMMEDIATELY REMOVE ANY ADHESIVE FROM THE FLOORING SURFACE**. If adhesive cannot be completely removed with a damp cloth, use the manufacturer's recommended adhesive remover. Never let flooring adhesive dry completely on the finished surface. EcoTimber is not responsible for finish damage that might be caused by adhesive that has been allowed to dry completely.

Within the adhesive working time, walk each section of flooring in order to make sure it is well bonded to the subfloor. Flooring planks on the perimeter of the room may require weight on them until the adhesive cures enough to hold them down.

STAPLE DOWN INSTALLATION

Make sure subfloor is tested for moisture content first and is properly prepared. Use an engineered flooring stapler of your choice that is appropriate for ½" thick flooring after testing to make sure that stapling will not cause dimpling (localized raised edges) in the finished floor. **Note:** be sure to look at the face of the installed flooring at a low angle from a distance to see if dimpling is occurring, as it is hard to see when directly above the floor. If you see dimpling, STOP and adjust the stapler shoe, angle/place of staple entry or air pressure until test planks confirm that dimpling is no longer occurring. EcoTimber is not responsible for replacing material that has been installed with dimples.

For the first and second starting rows: lay first plank inside chalk line with groove edge toward the wall. Since it can be difficult to get the stapler in place next to the wall, you may wish to glue down the first rows rather than face-nailing them and leaving unsightly nail holes that must be filled with putty. Make sure the starting rows are straight and drawn tight. After gluing down these rows with one of the approved adhesives (or Liquid Nails® LN-901), set weight on top of them and allow them to set securely before commencing stapling the additional rows.

Subsequent rows: Lay by using floor nailer/stapler to blind-nail top inside edge of tongue at a 45 degree angle. Nail each board every 3" - 4" and within 1" - 2" of each end. Remember to stagger end joints from row to row at least 8" apart and use a tapping block to fit boards together. Periodically check (looking from a low angle) to make sure that the stapler/nailer is still not causing dimpling. It may be necessary to face-nail and or glue down the flooring in doorways or tight areas where the nailer/stapler can't fit. The last two rows will need to be face-nailed or glued in the same manner as the first two rows.



FLOATING INSTALLATION

When installing EcoTimber wood flooring over radiant heat, always use the floating installation method, and always use EcoTimber Floating Floor Pad as your underlayment. See below for special instructions regarding radiant heat installations.

Heavy objects such as counters, kitchen islands, and large stoves or refrigerators should be in place prior to the installation of a floating wood floor. Compressing a floating floor against the subfloor with excessive weight could inhibit the floor's ability to move in response to changes in humidity and may result in gapping or cupping.

Make sure subfloor is tested for moisture content and is properly prepared prior to installation.

When using EcoTimber® Floating Floor Pad, no additional moisture barrier is necessary. If using an alternative 1/8" thick pad and installing below or on grade, Polyfilm is required.

Laying Polyfilm: lay 6-mil Polyfilm with seams overlapped 8". Fasten seams every 18-24" with clear waterproof packing tape. Run the outside edges of Polyfilm up perimeter of each wall 4". Trim after flooring installation is complete.

Laying pad: lay EcoTimber® Floating Floor Pad or equivalent 1/8" thick underlayment by butting edges, not overlapping. Tape full length of the seam with clear waterproof packing tape. Leave 1/2" space between pad and all walls and permanent vertical fixtures.

Installing the floor: start first row with groove toward wall. Glue end joints of first row by applying a small but continuous bead of Eurobond® D3 T&G Adhesive or Franklin® Titebond 2 PVAC glue to the bottom side of the groove. Lay subsequent rows of flooring by applying glue to side and end joints and fitting planks together with a tapping block.

Clean up any adhesive that is on the face of the floor by using a damp rag – DO NOT ALLOW ADHESIVE TO DRY ON THE FLOORING SURFACE as it is difficult to remove without damaging the finish.

