

Eco Forest Bamboo Nail/Staple or Glue Installation Instructions



Read all instructions carefully before starting.

OWNER/INSTALLER RESPONSIBILITY

It is the purchaser's and/or the installer's responsibility to carefully inspect all material for visual defects prior to installation. Boards that are considered imperfect or questionable in any way should be used in hidden areas, cut off to be used as starter boards or finishing boards in a row or not installed. Eco Forest Bamboo is manufactured in accordance with accepted industry standards which permit a defect tolerance not to exceed 5%. The defects may be of any type whether manufactured or natural. If more than 5% of the boards are unusable, do not install and contact the distributor or retailer from which the flooring was purchased.

Do not install defective flooring. Flooring that has been installed is deemed to have been accepted and are not covered under warranty.

JOBSITE CONDITIONS/ACCLIMATION

It is the purchaser's/installer's responsibility to ensure the jobsite conditions and subfloors are environmentally and structurally acceptable prior to installation. Subfloors must be clean, flat (3/16" in 10 feet straight line or 1/8" in a 6 foot radius) and secure and meet the minimum standards set forth.

The manufacturer shall not have any responsibility for failures or deficiencies of the Eco Forest Bamboo flooring resulting from or related to the sub floor, environmental conditions or improper storage and handling. Prior to delivering the flooring to the jobsite, the site conditions must be at '**normal living conditions**' and maintained **between 35% - 55% relative humidity and 15°C - 26°C. (59°F-79°F)**. Failure to maintain temperature and humidity levels consistently will void the warranty. The jobsite must be fully enclosed and the exterior finishing complete. Gutters and downspouts must be in place and all exterior grading should divert water away from the foundation prior to installation. The HVAC system should be on and fully operational for a minimum of seven days prior to installation. All interior wet trades (i.e. paint, drywall, concrete, tiling etc.) should be completed prior to installation. Subfloor must be dry year-round. Moisture content of wood subfloor must not exceed 12%; concrete moisture content must not exceed 3lbs/1000SF in 24 hours as tested using the calcium chloride method (ASTM 1869).

THE FOLLOWING CONSIDERATIONS APPLY TO INSTALLATION OF ANY ECO FOREST BAMBOO FLOOR

- Do not install the floor under anchored furniture or fixtures such as cabinets. This would include such items as kitchen cabinets, refrigerators or other heavy appliances, doors that are anchored to the floor, transitions, baseboards and quarter round that are permanently attached to the floor, as all of these can lock the floor and prevent it from proper expansion and contraction requirements.
- Any Piping, pillars or bolts must have a ½ inch or 12mm expansion around them in order for the floor to expand and contract normally.
- UV sunlight will enhance the floor by changing the appearance to a lighter or darker shade. Periodically rearranging furniture and moving area rugs will aid in the floor aging evenly throughout the lifetime of the floor.
- Protective felt pads are recommended for all furniture that will rest directly on the floor.
- We do not endorse the use of hot steam or wet mopping an Eco Forest Bamboo floor of any substrate or finish.
- Keep pet and animal nails trimmed to avoid scratching the floor.
- Entry mats at exterior doors is strongly recommended. This will prevent dirt, sand or grit from scratching the floor. Do not use plastic or foam backed rugs or rug liners. They can damage the finish of the floor. To prevent rugs moving, use an rug underlayment approved for Urethane or Aluminum Oxide finished floors.
- Use floor protectors for wide or heavy loads such as Pianos. Please follow all of the manufacturer's instructions for weight distribution in regards to the caster chosen to spread the impact to the flooring.
- Nail, Staple, Cleat or Glue down installations are not designed for below grade (basement) installation. Installation in a Basement will void the warranty. Consider the use of a floating floor from your Eco Forest retailer.

RADIANT HEATING SYSTEMS

Eco Forest Bamboo flooring can be used over heated concrete slabs or other 'under- floor' heating systems. Please consult the manufacturer of the heating system and follow all guidelines. Specific exceptions of heated flooring systems must be followed or the warranty will be considered void.

