

# *Bamboo Flooring Hawaii, LLC*

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# *Bamboo Flooring Hawaii, LLC*

## **BAMBOO INSTALLATION & MAINTENANCE INSTRUCTIONS (4 Pages)**

### **PLEASE READ ENTIRE CONTENTS BEFORE INSTALLING**

**STOP:** PLEASE CAREFULLY EXAMINE FLOORING FOR COLOR, FINISH, QUALITY AND STYLE BEFORE INSTALLING. IF THIS MATERIAL IS NOT ACCEPTABLE, CONTACT YOUR REPRESENTATIVE IMMEDIATELY. We will not assume responsibility for installation/removal costs after this material has been permanently installed. Allow the bamboo to acclimate for 7-10 days before installation.

### **RESPONSIBILITY OF THE OWNER / PROFESSIONAL INSTALLER**

Bamboo floors are a product of nature, and therefore, are not a perfect material. Bamboo Flooring Hawaii, LLC's flooring is manufactured to comply with accepted industry standards, which permits a grading variance not to exceed industry standards for non-select flooring. The installer/owner of our bamboo floor is responsible for the final inspection as far as the grade, manufacture, and the factory finish. Reasonable selectivity must be used, and pieces with glaring defects, whatever the cause, should be held out or cut off. The use of filler or putty during installation to enhance the appearance of the floor is an industry-accepted procedure. Five to ten-percent waste must be added to the actual footage needed as an allowance for cutting and grading.

If an individual piece is doubtful as to the grade, manufacture, or finish, the installer should not use the piece. If a piece is not used due to this, Bamboo Flooring Hawaii, LLC's liability is limited to replacing defective material only, labor costs not included. If proper procedures are not followed, any guarantee that may cover this product may be jeopardized. As with any hardwood flooring, it is highly advised that a professional do the installation.

### **RECOMMENDED AREAS**

Bamboo Flooring Hawaii, LLC's flooring is recommended for on or above grade installation only.

### **STORAGE AND HANDLING**

Please handle, transport, and unload the flooring with care. The flooring should be stored in a dry place, with at least a four-inch air space under cartons. The flooring should only be delivered after the building has been closed in with windows and doors in place, and after cement work, plastering and all other materials are thoroughly dry. Bamboo Flooring Hawaii, LLC's flooring should be unpacked and acclimated between 7-10 days in the environment in which is expected to perform to allow for proper installation.

### **TOOLS FOR INSTALLATION:**

Table saw, jig saw, band saw or circular saw

Chalk line

Tape measure

Nail set

Hammer

Tapping block

Recommended trowel for adhesive applications

For nail down, a power nail model 50P Pneumatic nailer, Model 50 M Manual nailer with 18 gage 1 1/2" power cleats or the Stanley Bostitch M-3 pneumatic nail gun with 1 1/2 " staples or a Porta-Nailer Model 402 or comparable product.

**CAUTION: USE OF THE PROPER NAIL GUN OR STAPLER AS WELL AS STAPLES AND CLEATS IS CRUCIAL. IMPROPER TROWEL SIZE MAY CAUSE FLOORING TO FAIL. BFH IS NOT RESPONSIBLE FOR ANY DAMAGE CAUSED BY USING THE IMPROPER TOOLS.**

## **ACCEPTABLE SUBFLOORS**

The sub-floors must be on or above grade & structurally sound. Bamboo flooring can be installed over the following sub-floors:

- Concrete - Existing Wood Floors - Plywood (at least 3/4" thick) - Sheet vinyl - Vinyl tile
- 5 Ply Sheathing Grade

\*\*\*\*\*see specific instructions for installing over radiant heat subfloors\*\*\*\*\*

## **SUBFLOORING REQUIREMENTS:**

**Concrete:** New concrete should be cured at least 60 days or more, depending on slab thickness, moisture content and other environmental conditions. Floor must be dry, clean, smooth, and level to within 3/16" deviation per 10 feet radius. Moisture test the concrete before installing the flooring. First, inspect for any wetness at the base of the drywall, or for visible signs of moisture on the concrete. Second, test for moisture. Using polyfilm, tape a 2' X 2' square to the slab in 3 or 4 locations (more if the area is large) and, if practical, place a lamp on the polyfilm for 24 hours. The presence of moisture is certain if the slab is discolored (the polyfilm is cloudy) and especially if there are water droplets on the underside. Calcium Chloride tests are also available that will give instant readings. The acceptable moisture limit for the concrete is a maximum of 3 pounds per thousand square feet.

