



ECOfusion Flooring Installation Guide 3/8" Prefinished HDF 3-Ply Strandwoven Bamboo Flooring

PLEASE READ THOROUGHLY BEFORE BEGINNING INSTALLATION. THESE INSTALLATION INSTRUCTIONS ARE SPECIFICALLY INTENDED FOR USE WITH ECOFUSION 3/8" HDF 3-PLY STRANDWOVEN BAMBOO FLOORING With G2+ PROFILE. GO TO WWW.ECOFUSIONFLOORING.COM FOR OTHER ECOFUSION FLOORING PRODUCTS AND RECOMMENDATIONS. 020813

If you take care to install this flooring correctly, taking all precautions suggested in this guideline, Your ECOfusion floor will give you many years of satisfaction. While it is not necessary to use a professional to install this flooring, a professional can advise you of existing or past conditions that may affect the long term performance of the flooring. This is only a guide and cannot supply all the details you may encounter regarding the installation. Detailed preparation and installation procedures are outlined by the National Wood Flooring Association's Hardwood Flooring Manual (NWFA) 1-800-422-4556 or <http://www.nwfa.org>. ECOfusion cannot be responsible for the installation under any circumstances. Please remember it is the responsibility of the person installing the floor to determine the suitability of the application, materials, and conditions before beginning the installation.

GENERAL PRECAUTIONS, WHICH FORM PART OF WARRANTY CONDITIONS

ECOfusion HDF 3-Ply Strandwoven Bamboo flooring products are quality inspected before packaging and shipping. Nevertheless, a final jobsite inspection of your flooring must be performed for grade, color, finish and quality. Ensure adequate lighting for proper inspection.

Room temperature and humidity of installation should be consistent with normal, year-round living conditions for at least a week before installation. Do not install the floor during periods of "unseasonal weather". Room temperatures maintained within 60°-80°F is recommended for optimum performance. **Please note that a relative humidity range of 35-65% must be maintained to avoid excessive movement of the floor and maintain warranty.** The floor may swell, cup or crown if relative humidity is outside these parameters, and will not be covered under the ECOfusion Warranty. Temperature acclimation of this flooring should be done for 2 days within the area and conditions that it will be installed. Do not store cartons directly on concrete or near outside walls.

PRE-INSTALLATION JOBSITE REQUIREMENTS

Carefully examine the flooring upon receipt and 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. Manufacturer will not 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. Manufacturer is not responsible for flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions.

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, including painting as this will create an artificially high humidity level in the room. Installing onto a wet subfloor may cause permanent damage to the flooring.

Permanent HVAC should be on and operational and maintained between 60-80°F with relative humidity of 35%-55% for a minimum of 14 days prior to delivery, as well as during and after installation of the flooring. When installing over radiant heat, additional restrictions apply – see below. Please note that if the RH is over 60%, or the temperature is higher than 82°F for extended periods of time, the floor may not perform satisfactory.

Store the 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 or close to a wall. This engineered floor DOES 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. Open the boxes carefully to avoid damage in case repackaging is necessary for a return. **Please note that HDF 3-ply strandwoven bamboo is NOT recommended to be glued directly to concrete in below or on-grade installations (We recommend using EcoFusion 9/16" Engineered Strandwoven Bamboo when direct glue-down to concrete that is at or below grade is required).** The HVAC system should be operating normally throughout the acclimation period

EcoFusion HDF 3-Ply Strandwoven Bamboo Flooring is not recommended for installation over radiant heat systems.

PRE-INSTALLATION SUBFLOOR REQUIREMENTS

Acceptable subfloor types:

