

## Prefinished Flooring installation instructions

effective 01/ 2006

- 3' Premium Strip
- 6' Premium Long Strip
- 6' Premium Wide Plank

### •Read these instructions before installing Bamboo Mountain flooring.

Bamboo Mountain bamboo flooring is a beautiful product of nature. Bamboo Mountain bamboo flooring is manufactured to the highest quality standards, and all factory production plants are ISO 9002 certified. Bamboo Mountain bamboo flooring is hand picked for color consistency and quality, and the grading deficiencies are not to exceed 5%. Grading deficiencies can be of a natural type or a manufacturing type.

### Installer Responsibility

There are certain responsibilities that the owner and the installer assume when purchasing Bamboo Mountain bamboo flooring, and include:

- Inspection of Materials. The installer assumes all responsibility for final inspection of grade, color variance, manufacture, and factory finish (if applicable). This means that the installer has carefully examined the flooring for color variance, finish, and quality *before* installing the flooring. If the flooring is not acceptable, contact Bamboo Mountain immediately and do not install the flooring. Limited Warranty does not cover flooring with visible defects once installed.
- Jobsite Environment. The floor must be installed on or above grade. The installer must determine that the job site environment is suitable for flooring installation, i.e. all sub flooring is flat, dry & stable, meets both local and national building codes, and meets the subfloor requirement set forth by Bamboo Mountain, as described in "Subfloors" section below. Bamboo Mountain is not responsible for any flooring failure due to the subfloor, and/or job site environment conditions.
- The use of stain, putty, or filler for touch-up during or after installation is a normal procedure to complete any flooring installation project.
- To accommodate for the waste incurred during the installation, an additional 5-10% of flooring must be ordered so as to not run short of material.
- Bamboo Mountain flooring planks are manufactured in equal lengths. If a random effect is desired, it is recommended that the first plank in each row be cut to uneven lengths, and the floor installed with the end joints approximately 12" apart. Bamboo accessories should be pre-drilled to prevent splitting.

### Who Should Install the Floor

Bamboo Mountain recommends that all Bamboo Mountain bamboo flooring is installed by a state licensed (if applicable) hardwood flooring contractor who practices the Solid Prefinished Hardwood Flooring installation guidelines set forth by the National Hardwood Flooring Association (NWFA).

### Jobsite Conditions

Bamboo flooring should be stored in a dry environment prior to installation. In new construction or remodeling projects, all work involving water or moisture should be completed prior to installing bamboo flooring. The subfloor must be clean, dry, and stable. The inside temperature of the project must be at least 65° F for two weeks prior to the flooring delivery to the jobsite.

### Color Variance: What To Expect From a Natural Floor

Remember that bamboo flooring is made from a natural material. Installers should identify color variations and customers design tastes and stagger boards accordingly. Since bamboo flooring is a natural material, there will be color variances amongst the planks, and this is to be expected whenever working with natural products. Working with multiple boxes at one time is recommended to ensure that color variation is distributed randomly throughout the entire floor. Limited Warranty does not cover color variance between sample and installed floor.

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### Inspection of Material

All flooring boxes must be inspected for damages and defects upon delivery. A written damage report must be submitted to Bamboo Mountain within seven (7) days of delivery. It is the responsibility of the customer/installer to report damages or defective planks and to insure that the desired product was received. Bamboo Mountain is not liable or responsible for any costs related to the installation of the incorrect product.

### Acclimation

Much like solid hardwood floors, bamboo flooring requires an acclimation period. Bamboo flooring should acclimate in the area for which it is to be installed for at least one full week prior to the start of installation, at normal temperature and humidity. The boxes should not be placed directly on concrete during the acclimation period. For areas of drastic climate variation and/or high humidity, acclimation periods of up to 30 days are recommended. It is very important to maintain expected normal room temperature before and after installation. Bamboo Mountain bamboo flooring is stored in a warehouse at our facility at a temperature of 65° - 75° F, and contains a moisture content of 7-9%. The maximum difference between the subfloor and bamboo flooring moisture is 3%. Bamboo flooring should NOT be installed on a plywood sub floor whose moisture content reading exceeds 12%. Subfloors with excessive moisture should be corrected beforehand.

### Subfloors

•Important: the amount of floor movement depends on several factors, including season, temperature, humidity (humidity level should be between 40-60% year round), moisture content in floor and subfloor. Gaps might come and go seasonally. We recommend installing a vapor retardant such as 6 mil polyethylene film underneath the subfloor, unless floating the floor with *QuietWalk* or *Sound Solution Vapor Bloc* underlayment.

Acceptable subfloors include:

•Wood: OSB or plywood subfloors should be at least ¾" thick and must be level, smooth, clean, and dry. Preferred subfloor is ¾" thick CDX plywood or ¾" thick OSB.