**MOISTURE: *Bamboo Flooring Hawaii LLC's warranty will cover a one-time replacement for most moisture related issues when a vinyl sheet is installed as per the vinyl sheet manufacturer's installation instructions. Allow the adhesive to thoroughly cure before scuffing the vinyl and installing the bamboo flooring. Please read the adhesive container for additional information.***

If any chemical is used to seal or cure slabs this may create a barrier against the adhesive. An easy test to check if any agent is used on the concrete is to drop water on the concrete surface, if it beads rather than soaking into the slab, suspect a sealer was used and plan to remove it. Painted concrete and oil slicks should also be removed.

**Cleaning:** All concrete surfaces should be scoured with 3 1/2" open grit paper to remove any dirt or surface contamination such as paint, grease, sealers, oil, waxes, or sweeping compounds. Adhesive installation should not be used over any of these substances. Prior to installation it is necessary to sweep, vacuum and possibly etch the concrete if needed.

**Smooth and level:** All high spots should be removed with a grinder, and low spots filled with a good quality Portland cement patch mix. Allow adequate curing time prior to starting installation. Do not install over concrete that has a compressive strength of less than 3000-PSI. Do not install over lightweight concrete.

**Plywood, Solid Lumber, or Multi Layered Products:** Plywood sub-floors should be at least 3/4" thick. There is a wide variety of wood available in many grades and qualities, gluing and nailing is recommended with all sub-floors. All under-lament panels should be spaced 1/8" to ensure adequate expansion space. Re-nail old sub-floors where necessary. Sand off any high edges to level the sub-floor to within 3/16" in a 10 foot radius. Over old wood floors, apply 1/4" – 3/8" plywood with proper glue and screw attachment. Screw every 6" to avoid squeaking.

**Moisture Test:** Before installing over a wooden sub-floor, check it for moisture using a Delmhorst J-4 equivalent or any qualified commercial moisture meter. The moisture difference between the wood sub-floor and the bamboo flooring should be no more than 4%. Plywood must be kiln dried and not exceed a moisture level of 12%.

**Sheet Vinyl and Vinyl Tile:** Make sure that all tiles or sheet goods are firmly bonded to the sub-floor. If these materials are poorly bonded, remove them and also remove all residues of the flooring adhesive. Remove all traces of wax by rough sanding. Do not glue over heavily cushioned sheet goods or rubber tile.

**CAUTION: SANDING OR REMOVING TILE FLOORING THAT CONTAINS ASBESTOS IS A HEALTH HAZZARD. IF THERE IS ANY DOUBT CONCERNING THE CONTENTS, SEEK PROFESSIONAL ADVICE. ASBESTOS HAS BEEN LABELED A CARCINOGEN.**

**Ceramic Tile:** Make sure all tiles are firmly bonded to the sub-floor. If any tiles are poorly bonded, re-adhere them or remove them and all adhesive residue or mortar. Rough up the surface of the tiles with a terrazzo grinder or 3 1/2" open grit sandpaper to ensure a good mechanical bond. All powder created by grinding or sanding must be removed by cleaning with

water. Allow the tile to dry thoroughly before spreading adhesive.

### **PRE-INSTALLATION PREPARATIONS**

As part of the sub-floor preparation, remove all existing base molding, shoe molding or doorway thresholds. Use a razor knife to score along the top edge of the base molding BEFORE removal to prevent tearing of paint, drywall, or wall coverings. These items can be replaced after installation is complete to cover any cut edges or gaps between vertical surfaces and flooring. All door casing should be undercut to avoid difficult scribe cuts. This can easily be done with a jamb saw or by laying a piece of bamboo flooring on the sub-floor as depth guide for your handsaw.