- Relative Humidity must be maintained between 35-55%
- Subfloor moisture should never vary greater or less than 3% from the flooring moisture content
- Concrete that has been cured for 45 days, 5/8" Plywood or ¾" oriented strand (OSB) boards are recommended for subfloor materials
- Radiant heat system must be turned on and in operation for at least 7 days before installation.
- The system must be turned down to 65°F and maintained 36 hours prior to installation.
- After installation, bring the heating system back up to normal operating temperature over a period of 5-7days.
- Floor should never be heated over 80°F.

SAFETY CAUTION: USE SAFETY GLASSES AND GLOVES WHEN CUTTING THIS PRODUCT. DURING THE CUTTING PROCESS, BAMBOO MAY CREATE DUST; BE SURE TO INSTALL IN A WELL-VENTILATED AREA.

GETTING STARTED

- Ensure that subfloors are clean, flat and secure and meet minimum requirements as set forth.
- Undercut door casings 1.5mm or 1/16 inch higher than the thickness of the floor and underlay being installed.
- Adhesives must be properly acclimated to job site conditions for minimum of 36 hours or within strict tolerance of the manufacturer of the adhesives recommendations.
 - Follow all of the adhesive manufacturers installation instructions for trowel thickness, spreading applications and pre and post installation requirements. Any violation of the manufacturers instructions will void the warranty of the floor.
 - The use of Urethane/Latex based adhesives are required. It is strongly recommended to use a multi compound glue that contains a Moisture barricade, Crack isolation membrane and Sound isolation for best installation results. If the adhesive is not a Urethane/Latex adhesive, the warranty will be considered void.
- Dry lay out several rows, staggering the end joints a minimum of 200mm or 8 inches while avoiding 'step' or 'H' patterns. To achieve a random appearance throughout the floor, **it is required to work from several cartons at a time.**
- Do not install any boards that have a visual defect or are deemed questionable as this constitutes acceptance once installed.
- For spans up to 10M or 32 ft. in length, maintain a 10mm or 3/8 in. expansion space along each wall and against all fixed obstructions. For spans exceeding 10M or 32 feet in length increase the expansion gap approximately 1/16 in. for every additional 10 ft.
- Follow addendum 1 for nail, cleat or staple size recommendations for installation. It is required that you test the pressure of the device in order to achieve a full imbedding of the nail, cleat or staple into the subfloor and will retain the boards position after installation.
 - For the best nailing results, use an 18 or 20 gage nail that is at least 1½" in length. These will perform the best as they will not damage the tongue and allow for natural expansion and contraction of the floor as it goes through changes of seasons. Staples have too much holding power and will restrict the necessary movement of the flooring as it goes through these same changes.
 - Sub-Floor thickness requirements for installation are listed in Addendum 2.
- For Nail, Cleat or Staple installations a minimum of 15lb felt paper is required. Do not overlap the seams. It is recommended to use an underlayment designed for a floating floor in order to prevent both moisture and aid in dampening of sound transmissions.

INSTALLING THE FLOOR

DO NOT BEGIN INSTALLATION UNTIL THE ECO FOREST BAMBOO FLOOR HAS BEEN ACCLIMATED TO THE SITE CONDITIONS AS NOTATED UNDER THE JOBSITE CONDITIONS/ACCLIMATION SECTION ABOVE

Step 1. Establish a starting point - preferably the longest wall ensuring that the appearance is straight. Align a row of planks along the starter wall with the groove facing away from the wall. Place 10mm or 3/8 in. spacers between the wall and the first row to maintain the required gap. The first row must be completely straight, any imperfection will be multiplied as you work through the room.

Step 2. Cut a board half the length to stagger the end joints. Drop the tongue into the groove and push the board down securing it tight into the other board. Working from left to right insert the next board in and drop the end of the board until the end joint is secure. Be careful not to cause any damage to the face or the tongue of the board.