- Acceptable Panel Subfloors: Truss/joist spacing will determine the minimum acceptable thickness of the panel subflooring:
 - ✓ On truss/joist spacing of 16" (406mm) o/c or less, the industry standard for single-panel subflooring is minimum 1 5/8" (19/32", 15.1mm) CD Exposure 1 Plywood subfloor panels (CD Exposure 1) or 23/32 OSB Exposure 1 subfloor panels, 4' x 8' sheets.
 - ✓ On truss/joist spacing of more than 16", up to 19.2" (488mm) o/c, the standard is minimum 3/4" (23/32", 18.3mm) T&G CD Exposure 1 Plywood subfloor panels, (Exposure 1), 4' x 8' sheets, glued and mechanically fastened, or minimum 3/4" (23/32", 18.3mm) OSB Exposure 1 subfloor panels, 4' x 8' sheets, glued and mechanically fastened. When possible, check the back of the subfloor panel for American Plywood Association (APA) rating.
 - ✓ Truss/joist systems spaced over more than 19.2" (488mm) o/c up to a maximum of 24" (610mm) require minimum 7/8" T&G CD Exposure 1 Plywood subfloor panels, (Exposure 1), 4' x 8' sheets, glued and mechanically fastened, or nominal 1" OSB Exposure 1 subfloor panels, 4' x 8' sheets, glued and mechanically fastened – or two layers of subflooring. Or brace between truss/joists in accordance with the truss/joist manufacturer's recommendations and with local building codes. Some truss/joist systems cannot be cross-braced and still maintain stability.
 - For double-layer subfloors, the first layer should consist of nominal 3/4" (23/32", 18.3mm) CD Exposure 1 Plywood subfloor panels (CDX), 4' x 8' sheets or nominal 3/4" (23/32", 18.3mm) OSB Exposure 1 subfloor panels, 4' x 8' sheets. The second layer should consist of nominal 1/2" (15/32", 11.9mm) CD Exposure 1 plywood subfloor panels, (Exposure 1) 4' x 8' sheets. The 1/2" plywood should be offset by 1/2" panels in each direction to the existing subflooring. The panels may also be laid on a diagonal or perpendicular with 1/8" spacing between sheets. Nail on a 12" minimum grid pattern, using ring-shanked nails or staples.
- Concrete slab - A pre-installation concrete sealer is highly recommended to control vapor emissions
- Existing wood floor - must be smooth, level, well-adhered and, if gluing new flooring, unfinished
- Resilient tile & sheet vinyl well bonded and secure. Floating installation only
- Lightweight concrete (gypcrete) coated with latex primer – Floating installation only

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 2% of wood subfloor moisture content, and concrete must not exceed 3 lbs. per Calcium Chloride Test (test method ASTM 1869-89).
- 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. If necessary, grind high spots down and level low spots with a quality leveling compound. 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.

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

For floating installation, you will need:

- Floating floor underlayment pad with a density rating above 18lbs, such as Eco-Silencer HD (http://www.silencerunderlayment.com/eco-silencer-hd-fof_main.shtml)
- 6-mil polyfilm (if installing on or below grade or if your floating floor pad does not have a vapor barrier)
- Clear waterproof packing tape



CAUTION: WOOD DUST

The International Agency for Research on Cancer has classified wood dust as a nasal carcinogen. Sawing, sanding, and/or machining wood products can produce wood dust that can cause respiratory, eye, and skin irritations.

Wood machining power tools should be equipped with a dust collector to reduce airborne wood dust. Wear an appropriate NIOSH designated dust mask to reduce exposure to airborne wood dust. Avoid contact with eyes and skin by using proper safety glasses and protective clothing. In case of irritation, flush eyes or skin with water for at least 15 minutes. For further technical or installation questions or to request a Product Specification Data Sheet contact the manufacturer.

Attention California Installers & Consumers

WARNING

Installation of this product and any wood product may create wood dust, which is known to the State of California to cause cancer.

GENERAL INSTRUCTIONS – ALL METHODS

Make sure subfloor is tested for moisture first and is properly prepared. Since Bamboo, like 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). **PLEASE NOTE: Bamboo expands and contracts along its length as well as its width, so it is critical to leave expansion space around the entire perimeter of the floor.** 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 25 feet in width or 50 feet in length without adding spacers or compensating for additional movement. **For larger spans, install T-moldings that will allow the flooring to expand and contract normally.**

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 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. Lay a few rows before starting installation to confirm your layout decision and working line.

Work from several open boxes of flooring because this will allow you to select the varying grains & colors and to arrange them in a pleasing pattern. The actual floor may differ in grain and color from the samples used in selecting the product and is not considered a 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 your dealer immediately to arrange a return.

When laying flooring, stagger end joints from row to row by at least 8". Avoid 'H' patterns, where planks just two rows away from each other end in the same location, by starting each row with a plank cut to a random length. 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" 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.

FLOATING INSTALLATION

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.

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

STEP BY STEP INSTALLATION

Fig 1.

First plank, first row. Place a distance 1/2 inch thickness to the left and position the plank against the wall. Later, after 3 rows, you can easily position the flooring against the front wall with distances 3/8" to 1/2".