•Concrete: Installation on a concrete sub floor is recommended only after a Calcium Chloride test is performed. The maximum acceptable reading is 3 lbs./24 hours/1000 sq. ft. Concrete subfloor should be flat, any high spots should be reduced to surface level, and any low spots or voids filled to a minimum of 3/16" in a 10' radius or 1/8" in a 6' radius. Concrete subfloors less than 90 days old are generally too wet for solid wood and bamboo flooring installations. It is recommended that an appropriate moisture sealer and/or barrier be applied over a concrete sub floor. We recommend applying a layer of Bostik's Best glue over the sub floor to act as a concrete sealer prior to any direct glue down installations over a concrete sub floor. Bamboo flooring reacts like any solid hardwood in that it requires a dry stable sub floor. Bamboo Mountain does not guarantee or warranty of the quality of the installer's work or installation, and disclaims all liability for any errors or mistakes in the installation of its products by the installer.

•Ceramic tile (for floating or glue installations only)

•Resilient tile & sheet vinyl (for floating or glue installations only)

### Nailing / Stapling

Leave a 1/2" expansion gap parallel to floor direction from walls on all sides of installation area. To ensure that starter rows are secured firmly, blind nailing or wedging is advised. Additional rows should be blind nailed directly above the tongue at a 45-50 degree angle to the face. Air compressors should be set to 80 PSI (or manufacturers suggested PSI). Nails/fasteners should be 12" apart, and should

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not be less than 6" from the ends of the planks. If tongue damage occurs, lower the air pressure or hand nail where needed. To prevent splitting, nails should not be placed closer than 6 inches from the end of the plank. The recommended nails are 1 1/2" - 1 3/4" long, and the recommended staples guns are either or Stanley Bostich M3 for the installation.

### **Glue Down Installation**

Gluing down your bamboo floor is only advised if your subfloor has been properly tested and prepared. A minimum of 5/8" expansion from each wall in room is required. To ensure that starter rows are secured firmly, blind nailing (if applicable) or wedging is advised. Additional rows should be installed by applying the adhesive to subfloor with suitable trowel, and immediately placing the floor onto the wet adhesive. We recommend the use of Bostik's Best or Taylor #2071 for this application. Follow Bostik or Taylor directions for installing flat milled solid wood planks. The use of non-recommended adhesives will void the product warranty. Be certain that adhesive and moisture barrier/sealant is compatible for this application and as recommended by Bostik's Best.

### **Floating Installation**

Test the subfloor for moisture content (refer to Subfloor Section listed above)

Recommended underlayments: *Sound Solution with Vapor Bloc*, or *QuietWalk by MidWest Padding*. When using either of these underlayments, no additional moisture barrier is required. If you choose to use another 1/8" thick pad (such as standard foam or cork), a polyfilm moisture barrier is required.

Recommended glues: Franklin® Titebond 2 PVAC or similar

Recommended spacers: wood or plastic spacers for a 3/8" expansion gap

Pad Installation: follow manufacturers installation. If using QuietWalk by laying over subfloor, and butting edges while taking caution not to overlap edges. Butted edge seam should be taped using duct tape. Allow for a 1/2" space between floating pad and walls.

Floor installation: after the pad has been layed out and installed, start the first row with the groove side facing the wall. Leave a minimum 3/8" expansion gap between flooring and walls, and any other adjoining upright surface such as a fireplace mantel. Apply a continuous bead of glue to the end joints of the first row. On subsequent rows, apply the glue to the bottom side of the groove, running the entire length of the board. Use a cut piece of the flooring as a tapping block to fit the planks together tightly.

REMINDER: clean up any glue that is on the floor surface immediately! Use a rag with warm water. Allowing the glue to dry can be extremely difficult to use, and can damage the finish.

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### **4. Radiant Heat**

When a home has radiant heat, the heat source is directly underneath the floor. Because of this, the floor might dry out faster than a similar floor located in a home with conventional heating. Bamboo flooring is ideal floor material for radiant heated floors, as long as the installer understands and has knowledge of radiant heat and how it can impact bamboo flooring. The right precautions must always be taken. We recommend choosing an installer experienced with such installations, and members of the Radiant Panel Association, [www.radiantpanelassociation.org](http://www.radiantpanelassociation.org), are typically knowledgeable in such installations. Bamboo Mountain recommends using our 3.5" wide boards for installations over radiant heat, because narrow boards (defined as those less than 4" wide) are more dimensionally stable than wider boards, however our 6" plank can be installed over the radiant heat system utilizing the Floating Method.

### **Moisture Testing**

#### **1. Concrete Slabs**

The concrete slab must be a MINIMUM of 60 days old. It is recommended that pH tests are done on all slabs regardless of age. Test the concrete slab with a moisture meter at each outside wall, and 4-5 times in the center areas of the room.

#### **Polyfilm Testing**

If you do not have access to a moisture meter, you can test the moisture by using polyfilm. To do this, completely tape down a 2' x 2' square of polyfilm and leave them for at least 48 hours. Perform one test every 200 square feet. Condensation and/or a noticeable color change indicates the slab contains excessive moisture.