### **VENTILATION AND CRAWL SPACES**

Proper air circulation is important to prevent moisture build up, especially in homes with a crawl space. Vents should be open year round. A minimum of two vents is necessary with the combined square footage of both vents equaling at least 1 ½% of the first floor square footage. Check to make sure that there is no standing water or moisture at the soil moisture level. All soil should be covered with 6 mil. polyethylene to prevent moisture from migrating into the wood flooring.

### **LAYING OUT WORKING LINES**

Snap a chalk line to length of the room at a point which is a multiple of the width of the flooring, plus ½" to compensate for the variations in the wall. The bamboo flooring requires a starting line to be a multiple of 3 5/8" plus ½". A good starting line would generally be 36 ¾" from the starting wall. This starting line varies; depending upon the tool used when mechanically fastened. For example, the 36 ¾" line will become the working area with adhesive applications and will be filled after the balance of the floor has been installed. Other adhesives may require different application procedures.

NOTE: Like any other wood flooring, bamboo flooring has natural color variations from piece to piece, it's important to lay out the flooring to assure an attractive blend of color across the room. Lay out ahead of the installer (also know as "racking"). Begin laying out the flooring from the end of the focal point.

### **ADHESIVE APPLICATIONS:**

**Adhesive:** Bostiks (B.E.S.T) or (BST) is the recommended adhesive, however other premium quality hardwood flooring adhesives will accomplish the same results. 1/4" X 1/4" X 1/4" square notched is the recommended flooring trowel.

**Important instructions for creating a random effect:** To avoid creating a pattern in the floor, it is necessary to begin installation using starter boards. To create a starter board, cut the board at 2/3 the length. Start with a full board, then install the 2/3 length, and then install the 1/3 length as starter boards. This will start the first three rows. Continue the process of cutting starter boards at various lengths intermingling with the full-length units to complete the installation of the flooring keeping joints at least 6" Apart. Cuts made at the opposite wall may be used for starter boards. After installing approximately 3 feet, use 3M blue tape at 3' intervals to hold the planks firmly together.

### **INSTALLATION USING THE NAIL DOWN METHOD:**

1. Snap a chalk line parallel to the starter wall. This line should be at least 4 3/8" from the wall, assuming that the wall is straight. Adjust the line as necessary to allow for clearance and for wall deviation.
2. Place the groove side of the plank next to the wall with the edge of the tongue lined up with the chalk line.
3. Use 1" finish nails or appropriate adhesive to attach the planks to the floor. The nails should be placed ½" from the edge and 8" to 10" apart, pre drilling may be necessary. The number that is to be blind nailed is controlled by the clearance of the nailing machine. Pneumatic machines need no pre-drilling. Countersink and fill as necessary.
4. Glue and blind nail (nail every 6" - 8") the first rows, pre-drilling may be necessary. The number of nails for blind nailing is controlled by the clearance of the fastening machine.
5. When finished, cover the perimeter spaces with wall moldings and install bamboo nosing and reducer strips.

### **FINISHING SUGGESTIONS (UNFINISHED FLOORING)**

There is a variety of water based durable polyurethane finishes to choose from. One sealer coat for proper adhesion followed by 1 or 2 top coats for maximum durability. Using a water-based polyurethane will minimize odor during installation. Two such water based polyurethane products are Basic Coatings by Street Shoe and Easy Street or Bona Kemi's Traffic.

### **MAINTENANCE**

Proper maintenance procedures play an important role in the upkeep of all floors. A maintained floor increases the lasting beauty of your floor and makes for a satisfied customer. For stubborn spots, use a urethane floor cleaner, ammonia and water or a citrus-based floor cleaner (use any liquid cleaner sparingly and do not apply the cleaner directly on the floor). **It is also recommended not to put down area rugs or throw rugs for approximately one month after installation to prevent inconsistent coloration due to inconsistent lighting exposure.**

- Every floor, including bamboo, must be swept with a soft bristle broom (the Swiffer is highly recommended and effective) daily or as often as necessary and/or mopped (slightly damp) if necessary. Walking on gritty, dirty floors is the fastest way to wear the urethane finish.
- Exterior entrance mats should be used to capture most of the harmful dirt.
- Keep shoe heels in good upkeep; any unprotected shoe bottoms will dent the floor.
- Make sure protector felt pads are placed on the bottom of furniture legs.