Step 3. Continue installation one row at a time until complete.

- Rack out (dry lay) several rows ahead of the installation row to inspect for random appearance and to insure the acceptability of each board prior to installation.
- Maintain a minimum of 200mm or 8 inches between board ends. Stagger the boards and avoid H installation patterns as represented in Addendum 3.
- It may be necessary to 'rip' (cut lengthwise) the final row in order to maintain the required 10mm or 3/8 in. expansion gap.
- In places where the floor may be subjected to heavier traffic, the boards may be glued by applying a small continuous bead of glue to the bottom edge of the groove. Clean up any excess glue that may get onto the face of the boards.
- **Do not install any boards that may be questionable or have a visual defect.**
- **For Nail, Cleat or Staple installation the fasteners should be no more than 10" apart and every board should have a minimum of 3 fasteners applied regardless of length or gap. Fasteners must be within 4" of each end of the board.**
- **For Glue down installation, follow the manufacturers instructions for spread in order to obtain optimal adhesion levels. Periodically check boards for adhesion and bonding.**
- **The use of a rubber mallet or rubber mallet and tapping block is strongly recommended for the maneuvering of boards during installation. It is best to strike the face of the board with the rubber mallet during installation to avoid damage to the tongue or improper spreading of the adhesive during an adhesive based installation.**
- **After a glue down installation it is recommended to use Blue Painters tape across the surface of the boards to prevent separation during the curing phase of the adhesive.**

Step 4. Installation of Transition Moldings should be done after the installation of all of the rows is complete in a room. Consider during the installation the space the Transition molding will occupy and allow for expansion of 10mm or 3/8 in. under the transition molding as well.

FOR ADDITIONAL INFORMATION PLEASE CONSULT THE NWFA WEBSITE OR CONSULT AN NWFA CERTIFIED INSTALLER

MILLING DEFECTS

Up to 5% of each SQM or 5% of each 10SQFT can contain wood below grade and/or with milling defects. During installation, occasional knots and defects will be encountered including machining snipes-wanes, splits and areas on the face that will not clear up. Simply cross-cut out the defects and use the remaining sections to start or finish a row. If your installer discovers a recurring problem or determines the waste to be excessive, stop the installation immediately and advise the retailer. **Do not install defective flooring. Flooring that has been installed is deemed to be acceptable.** The manufacturer shall not be responsible for costs associated with installing and or replacing of flooring installed with obvious defects.

COLOR AND GRAIN VARIATION

Bamboo is a natural material. No two pieces are the same. No two trees are the same. The manufacturer is not responsible for claims arising from flooring that possesses a greater range of grain/color variation. Gloss reduction is not considered surface wear.

MAINTENANCE AND CARE

- Use a moist cloth to clean up spills as they happen. Never allow liquids of any kind to stay on the floor until evaporation.
- For residues such as oil, lipstick, crayons, food residue or oils apply mineral spirits to a clean cloth and wipe the area. After cleaning the residue thoroughly, use a separate cloth that has been moistened with water to clean the area and ensure all mineral spirits have been removed.
- Do not use a wet mop on the floor with any soap, oil detergent or liquid cleaning materials designed for hard surface flooring. This method exposes the floor to excessive moisture and can cause warping, delamination and joint separation. This method will void the warranty.
- Do not use steel wool, abrasive cleaners that utilize ammonia in the chemical composition or other chlorinated cleaners. Avoid buffing and polishing as well. This will cause hot spots and will void the warranty.
- Use approved Hardwood Floor, Bamboo Floor or Laminate floor cleaning products. These items can be found at your flooring retailer and most stores that sell cleaning supplies and materials. Follow all manufacturers directions.

