

STRAND WOVEN BAMBOO INSTALLATION GUIDE

Please keep in mind that all hardwood flooring will scratch, dent, and change color over time. Therefore, you will need to decide if hardwood is suitable for your home or lifestyle. Because hardwood is a product of nature, you may experience shading variations. There will be shading variations within the cartons, and when installing, you should work out of several cartons, and mix them in a natural random shading pattern that is pleasing to your eye. If you find very dark or very light boards in the carton, that are not consistent with the other flooring, put them aside. These should be used in areas like closets or other areas that are not readily visible. It is the responsibility of the person installing the floor to inspect the flooring for defects and finish issues prior to installation. Should an individual piece be doubtful as to quality, do not install. Installation of the boards constitute acceptance. All wood flooring will expand and contract. Small gaps may appear between the boards during low humidity conditions, and are considered normal (nail only). The use of stains, fillers, and putty sticks for touch-up is accepted as part of the normal installation procedure. Scratches, dents, shading, and color changes due to oxidation or UV exposure are also considered normal for all hardwood flooring. They are not covered by our Warranty, as we cannot control the conditions under which they can occur.

PLEASE READ BEFORE INSTALLING

Tips for a successful installation

1. Read all instructions/warranty first: Get all your questions answered before you start installing the floor by calling 1-877-631-2845.
2. Amount of flooring needed: Buy enough flooring to equal at least 105% of the square footage of your room, for waste allowance.
3. Acclimation is required for this product, it is always best to store the material in the area that it will be installed, under normal living conditions for a minimum 7-10 days. Normal living conditions can be defined as having and maintaining a temperature between 60° - 80° and relative humidity (air) between 40% - 55%. It is recommended that humidifier/de-humidifier be used to maintain relative humidity. Our flooring is kiln dried and leaves the factory at 8% ± 2%. Always avoid installing the floor under very dry or very humid conditions, it is best to install when conditions are about the same as it will be most of the year. Also, when installing over radiant heat flooring, be sure to contact the system manufacturer to determine that it is compatible with hardwood flooring, then carefully follow the guideline for radiant heat and floating installation.
4. Be aware of moisture problems: Moisture can ruin any floor. Always look out for potential moisture problems, especially in basements and crawl spaces. Dealing with moisture before installation: If you have or suspect moisture problems, don't install your floor yet. Contact a professional flooring installer to improve subfloor to an acceptable level of moisture.
5. Checking for moisture: Use a Delmhorst J-4 (or equivalent) moisture meter for wood, or a Tramex Concrete Moisture Encounter meter (or equivalent) for concrete. You can also use a calcium chloride test for concrete. If the Tramex moisture meter is more than 4.5, or the calcium chloride test is more than 3 pounds per 1000 square feet, you will need to consult with a professional to correct the problem. Always check for moisture in at least several areas of the subfloor, as well as the flooring. The wood substrate should not be more than 12% moisture content. The moisture difference between the subfloor and the hardwood flooring must be no more than 4%.
6. To ensure a clean cut without any splintering, tape the area to be cut and/or use a fine-toothed circular saw with a carbide blade. Generally this is not necessary as it will be covered.
7. Place all nails/staples at 4 – 6 inch intervals along the tongue of the boards, and not closer than 2" from the end.

8. Leave expansion gaps: Leave a 3/8" – 1/2" (nail only) space at each wall, beneath door jambs, and at transitions for expansion of flooring. Base molding and transitions will cover this gap. Note: For floating installation be sure to read "Floating Floor" section.

9. Protect your floor from scratches; use felt pads under chairs & tables. Also, if your chairs or other furniture have rolling castors, you may need to replace with softer rubber castors. Never push/drag furniture or appliances across the floor as they can damage the finish. Please remember that scratches and dents are not covered by warranty.

NOT A PROBLEM:

Bending or bowing of the boards in length direction: These boards might be a little harder to install, but will NOT be a problem after they are installed, or in the future. They will lay flat like the others.

Color Variations will occur as bamboo is a natural product; you will need to work out of several boxes to ensure a pleasing shading mix.

CAUTION: WOOD DUST

Drilling, sawing, sanding or machining wood products produces wood dust. While wood products are not hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200), the International Agency for Research on Cancer (IARC) and the State of California have classified wood dust as a human carcinogen.