### **Tips for a Successful Installation**

1. Read all instructions first: Get all your questions answered before you start installing the floor.
2. Amount of flooring needed: Buy enough flooring to equal 105% of the square footage of your room, for cutting allowance.
3. Before installing let the flooring sit in the room for 7 to 10 days to acclimate to temperature and moisture. Run air conditioning or heat as normal.
4. Be aware of moisture problems: Moisture can ruin any floor. Always look out for potential moisture problems, especially in basements.
5. Checking for moisture: Tape a 2' X 2' section of clear plastic sheeting to sub-floor, forming an airtight seal. If discoloration or condensation appears on the underside of the plastic after 24 hours, there is moisture coming from the floor.
6. 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 the sub-floor to an acceptable level of moisture.
7. It is highly recommended that the installer lay out all the flooring before installation in order to visually inspect the product for any abnormal color variances.
8. Room / entryway preparation: Undercut door casings are much better than trying to scribe the flooring to fit there.
9. Leave expansion gaps: Leave 1/2" space at each wall for expansion of wood. Base moldings will cover this gap. Leave an additional 1/16" for every 10' for rooms exceeding 25' and larger.
10. Tapping block: You can use a trimmed piece of flooring for this, or buy a pre-made tapping block. **NEVER HIT FLOORING DIRECTLY AND BE CAREFUL NOT TO FRACTURE FLOOR EDGES.**

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## **Radiant Floors**

Radiant floors installation provides for the addition of a "floating" underlayment system. This system consists of two layers of 1/2 inch plywood that are laid at ninety degrees to each other with staggered seams. They are attached by gluing and screwing the two layers together with a urethane adhesive and screws that are placed at 10 inch spacing to each other horizontally and vertically. This 1 inch thick diaphragm should cover the entire floor surface over which Bamboo Flooring Hawaii's floor is to be applied. It is not attached to the subfloor, but allowed to "float" over it with a 3/4 inch gap around the perimeter. The underlayment is then treated as a normal sub floor and the planks may be nailed, or glued and nailed as described above. Caution should be taken if nailing into this 1 inch diaphragm to prevent penetration of nails beneath the bottom surface of the underlayment. Use of 1-1/4 inch finish nails for nailing will prevent penetration of bottom surface.

The National Wood Flooring Association (NWFA) recommends that an outside thermostat be installed to minimize the effect that rapid changes in temperature will have on the floor. Radiant systems work most effectively with any wood flooring if the heating process is gradual, based on small, incremental increases in relation to the outside temperature. Also recommended is a 6-8 mil polyethylene vapor barrier installation over slab radiant heat systems. Tape all seams to be sure barrier is tight. To protect the barrier from rips, some contractors lay 1/16" (1.5625mm) thick foam sheeting over the vapor barrier. When the slab has cured, turn the heat on, regardless of season, and leave it on for at least 5-6 days before installation of the flooring. A radiant floor should not produce temperatures over 85 degrees Fahrenheit. Some flooring installers advise laying the flooring over the radiant heating system for 30 days prior to installation to acclimatize the flooring. The radiant heat system should remain in operation after installation.

It should be noted that any wood flooring, as well as bamboo flooring, will expand and contract due to temperature changes. The maximum difference in moisture content between the sub-floor and the flooring material should be no more than 2 percent. The amount of movement depends upon the temperature, moisture content of the flooring and sub-flooring, and the dimensional stability of the material. Gaps in the floor may come and go seasonally or due to temperature changes.

According to the NWFA, the following installation systems can be used successfully over radiant heat: Double plywood floating, direct nail to a sub floor, G direct nail to sleepers, Single layer of plywood on sleepers.

We recommend using an installer who has experience and is a member of the Radiant Panel Association. Please refer to the Radiant Panel Association web site at [www.rpa-info.com](http://www.rpa-info.com) for additional information on radiant heat.