Addendum 1

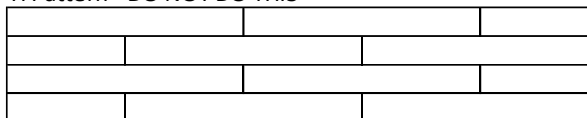
Board Sizes 3/8" (10mm), 1/2" (12mm), 5/8" (14mm) and 9/16" (15mm)	
Type	Size Requirements
Pneumatic Nailer	16 gage cleats 1 1/2" to 2"
Pneumatic Stapler	15 1/2 gage staples 1 1/2" to 2"
Cleat Nailer	18-20 gage cleat nails 1/2" long
Cleat Stapler	15 gage staples 1/2" Wide & 1 1/2" long

Addendum 2

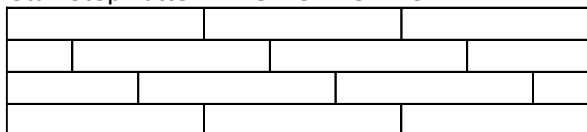
Joist System Spacing (inches on center)	Minimum Sub-Floor Thickness
12"	5/8"
12" to 16"	3/4"
16" to 19"	7/8"
19" to 24"	1 1/8"

Addendum 3

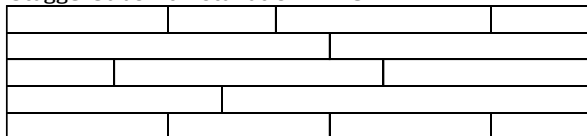
H Pattern - DO NOT DO THIS



Stair Step Pattern - DO NOT DO THIS



Staggered Joint Installation - PROPER PATTERN



Recommended Tools:

- Rubber Mallet
- Trowel for Adhesive (follow manufacturers instructions)
- Chalk Line
- Adhesive
- Wood or Plastic Expansion Spacers
- Circular Saw
- Miter Saw
- Table Saw
- Pneumatic Nailer, Stapler and/or Cleat Nailer/Stapler
- Fasteners designed for Device (when purchasing assume every 8 inches will need a fastener +15% for short boards)
- Hammer
- Tape Measure
- Level
- Tapping Block
- Touch Up Marker
- Floor Protection such as felt pads
- Blue Painters tape (glue down installation)
- 100 lbs. Roller
- Wood Filler

WARRANTY INFORMATION

ENGINEERED ECO FOREST BAMBOO FLOORING CARRIES A LIMITED 35 YEAR RESIDENTIAL WARRANTY

SOLID STRAND ECO FOREST BAMBOO FLOORING CARRIES A LIMITED 40 YEAR RESIDENTIAL WARRANTY

Wear, Staining and Fading

ECO FOREST™ warrants to the original purchaser that the flooring will be free of manufacturing defects, and the surface will not wear through*, stain or fade from sunlight or artificial light for 35 years (Eco Forest Engineered Bamboo Flooring) or 40 years (Eco Forest Solid Strand Bamboo Flooring) after the date of purchase of the product when used under normal indoor residential traffic conditions.

*Wear-through is defined as total loss of pattern in a minimum of 2 square inch area, readily visible from a distance of 6 feet. Scratches and loss of gloss are not considered as wear-through.

If the product wears through, stains or fades, Eco Forest will at its option replace or refund the portion of the floor in question as covered under this warranty. This warranty does not cover labor, unless professionally installed, nor any other incidental expenses incurred as a result of covered defect.

Should the original floor be discontinued, Eco Forest will replace the defective material with a Eco Forest floor of equal value.

For the 35 or 40 year warranty, if a claim is made and approved after 1 year of purchase, Eco Forest will pay a pro-rated percentage of material cost, determined by the number of years from the date of purchase and the remaining period. For example, if the claim is made 14 years after the original purchase, then Eco-Forest will pay 60% (21/35th) of the material. If professionally installed, reasonable labor may be paid for claims within 36 months from the date of purchase. No labor will be paid after 36 months.

This warranty is exclusive to the original purchaser and in lieu of all other warranties, expressed or implied, and all other remedies, guarantees or liabilities arising by law or otherwise.