**IF ANY OF THESE TESTS INDICATE MOISTURE, A CALCIUM CHLORIDE TEST MUST BE PERFORMED**

#### **2. Plywood / Wood Subfloors**

Test the wood subfloor with a moisture meter. All outside walls, along with 4-5 areas in the center of the rooms should be tested. The moisture content should not exceed 12%. If high moisture readings occur, installation of bamboo flooring should be halted until the source of the moisture is discovered and solved. The subfloor should also be within 3 percentage points of the actual moisture content in the bamboo flooring.

#### **Moisture Barrier**

The concrete subfloor should first be sealed by applying a layer of Bostik's Best glue over the entire slab, and allowing at least 24 hours drying time to cure. If the radiant heat is below a solid wood subfloor, then standard 5-mil black moisture barrier paper must be installed directly onto the wood subfloor.

## **Radiant Heat Installation Instructions**

Bamboo Mountain follows the radiant heat installation instructions set forth by the National Wood Flooring Association (reference: Section III, Special Installation Instructions), and can be found below:

One of the most important requirements in the installation of bamboo flooring over radiant heated floors is to avoid the penetration of the heating element. Radiant heated floors can be concrete, wood, or a combination of the both. The type of subfloor determines the proper subfloor preparation needed.

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If the subfloor is concrete and it has cured, the heat should be turned on (regardless of season), and should be left on for at least 5-6 days before the installation of the bamboo flooring to allow for excess moisture to escape. Glue down applications require the heat be reduced or turned off before the flooring installation begins.

With water heated radiant systems, a pressure test must be performed by a qualified plumber or the system installer prior to beginning the installation of the bamboo flooring.

The following installation and subfloor systems can be used successfully over radiant heat:

1. Glue down, solid bamboo
2. Nail solid bamboo to wood subfloor
3. Nail solid bamboo directly to sleepers
4. Single layer of plywood over sleepers, then nail solid bamboo directly to plywood

### 1. Glued Down Solid Bamboo Flooring (Concrete Slab)

The moisture content must first be checked (refer to the 1<sup>st</sup> page of these instructions). The solid bamboo flooring must be delivered and acclimated inside the home for at least 7 days prior to installation (areas with great seasonal climate change should allow an additional 7 days, for a total of 14 days acclimation). The heating system must be turned off before installation. The concrete slab should be sealed 24 hours prior to installation with a layer of Bostik's Best glue. The flooring should be glued directly to the slab also using Bostik's Best glue. Maximum surface temperature should not exceed 80 degrees Fahrenheit. Expect: slight heating-season shrinkage, and slight expansion during seasons when the heating is not used.

### 2. Nail bamboo flooring to wood subfloor

The moisture content must first be checked (refer to the 1<sup>st</sup> page of these instructions). The solid bamboo flooring must be delivered and acclimated inside the home for at least 7 days prior to installation (areas with great seasonal climate change should allow an additional 7 days, for a total of 14 days acclimation). TAKE EXTRA CAUTION NOT TO PENETRATE THE HEATING ELEMENTS. Be sure that the nails are not long enough to penetrate the heating elements. **Maximum surface temperature should not exceed 80 degrees Fahrenheit.** All other installation instructions are the same as our regular Installation instructions. Expect: slight heating-season shrinkage, and slight expansion during seasons when the heating is not used.

### 3. Nail bamboo flooring to sleepers

The moisture content must first be checked (refer to the 1<sup>st</sup> page of these instructions). The solid bamboo flooring must be delivered and acclimated inside the home for at least 7 days prior to installation (areas with great seasonal climate change should allow an additional 7 days, for a total of 14 days acclimation). Be sure to install the bamboo flooring perpendicular to the sleepers, and to nail the bamboo flooring directly into the sleepers. TAKE EXTRA CAUTION NOT TO PENETRATE THE HEATING ELEMENTS. Maximum surface temperature should not exceed 85 degrees Fahrenheit (29.44 degrees C). All other installation instructions are the same as our regular Installation instructions. Expect: slight heating-season shrinkage, and slight expansion during seasons when the heating is not used.

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### **4. Nail bamboo flooring to single layer of plywood over sleepers**

The moisture content must first be checked (refer to the 1<sup>st</sup> page of these instructions). The solid bamboo flooring must be delivered and acclimated inside the home for at least 7 days prior to installation (areas with great seasonal climate change should allow an additional 7 days, for a total of 14 days acclimation). Be sure to install the bamboo flooring perpendicular to the sleepers, and to nail the bamboo flooring directly into the plywood subfloor. TAKE EXTRA CAUTION NOT TO PENETRATE THE HEATING ELEMENTS. Be sure that the nails are not long enough to penetrate the heating elements. Maximum surface temperature should not exceed 80 degrees Fahrenheit. All other installation instructions are the same as our regular Installation instructions. Expect: slight heating-season shrinkage, and slight expansion during seasons when the heating is not used.

### **5. Floating Method**

This method is appropriate when using *Sound Solution Vapor Bloc* underlayment by Healthier Choice. Follow the Floating Installation instructions, and the first section of the Radiant Heat instructions above.