

Engineered Bamboo Flooring - Installation Guidelines

PRE-INSTALLATION JOBSITE REQUIREMENTS

Carefully examine the wood flooring prior to installation for color, finish and quality. Ensure adequate lighting for proper inspection. Higuera Hardwoods cannot 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. Higuera Hardwoods is not responsible for flooring failure resulting from inadequate jobsite and/or subfloor conditions.

Our hardwood flooring should be one of the last items installed in any construction or remodel project. All work involving water/moisture should be completed before the flooring installation. Water and wood do not mix. Installing flooring onto a wet subfloor will most likely cause cupping, tip & edge raising, telegraphing of core and subsequent gapping.

Permanent HVAC should be on and operational and maintained between 65-75 degrees Fahrenheit with relative humidity of 25%-60% for a minimum of 3 days prior to delivery, as well as during and after installation of the flooring. Humidity levels below 25% will most likely cause movement in the flooring, including gapping, possible cupping and cracking/checking on the floor face material. Installation of Higuera Hardwoods engineered Bamboo flooring in areas where the relative humidity may go below 25% and when humidification equipment is not used continuously to keep humidity above 25% in the space will void all warranties.

Store engineered Bamboo flooring in the UNOPENED boxes at installation area for 24 -72 hours before installation to allow the flooring to adjust to room temperature and humidity levels. Do not store the boxes of flooring directly on concrete. Our engineered wood floors DO NOT need any moisture equalization prior to installation from open boxes 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 couple of hours. Only open enough boxes to ensure a good mix of lengths and color.

PRE-INSTALLATION FOR THE SUBFLOOR REQUIREMENTS:

Acceptable subfloor types:

- CDX plywood - at least 5/8" thick for joist spacing up to 16" on center, minimum 3/4" thick for joist spacing greater than 16" on center (19.2" maximum)
- Underlayment grade particleboard (minimum 40 lb. density) - floating/glue-down only
- OSB - at least 3/4" thick, PS 2-92 rated or PS 1-95 rated
- Concrete slab - floating/glue-down only
- Existing wood floor - must be smooth, level, well-adhered and unfinished (if gluing new flooring)
- Ceramic tile - floating only
- Resilient tile & sheet vinyl - floating or glue-down only; for glue-down tile/vinyl must be new and non-urethane-coated

All Subfloors must be:

- Dry and will remain dry year-round. Moisture content of wood sub floors must not exceed 13%, wood flooring moisture content must be within 4% 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. Subfloor should be flat and level within 3/16" per 10' radius. If necessary grind high spots down and level low spots with Ardex® Leveling Compound. All concrete should be tested for moisture using a Calcium Chloride Test, and the result must not exceed 3 lbs. Ceramic tile, 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.

If gluing down on concrete (even if you believe it is dry) which is on or below grade, it is highly recommended to install sheet plastic/vinyl first and then glue the floating wood flooring on top of the vinyl with a pad such as "silent step", as this provides an effective permanent moisture and sound barrier. Another alternative is to use the Bostik® or Taylor® Moisture Barrier Systems as glue done, which are warranted by their manufacturers.

Remember, a concrete slab on/below grade that measures dry today may become moist in the future due to rising groundwater. Installing a moisture barrier now may be viewed as an insurance policy against concrete becoming wet in the future; This will lead to possible subsequent floor failure. Higuera Hardwoods is not responsible for any site related moisture issues.

Higuera Hardwoods engineered bamboo flooring is NOT WARRANTED FOR USE OVER ELECTRICAL MATT RADIANT HEAT systems. We do fully warrant the use of pipe radiant heat, if used only as a floating installation method. The subfloor or pipe system should never exceed 82°F. Check with the radiant heat manufacturers

suggested guidelines to limit the maximum water temperature inside heating pipes. Run heating system for at least two weeks prior to flooring installation. Set heating system at 65°F four days before flooring installation and bring heat up very slowly (over a period of 7 days) after installation. The system should always be kept within 15°F of normal operating temperature. If the system must turned off and on, bring the temperature back up VERY VERY slowly. Damage may result from rapid heating and/or rapid shedding of moisture that the wood may have taken on while the system was off.