Warranty Exclusions

The owner/installer must inspect the color, finish and quality of the flooring prior to installation. Eco Forest is not responsible for labor costs incurred for flooring installed with visible defects. Isolated floor squeaks is not a defect and are not covered under warranty. This warranty does not cover damage caused by improper installation, negligence, water erosion, abrasion, extreme heat or temperature, cleaning care or maintenance contrary to written instructions provided by Eco Forest, physical abuse or misuse, accidents causing indentation, scratching, impact, cutting, freight damage, alteration, chemical damage or any wear or damage caused by acts of God. This warranty does not apply if product is installed in areas where condensation repeatedly occurs, or any other areas contrary to the recommendations of Eco Forest, including, but not limited to, exterior applications, unstable/improper subfloors, areas exposed to excessive topical and ground moisture. Protective pads should be used under furniture legs, and mats should be used under any chairs with rolling casters. Pet urine must be wiped up and not allowed to dry.

Eco Forest excludes and will not pay incidental or consequential damages under this warranty. By this we mean any loss, expense, or damages other than to the flooring itself that may result from a defect in the flooring. No implied warranties extend beyond the term of this written warranty

Eco Forest assumes no liability for incidental or consequential damages. Some states do not allow the exclusion of limitation for incidental or consequential damages. In that case, these exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state. Eco Forest reserves the right to have a representative inspect the floor and remove samples for additional evaluation if needed. No installer, retailer, agent or employee of Eco Forest has the authority to increase or alter the obligations or limitations of this warranty.

For Warranty Service

To make a claim, you may:

- 1) Contact your Eco Forest retailer no later than 30 days after the discovery of the defect. Proof of purchase is required. Your retailer will assist in coordinating a resolution of your claim. OR:
- 2) Contract a certified independent inspector (www.NWFA.org). The inspector should submit a copy of the inspection report directly to your Eco Forest retailer for consideration. Note that while independent inspections are credible and usually reliable, the final decision rests solely with Eco Forest. Only NWFA inspectors or other certified inspectors approved in writing, in advance by Eco Forest will be considered.

IMPORTANT HEALTH NOTICE FOR MINNESOTA RESIDENTS ONLY:

THESE BUILDING MATERIALS EMIT FORMALDEHYDE. EYE, NOSE, AND THROAT IRRITATION, HEADACHE, NAUSEA AND A VARIETY OF ASTHMA-LIKE SYMPTOMS, INCLUDING SHORTNESS OF BREATH, HAVE BEEN REPORTED AS A RESULT OF FORMALDEHYDE EXPOSURE. ELDERLY PERSONS AND YOUNG CHILDREN, AS WELL AS ANYONE WITH A HISTORY OF ASTHMA, ALLERGIES, OR LUNG PROBLEMS, MAY BE AT GREATER RISK. RESEARCH IS CONTINUING ON THE POSSIBLE LONG-TERM EFFECTS OF EXPOSURE TO FORMALDEHYDE. REDUCED VENTILATION MAY ALLOW FORMALDEHYDE AND OTHER CONTAMINANTS TO ACCUMULATE IN THE INDOOR AIR. HIGH INDOOR TEMPERATURES AND HUMIDITY RAISE FORMALDEHYDE LEVELS. WHEN A HOME IS TO BE LOCATED IN AREAS SUBJECT TO EXTREME SUMMER TEMPERATURES, AN AIR-CONDITIONING SYSTEM CAN BE USED TO CONTROL INDOOR TEMPERATURE LEVELS. OTHER MEANS OF CONTROLLED MECHANICAL VENTILATION CAN BE USED TO REDUCE LEVELS OF FORMALDEHYDE AND OTHER INDOOR AIR CONTAMINANTS. IF YOU HAVE ANY QUESTIONS REGARDING THE HEALTH EFFECTS OF FORMALDEHYDE, CONSULT YOUR DOCTOR OR LOCAL HEALTH DEPARTMENT.