PROPOSITION 65 WARNING: Drilling, sawing, sanding or machining wood products generates wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or otherwise determine what safeguards or personal protection equipment may be necessary to prevent inhaling wood dust.

Precautionary Measures: Airborne wood dust can cause respiratory, skin, and eye irritation. Power tools should be equipped with a dust collector. Use an appropriate NIOSH designated dust mask. Avoid dust contact with skin and eyes.

First Aid Measures in case of irritations: In case of irritation flush eyes with water. If needed seek medical attention. If dermatitis occurs, seek medical attention.

INSTALLATION GUIDELINE

Responsibilities Of The Owner / Installer

If you take care to install this flooring correctly, taking all precautions suggested in this guideline, the flooring will give you many years of satisfaction. Please note that it is always best to have your floor installed by a professional, even though it is possible to install yourself. This is only a guideline and cannot supply all the details you may encounter regarding the installation of this flooring. Detailed preparation and installation procedures are outlined by the National Wood Flooring Association's Hardwood Flooring Manual (NWFA) 1-800-422-4556 or www.nwfa.org. We cannot be responsible for the installation under any circumstances.

Pre- Installation Procedures/Acclimation

Please handle, transport, and unload the flooring with care. Flooring should be stored in a dry place, with at least a four-inch air space under cartons. Flooring should not be delivered until the building has been closed in with windows and doors in place, and until

cement work, plastering, painting, and all other materials are thoroughly dry. It is best that the material be stored in the area in which it will be installed. In addition, the heating or cooling system should be operating and controlled at 60° – 80° for at least 72 hours before, during and maintained after installing. Do not install in areas that are subject to extreme seasonal temperature/humidity changes where you cannot control the environmental conditions. As with all hardwood flooring, it is best if the humidity is maintained year-round to help prevent small gaps from appearing when humidity levels are very low. Precautions should be taken if you are installing in very dry or very humid conditions. In some cases it will be necessary to use humidifiers or dehumidifiers to maintain the best environment for wood flooring. Please consult a professional for guidance in your area.

Moisture Test:

Before installing over concrete or a wooden subfloor, check it for moisture in several areas using a wood or concrete moisture meter. You may also test concrete floors using the calcium chloride test. Also test the flooring materials. The moisture difference between the subfloor and the hardwood flooring must be no more than 4%.

Before installation, lay out the flooring where it is to be installed (that is, lay the boards down roughly as they will appear after installation), taking care to mix it in a shading pattern pleasing to your eye. Installer should inspect each plank at this time for finish and quality. Once installed, it becomes the responsibility of the installer/homeowner. Normally you will want to start your installation along the longest outside wall, and it is best if your flooring is installed perpendicular (across) to the floor joists. If possible, you will want to orientate the boards with the major source of light (windows) so that light is shining down the length of the boards, rather than across the boards. Remember that all natural flooring comes in a range of colors and shades. Our quality control procedures at the factory ensure that very few, if any defective boards are delivered to the consumer. Remove baseboards and undercut door jambs to insure a quality installation.

Recommended Areas

This flooring can be installed on, above, or below grade installation. On grade is at soil level, above grade is above the soil level, and below grade is lower than soil level (this includes all basements, including daylight basements). When installing below grade, you must use the floating method only. Wood flooring should not be installed in wet areas such as bathrooms (with tub/shower) or mud rooms.

Crawl Space Ventilation

Proper air circulation is important to prevent moisture build up, especially in homes with a crawl space. Vents should be open year round. Check to make sure that there is no standing water or moisture at the soil level. If moisture is present, soil should be covered with 6 mil polyethylene to prevent moisture from migrating into the wood flooring.

Acceptable Subfloors

The subfloors must be on or above grade & structurally sound. Hardwood flooring can be installed over the following subfloors:

- Existing wood floors
- Plywood ($\frac{3}{4}$ " thick)
- Sheathing grade
- Oriented Strand Board (OSB - at least $\frac{3}{4}$ " thick underlayment grade)
- Vinyl tile
- Concrete floors (direct floating)

DO NOT INSTALL DIRECTLY OVER PARTICLE BOARD, WAFERBOARD, PRESSED WOOD, OR FIBER BOARD, except when installing with an adhesive or floating installation system.