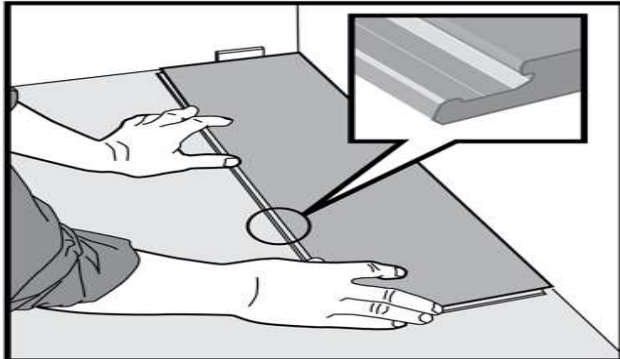


Fig 2.

Second plank, first row. Press the short end of the next floorboard at an angle to the first one, then lay down. Complete the first row.

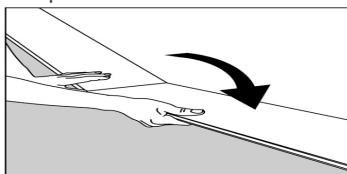


Fig 3.

At the end of the first row, put a distance 3/8" to 1/2" to the wall and the length of the last plank to fit.

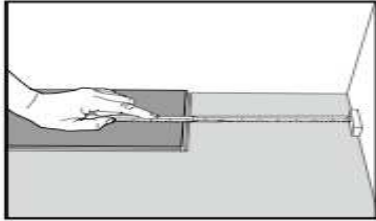


Fig 4.

Cut with a jig saw- décor turned down or with a hand saw with the décor visible.

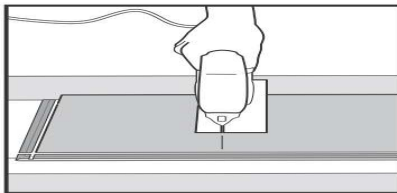


Fig 5.

Second row. First plank min length 3/8" to 1/2". Put a distance against the wall.

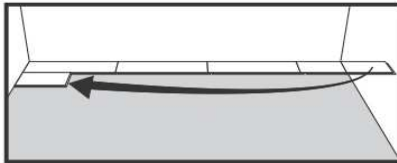


Fig 6.

General. Distance between short ends. Minimum distance between short ends of planks in parallel shall not be less than 2 times.

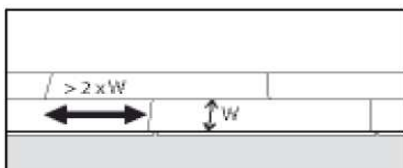


Fig 7.

Place the floor board an angle against the floorboard in the previous row, press forward and fold down at the same time.

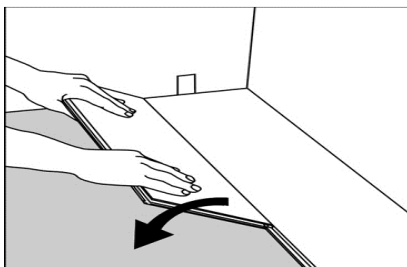


Fig 8.

Second plank second row. Place the short end of the floorboard at an angle against the previous installed floorboard and fold down.

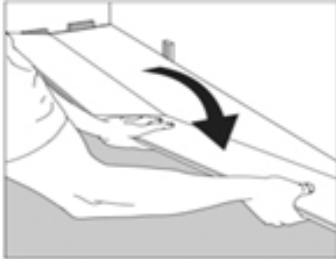


Fig 9.

Lift floorboard and push it against the row in front. Put in down when the floorboards are positioned tightly together.

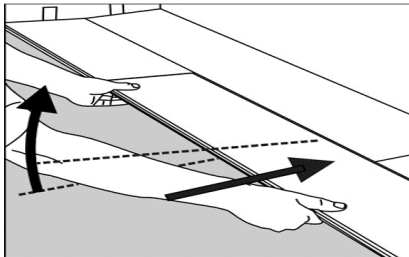


Fig 10.

After 2-3 rows. Adjust the distance to the front wall by placing distances 3/8" to 1/2".

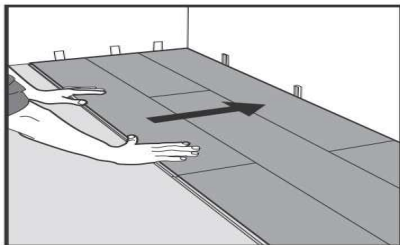


Fig 11.