While many customers have used this flooring successfully over radiant heat systems, Higuera Hardwoods cannot be held responsible in situations where the radiant heat system was or is not operated properly. After a floor has been damaged, it is impossible for a manufacturer to conclude conclusively whether or not improper use was the cause.

INSTALLATION TOOLS

For all installation methods:

- Tape measure o Wood or plastic spacers (1/2") o Chalk line
- Tapping block o Crosscut power saw o Pry bar or pull bar
- Pencil o Hammer o 3M® 2080 Blue Tape

For glue-down installation method (recommended only), you'll also need:

- Flooring adhesive: Bostik® Best or equal
- On concrete slabs that are on/below grade, we strongly recommend installing sheet vinyl first and then installing the wood floor on the vinyl or using the Bostik® or Taylor® Moisture Barrier Systems.
- Trowel per flooring adhesive manufacturer's recommendations.

For staple-down installation, you will also need:

- Pneumatic stapler appropriate for 9/16" thick engineered flooring and 1-1/4" or 1-1/2" long staples (always test stapler to ensure that it is not damaging the flooring or causing dimpling before proceeding with installation)
- Air compressor

For floating installation, you'll also need:

- Silent Step Floor Pad or equivalent 1/8" thick or more underlayment
- 6-mil polyfilm
- Eurobond® D3 T&G Adhesive or Franklin® Titebond 2 PVAC glue
- Clear waterproof packing tape

BEGINNING YOUR INSTALLATION

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). 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 30 feet in width or 100 feet in length. For larger spans, install T-moldings or other transition pieces that allow the flooring to expand and contract. 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 about 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.

Work from several open boxes of flooring and "dry lay" the floor before permanently installing it, but never open more than a few boxes in advance. This will allow you to select the varying grains & colors and to arrange them in a harmonious pattern.

The flooring may differ slightly in grain and color from the samples used in selecting the product. 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 Higuera Hardwoods to arrange an immediate exchange.

Dry lay a few rows, (no glue or nails), before starting installation to confirm your layout decision and working line. When laying flooring, stagger end joints from row to row by at least 8". 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" in length 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. To draw planks together, always use a tapping block, as tapping the flooring itself will result in edge damage. Fit end joints tightly together before tapping long edges together. When near a wall, you can use a pry bar or pull bar to pry close the side and end joints. Take care not to damage edge of flooring. For glue down & floating applications, use 3M® 2080 Blue Tape to hold any pieces which might have side bow and need to be held straight & tight until the adhesive sets. Do not allow tape to remain on floor longer than 30 minutes and remove tape prior to cleaning floor with a cleaner. Do not apply tape to flooring that has been previously wiped with a solvent.

STAPLE DOWN INSTALLATION-RECOMENDED

When stapling Higuera Hardwoods Prefinished Engineered Bamboo Flooring, DO NOT USE AN UNDERLAYMENT other than felt paper or rosin paper. Using thicker underlayment pads could cause other problems.

Make sure subfloor is tested for moisture content first and is properly prepared. Use an engineered flooring stapler of your choice that is appropriate for 5/8" thick flooring after testing to make sure that stapling will not cause dimpling (localized raised edges) in the finished floor. If you see dimpling, STOP and adjust the stapler shoe, angle/place

of staple entry or air pressure until test planks confirm that dimpling is no longer occurring. Higuera Hardwoods is not responsible for replacing material that has been installed with dimples due to improperly maintained staplers or misaligned staplers

For the first and second starting rows: lay first plank inside chalk line with groove edge toward the wall. Since it can be difficult to get the stapler in place next to the wall, you may wish to glue down the first rows rather than face-nailing them and leaving unsightly nail holes that must be filled with putty. Make sure the starting rows are straight and drawn tight. After gluing down these rows with an adhesive, set weight on top of them and allow them to set firmly before commencing stapling the additional rows.