Subfloor Preparation

The subfloor must be structurally sound and checked for moisture content. Movement and squeaks should be well fastened with ring nails or screws to the floor joists. The subfloor must be clean and free of paint, wax, oil, and other debris. In addition it must be flat and level within 3/16" inside a 10' radius. High spots must be sanded flat and low spots must be filled with a leveling compound recommended by your dealer. On old or uneven wood floors, apply 1/4" - 5/8" plywood and ring nail or screw every 6" to avoid squeaking (it is also a good idea to glue the panels with a construction adhesive).

Radiant Heat Flooring

This application must be installed using the floating installation system over radiant heat subfloors. The system should be operational for at least 7 days before beginning installation. Turn off heat to allow subfloor to cool down to room temperature 3-4 hours before beginning the installation. After the installation is completed, turn on the radiant heat immediately, and gradually return to normal levels. The finished floor surface must not exceed 80° F (29° C) for the life of the floor. Because radiant heat creates a dry heat that can lower interior humidity levels, it may be necessary to add a humidifier to maintain the humidity level between 40-55% to prevent damage to the hardwood floor. Please be sure to consult with the radiant heat system manufacturer to ensure that the system is compatible with hardwood flooring.

For Creating a Random Effect

To avoid creating a joint pattern in the floor, it is necessary to begin installation using starter boards. You can use any size of the boards to begin the first row. You will then need to start the next row with a different size board being sure to keep the end joints at least 6 - 8 inches apart. Cuts made at the opposite wall can then be used for starter boards, so as to avoid a pattern. If necessary, use pull straps (floating method) at 3 ft. intervals to hold the boards firmly together, or use blue painters tape. Be sure to allow at least a 3/8" – 1/2" (nail only) expansion gap around perimeter.

Please keep in mind that tools left on the finished floor during installation will more than likely scratch the floor. It is also important that debris be removed from the finished areas immediately, and that all persons who might walk on the floor before it is finished should clean the bottom of their shoes. The more traffic you have on the floor before the installation is completed, the more likely it can be damaged.

For Adhesive Installation

There are many suitable adhesives that may be used, if you are not a professional installer, consult with your local flooring dealer for recommendations for the proper adhesive for hardwood installation. You will need to use a urethane adhesive. Do not use water-based adhesives. In addition to the adhesive, many manufacturers offer moisture barrier products that should always be used over concrete, be sure to contact manufacturer of the adhesive for proper use. Use a chalk line and leave at least a 3/8" space (smaller rooms) along the wall for expansion. Start with only a few rows, be sure to align the boards perfectly, and then allow it to set until the boards will not move when adding additional rows. Every now and then, check to see if you are getting a good transfer of the adhesive to the back of the boards. Do not spread more adhesive than can be covered within 30-45 minutes. Walk on each row as you are installing to ensure adhesive transfer and adhesion to the back of hardwood boards. This will help insure that the boards are not "bridging" across low spots in the subfloor. It is very important that the boards be firmly attached to the subfloor. Be sure to clean up any adhesive on the surface immediately, then buff off any remaining residue with a soft cloth. Once it dries, it may be very difficult to remove and damage the finish. Always follow adhesive manufacturers' instructions using their suggested adhesive and installation instructions for their adhesive warranty to be in effect.

NOTE: WE STRONGLY RECOMMEND THE USE OF A MOISTURE BARRIER WHICH IS MANUFACTURED BY THE ADHESIVE MANUFACTURER, OR IS PART OF THE ADHESIVE (2 in 1). PLEASE CONTACT BUILDIRECT FOR RECOMMENDATIONS.

For Nail/Staple Installation

If you are not a professional flooring installer, you will need to rent a special nailer for hardwood flooring. This tool will allow you to nail/staple the floor so that they will not show on the finished floor. Be sure to learn how to adjust the nailer so as not to damage the tongue. Also, be sure that the nailer is designed for or can be adjusted or shimmed for 8mm flooring. You will need to use 18 gauge 1" nails/staples for this application, preferably with a 1/4" crown. Nails/staples should be placed about 4 – 6 inches apart, and not closer than 2 inches from the end of the plank. The first and last rows will generally need to be nailed by hand next to the wall, as the nailer will not work in these areas. Pre-drill for 6d finish nails, counter sink, and fill the nail holes with matching putty. Be sure not to place nails too close to the edge of boards so as to prevent splitting. Generally it is not necessary to use a moisture barrier over wood subfloors. If you prefer, you can use roofing felt as with any hardwood flooring. Remember to leave at least 3/8" – 1/2" expansion gap around the perimeter.