RADIANT HEAT

When installing EcoTimber engineered wood flooring over radiant heat, follow all directions above for floating installations in addition to the directions below, and always use EcoTimber Floating Floor Pad.

EcoTimber flooring is not warranted for use over radiant heat systems heated by electric elements. Only hydronic systems are approved. Hydronic systems must include in-floor temperature sensors and an outdoor thermostat that allows the system to adjust the water temperature according to anticipated heat loss. Flooring installed in multi-unit projects where the water temperature is not regulated separately in each unit is not warranted.

All concrete must be allowed to properly cure and dry for a minimum of 4 weeks prior to the operation of the radiant heat system. The system should then be operated at 2/3 maximum output for a minimum of 2 weeks prior to installation of flooring to further allow moisture from the concrete to dissipate and reach equilibrium. This procedure must be followed regardless of the time of year. Four (4) days prior to flooring installation, reduce thermostat to 65°F.

Prior to installation over radiant heat moisture testing must be conducted and documented per ASTM 1669-89 (Calcium Chloride Test) or, for wood subfloors, using a pin type meter. **The moisture content for concrete subfloors must not exceed 2.0 lbs. per 1000 square feet per ASTM 1669-89 (Calcium Chloride Test).** If it exceeds these limits, do not install the flooring.

When gluing together planks over radiant heat, two separate, continuous beads of glue should be applied to the top and bottom of the groove at all seams to ensure a secure bond with the top and bottom of the tongue. This double-gluing is essential to ensure against separation if the flooring dries and shrinks due to the radiant heat. Seasonal gapping should be expected and does not constitute a product failure.



As always, relative humidity of the jobsite must be maintained between 35% and 55%. **Use of a humidification system may be required to maintain the proper humidity level, particularly over radiant heat.** Failure to maintain proper humidity levels can result in excessive dryness and will void all warranties.

Beginning 48 hours after installation, slowly raise the temperature of the heating system to its preferred operating level over a period of 5 days. **The surface temperature of the subfloor must never exceed 82°F in any location. The temperature setting must always remain within 15°F of normal operating level, and should never be turned completely off.** Excessive heat, rapid heating, and/or failure to maintain humidity levels between 35% and 55% are likely to cause cracking, cupping and other forms of floor failure. **Slight surface checking (cracking), particularly at the ends of planks, should be expected in installations over radiant heat and does not constitute a product failure.**

AFTER INSTALLATION

- Flooring should be one of the last items installed in a project. In order to protect the floors while other trades are finishing their work prior to final cleanup and turnover to the owner, use rosin paper and only use 3M® 2080 Blue Tape to hold the rosin paper to the floor (other blue tapes may damage the finish). Clean the floor thoroughly before laying the rosin paper to ensure that no debris is trapped underneath. **DO NOT USE** plastic film or other non-breathing coverings as this can cause the floor to become damaged from humidity buildups.
- Remove expansion spacers and reinstall base and/or quarter round moldings to cover the expansion space.
- Dust mop or vacuum the floor thoroughly to remove any dirt or debris.
- Buff the floor with lambs wool pads in order to remove any loose splinters, residues, foot prints, etc.
- Install any transition pieces that may be needed (reducers, T-moldings, nosing, etc.).
- **If using glue-down or floating installation methods, do not allow foot traffic or heavy furniture on floor for 24 hours.**
- Place walk-off mats at all entrances to help collect dirt and debris that could damage or dull the flooring finish.
- Install felt floor protectors underneath all furniture.
- In areas such as bathrooms, kitchens, and spaces where food service occurs, top-coating the floor will help prevent against moisture damage. In heavy food service areas such as restaurants, two to three top-coats are recommended. To top-coat your EcoTimber® floor, lightly screen (abrade) the top surface of the factory finish and then apply Bona Traffic® floor finish by Bonakemi® (www.bonakemi.com). Bonakemi® also offers the Bona Prep® system that allows top-coating without screening or sanding. Follow all BonaKemi® application instructions carefully.

For more detailed cleaning and maintenance instructions, please visit www.ecotimber.com or call (888) 801-0855.