If the wall is uneven, the floorboards must be adapted to its contours. Mark the floorboards with the contour of the wall. Do not forget to leave a minimum 3/8" to 1/2" space to the wall.

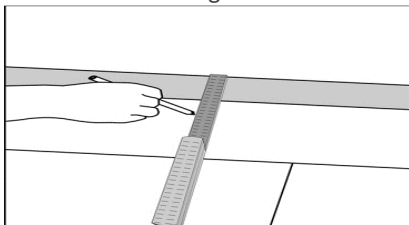


Fig 12.

To remove the first row, lift the floorboard a few centimeters and tap along the joint. Cut the floorboards as required.

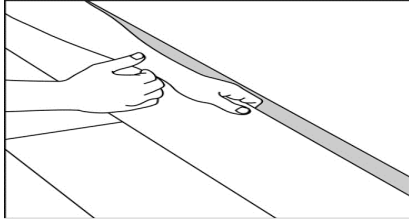


Fig 13.

Reinstall the first row from left to right. Press the boards against the edges of floorboards that are already in position, with the strip first.

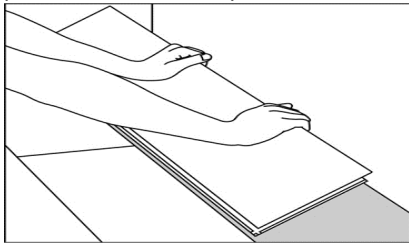
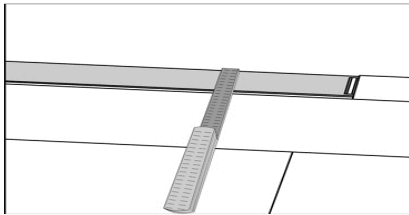


Fig 14.

Last row. Remember distance to wall is 3/8" to 1/2". Tip! Put a spacer before measuring. Cut the panels lengthwise and install.



Disassembling Your floor can very easy be disassembled, which enables replacement during installation and also after installation when it is needed or desired to replace one or several planks or even the whole floor.

Release by angling up

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, footprints, etc.
- Install any transition pieces that may be needed (reducers, T-moldings, nosing, etc.).
- 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. See below under “Top-coating/Re-coating” for specific instructions.

CLEANING AND MAINTENANCE

Prevent Scratches – There is no such thing as a “scratch-proof” wood floor, but following these basic procedures will reduce the likelihood and frequency of scratches:

- Felt padding should be permanently affixed to the legs of all furniture before it is moved into the space.
- Do not allow people to wear spiked heels on the floor, which will damage even the hardest wood floors and finishes.
- Pet claws should be properly trimmed at all times.
- Work boots and shoes that may have pebbles lodged in the soles should be removed prior to entering.

Remove Grit - Care should be taken to prevent dirt, sand and grit from accumulating on the surface of your floor. They will act like sandpaper and abrade the finish. Walk-off mats should be placed inside and out at all exterior exits, and the floor should be swept or vacuumed frequently. All mats or rugs should be cleaned and/or replaced on a regular basis. They should also be moved occasionally to allow natural color changes caused by light to occur evenly in all areas.

Use Proper Cleaning Products - To clean the factory urethane finish it is best to use a quality hardwood floor cleaning solution such as ECOfusion CLEAN Floor Cleaner. To remove hard-to-clean substances such as glue and grime, use ECOfusion SPOTLESS Glue Remover. To help reduce the appearance of surface scratches in the finish, we recommend ECOfusion REFRESH. Floor waxes, oil soaps, and petroleum-based cleaners should not be used under any circumstances.

Avoid Standing Moisture –Never wet-mop your floor, and always clean up spills and standing water as soon as possible. With water or any other cleaning agent, be sure to thoroughly ring out the applicator or mop prior to applying it to the floor. A damp mop is fine as long as the moisture is limited to an amount that will evaporate almost immediately. Moisture that is allowed to seep into the seams between the planks may cause damage to your flooring. Do not allow soiled mats or rugs to stay on the floor as they can trap moisture on the surface.

Top-coating/Re-coating - Periodic recoating in any area will help prolong the life and restore the new appearance of your floor. By recoating the floor at the first signs of wear, you will be able to bring your floor back to new condition with relatively little cost and inconvenience. To top-coat or recoat your floor, lightly screen (abrade) the top surface of the factory finish and then apply Bona Traffic floor finish by Bona (www.bona.com). Bona also offers the Bona Prep system that allows top-coating.