Subsequent rows: Lay by using floor stapler to blind-nail top inside edge of tongue at a 45 degree angle. Staple each board every 3-4" and within 2" of each end. Remember to stagger end joints from row to row at least 8" apart and use a tapping block to fit boards together. Periodically check (checking from a low angle with adequate light) to make sure that the stapler is not causing dimpling. It may be necessary to face-nail and or glue down the flooring in doorways or tight areas where the stapler can't fit. The last two rows might need to be face-nailed or glued in the same manner as the first two rows.

GLUE DOWN INSTALLATION - RECOMMENDED

Carefully review the adhesive manufacturer's instructions for proper trowel size, minimum temperature, adhesive set time and open times before starting installation of the flooring.

Make sure subfloor is tested for moisture content first and is properly prepared.

On concrete subfloors that are on or below grade (ground level), always assume the worst. Even if they measure dry, we now recommend taking one of the following two installation steps to ensure a trouble-free installation:

Method #1: Install a sheet plastic/vinyl floor first and then glue down our wood floor over the sheet vinyl. Follow the vinyl manufacturer's installation recommendations.

Method #2: Taylor® and Bostik® now have the market a Moisture Barrier Systems on which they provide a warranty that moisture will not pass through and damage your wood flooring.

Concrete Barrier. Follow manufacturer's recommendations for application/installation. Carefully review the adhesive manufacturer's instructions for proper trowel size, minimum temperature, adhesive set time and open times before beginning installation of flooring. Once the spread adhesive has setup sufficiently per adhesive manufacturer's instructions, lay the first row of flooring with groove facing the wall, and continue laying flooring. Always check your working lines to be sure the floor is still aligned. Use a block to fit planks together, but be careful not to let installed floor shift on the wet adhesive while you are working.

When first section is finished, continue to spread adhesive and lay flooring section by section until installation is complete. IMMEDIATELY REMOVE ANY ADHESIVE FROM THE FLOORING SURFACE. If adhesive cannot be completely removed with a damp cloth, use the manufacturer's recommended adhesive remover. Never let flooring adhesive dry on the finished surface. Within the adhesive working time, check each section of flooring in order to make sure it is well adhered to the subfloor. Planks on the perimeter of the room may require weight on them until the adhesive cures enough to hold them down. PLEASE NOTE: when using any flooring Adhesive, and follow manufacture guidelines. FAILURE TO ALLOW ADEQUATE FLASH TIME WILL RESULT IN CUPPING/BUCKLING.

FLOATING INSTALLATION-RECOMMENDED

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 an equivalent 1/8" thick or thicker underlayment by butting edges, not overlapping. Tape

full length of the seam with clear waterproof packing tape. Always leave a 1/2" space between pad and all walls and permanent vertical fixtures.

Installing the floor: start first row with groove toward wall. Glue end joints of first row by applying small but continuous bead T & G glue to the bottom side of the groove. Lay subsequent rows of

flooring by applying glue to side and end joints and fitting planks together with a tapping block.

Clean up any adhesive that is on the face of the floor by using a damp rag - DO NOT ALLOW ADHESIVE TO DRY ON THE FLOORING SURFACE as it is difficult to clean up without damaging the finish.

- 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 lamb's wool pads in order to remove any loose splinters, residues, foot prints, etc.
- Install any transition pieces that may be needed (reducers, T-moldings, nosing, etc.).
- If using glue-down or floating installation methods, do not allow foot traffic or heavy furniture on floor for at least 24 hours.
- 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.

READ THESE INSTRUCTIONS THOROUGHLY BEFORE BEGINNING INSTALLATION. IN ADDITION TO THESE INSTRUCTIONS, WE RECOMMEND THAT THE INSTALLER FOLLOW ALL INSTALLATION GUIDELINES SET FORTH BY THE NATIONAL WOOD FLOORING ASSOCIATION (WWW.NWFA.ORG). WHERE THESE INSTRUCTIONS DIFFER FROM NWFA GUIDELINES, THIS DOCUMENT TAKES PRECEDENCE.

THESE INSTRUCTIONS DO NOT APPLY TO ANY OTHER HIGUERA HARDWOODS PRODUCTS OTHER THAN OUR ENGINEERED BAMBOO FLOORING.