NOTE: Splitting of the tongues is a problem normally related to the nailer, not the flooring. If the pressure is adjusted properly; and the nailer is designed or can be adjusted (shimmed) for a 8mm floor so that the nail/staple is entering in the proper place, at the proper angle; and if you are still splitting the tongue, you may need to go to a smaller gauge nail/staple. Nailers such as the Stanley Bostich LHF97125-2 – 20, Stanley Bostich SX150-BHF-2 – 18, Powernail 200/250 (fitted with C-1 Adapter Pad, no shims), & Senco SLS20HF and are adjustable and do not rely on shimming.

For Floating Installation

While it is not necessarily difficult to install as a floating floor, you may want to consider having a professional install by this method. Bare concrete floors require a moisture barrier of at least a 6 mil polyethylene film with the sheets overlapping 6" and taped to prevent moisture migrating to the wood flooring. Use 1/8" foam padding (or other underlayment) over the moisture barrier as recommended by your dealer. You may choose to use a 2 in 1 type underlayment (moisture barrier & padding). You can also install over sound deadening underlayments with this method. Apply a bead of elasticized PVAc glue that is D2 compliant (such as Titebond 2104 or equivalent), inside the upper groove on both the long and short side of the boards that will be joined to the existing boards. Use a tapping block if necessary to gently tap the boards into place, and then use installation straps/clamps if necessary, every 3 feet to ensure a tight fit. Be sure not to adjust straps/clamps too tight as this could create a bow in the floor. A tapping block can be made with a 6" piece of scrap hardwood flooring. Do not tap on the tongue or groove directly, as you will damage the floor. Important: Be sure to immediately remove any adhesive from the flooring surface as you are installing, then buff any residue with a soft cloth. If the adhesive is allowed to dry, it will become much more difficult to remove or damage the finish.

Important Note: Floating floors will expand/contract more than other floors; if you install in dry conditions the floor can be expected to grow more, and it will shrink more when installing in high humidity conditions. Generally speaking, humidity is much lower in the winter due to heating. The best and easiest solution is to use a straight base set 5/8 inch (15.88mm) above the subfloor combined with quarter round or base shoe (available through BuildDirect), then cut the boards to the outer edge (or slightly under) of the straight wall base and add quarter round or base shoe. Another option would be to undercut the drywall (or wallboard) 5/8 inch (15.88mm) above the subfloor; this is best done with an undercut saw or oscillating cutting tool; then cut the flooring even with the outer edge of the drywall, and add wall base, quarter round, or base shoe. If you need help in understanding this process, please call for technical assistance at 1-877-631-2845..

The maximum room size without a transition is 26 feet (7.93m) wide across the width of the boards and 33 feet (10.06m) long with the length of the boards; you will need to break the area(s) wider or longer than these dimensions into sections using a T-molding. Note: T-molding must be used in all door openings (directly beneath the door), hallways, and to separate rooms with archways or other openings. Also, be sure to undercut 1 inch deep (25.4mm) under the frame of the doors so the floor will have equal room for expansion/contraction. This can be done with an undercut or door-jamb saw (height of flooring over underlayment); another method would be to place a piece of flooring over the underlayment, and use as a guide for a hand saw.

Note: Floating floors cannot have anything which will interfere with the normal expansion/contraction due to changes in the indoor environment.

Finishing The Job

Inspect your work, as it will cost you more if you have to come back to do a repair later. Replace original baseboards, or install matching hardwood baseboard. Install matching transitions as needed or recommended by your dealer or installer. It is not recommended or necessary to seal this floor after installation. Protect your floor from scratches by using felt pads on chair legs or furniture feet. Plastic rollers/castors can damage your flooring; if necessary try to replace with softer rubber wheels/castors. When moving heavy items like refrigerators, use at least two sheets of 1/4" masonite or plywood while moving (sliding the appliance from one sheet to the next, being careful that they do not move) to protect the flooring against scratching and denting.

Congratulations!

You have just installed an environmentally friendly, beautiful, and elegant bamboo floor!