

ENGINEERED QUICK CLICK INSTALLATION GUIDE

OWNER/INSTALLER RESPONSIBILITY:

The veneer either bamboo or hardwood is a product of nature, thus there will be some variations in grain, patterns, and shade/color from box to box. When ordering flooring 5% - 7% more flooring must be added to allow for cutting and grading allowances. For diagonal installations add 15% more for waste.

- Before installation inspect the flooring for any manufactured defects. Defects on the face of the planks can be avoided by trimming the plank, and the remainder of the plank used, this is expected to minimize waste. Any board deemed unacceptable should simply not be used. If there are concerns with the quality of the product, please stop installation and contact your local retailer.
- Before installation the installer must determine if the environment and subfloor conditions meet or exceed all applicable standards, and are within the tolerances set in these installation guidelines. The manufacturer declines any responsibility for failures caused by improper job site and subfloor conditions.
- Once the boxes are brought into the home check the box labels to verify vendor information matches, and check the flooring locking mechanism for proper fit.
- Save a box label which has the product information for future reference.
- It is acceptable to touch up flooring during and after installation with stain, filler, or putty
- After installation it is the homeowner's responsibility to make sure the proper indoor environment is maintained. Failure to do so can result in gapping, squeaking, buckling, or cupping.

APPLICATIONS:

This flooring can be installed by using the floating installation method, or the glue down installation method. This flooring can be installed on all levels of the home that are climate controlled. This flooring can be installed over radiant heat systems. This flooring must always be floated in below grade installations. Do not install this flooring in full bathrooms, saunas, or in rooms with floor drains. Do not install flooring under fixed cabinetry. Do not install over carpet and existing floating floors. When indoor climate cannot be maintained glue down installation of the flooring is the best method to minimize excessive movement. However for best results and performance the homeowner should maintain the recommended climate inside the home.

JOBSITE CONDITIONS:

- The building should be enclosed with all doors and windows in place.
- All wet work which includes painting, drywall, tiling, concrete, and masonry should be completed with ample time to dry before flooring is delivered.
- Crawlspace, basements, and garages should be dry and well ventilated.
- Crawlspace must be a minimum 18" from the bottom of the floor joist to the ground. Crawlspace must have a minimum 6 mil thick polyethylene film covering the entire crawlspace ground. Crawlspace should have proper ventilation as determined by local building codes.
- All gutters should be in place and functioning properly. Yard grading should be sloped to run water away from home foundation.
- HVAC systems should be operational for at least two weeks prior to flooring being delivered.

ACCLIMATION/MOISTURE TESTING:

- After purchase / delivery the flooring must be stored inside the home, and allowed to acclimate in the rooms, where it will be installed. Keep flooring away from direct sunlight and vents during the acclimation process.
- Remove all plastic wrapping surrounding the boxes.
- Allow the flooring to acclimate for at least 48hrs inside the room where it will be installed.
- For best results the rooms should be maintained between 60F - 80F, with a humidity range between 30% to 50%.
- Boxes should be laid flat on dry wood subfloors, and wooden supports should be used to keep boxes elevated off concrete floors.
- Use a reliable species specific moisture meter to verify the moisture of the floors veneer. Follow the moisture meters manufactures guidelines for this step.

MOISTURE TESTING PROCESS:

STEP 1: *Test the flooring veneer moisture content.* Test at least 20 planks per 1000 sqft of flooring, using the meter manufactures recommended setting for engineered flooring. Calculate the average moisture content of all 20 readings.

STEP 2: *Check the wood subfloor moisture.* Set the meter to the recommended setting for that specific type of subfloor. Check with the meter manufacture for specific settings. Test 20 different locations per 1000sqft area, and calculate the average moisture content. The wood subfloor should not exceed 12% in moisture. Skip this step if you have a concrete subfloor.

STEP 3:

WOOD SUBFLOOR: It's recommended for installation to begin when the veneer moisture content is within 4% of the average wood subfloor moisture content. Flooring should not exceed 12% moisture content. Extend acclimation time until these conditions are met. Document and Save your moisture testing results.

CONCRETE SUBFLOOR: It's recommended for installation to begin when the veneer moisture content is within 5% to 9% on average.

WOOD/CONCRETE SUBFLOOR REQUIREMENTS:

Approved Wood subfloors

Note that joist spacing determines minimum subfloor thickness.

- Joist spacing 16" on center (OC) Plywood: Minimum of (5/8") Oriented Strand Board (OSB): Minimum (3/4", 23/32")
- Joist spacing 16" up to 19.2" (OC) Plywood: Minimum of (3/4", 23/32") Oriented Strand Board (OSB): Minimum of (3/4", 23/32")
- Joist spacing over 19.2" up to maximum 24" (OC) Plywood: Minimum of (7/8") Oriented Strand Board (OSB): Minimum of (1")
- Do not install flooring directly over floor joist without subflooring. All structural panels/underlayment must be installed sealed-side down, and provide minimum 3/4" perimeter spacing. Square-edged or non-tongue and grooved panels used as a subfloor will require a minimum 1/8" (3 mm) expansion space placed between all plywood seams. Panels must meet minimum CDX grade Exposure 1 and US Voluntary Product Standard PS1-95, PS2-04 or Canadian performance standard CAN/CSA 0325-0-92 for construction sheathing. Check panel for codes.
- Pressure-treated plywood may have elevated moisture or latent with rot resistant chemicals, not for interior use.
- Solid-board subflooring should be 3/4" x 5 1/2" (1" x 6" nominal), Group 1 dense softwoods, No. 2 Common, kiln-dried to less than 12% percent moisture content.
- Particleboard, Luan or Masonite is approved for floating installations only and must be covered with a minimum of 3/8" CDX plywood when gluing this product to the subfloor.
 - Do not install over existing plywood subfloors that are directly installed over concrete without proper moisture protection between the plywood and the concrete.

CLEAN: All wood and concrete subfloors must be swept clean or vacuumed to remove dust and debris. For glue down installations remove all contaminants like paint, old adhesives, sealers, and dry wall mud that could affect the adhesive bond.

FLAT: All wood and concrete subfloors must be flat within 1/8" over a 6' span, or 3/16" over a 10' span. All areas of the subfloor must be checked prior to installation. High spots can be sanded or grinded down and low spots fill with appropriate patching compounds. Never sand and grind materials covered with lead paint, or containing asbestos. Follow local building codes for proper removal practices of asbestos and lead paints.

DRY: Wood subfloors should be dry. The moisture in wood subfloors should not exceed 12%. If high moisture is present stop installation until the moisture source has been corrected.

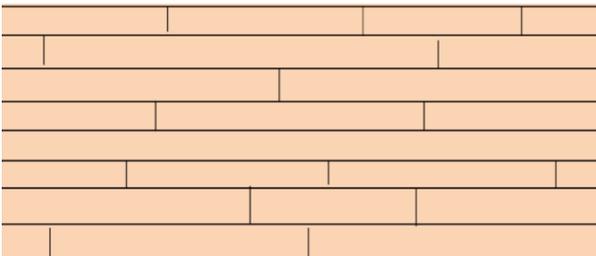
Concrete subfloors must be fully cured for at least 60 days. Concrete subfloors must be tested for moisture by conducting a Calcium Chloride test (ASTM F 1869) or Relative Humidity In-Situ Probe test (ASTM F 2170). Calcium Chloride test results cannot exceed 3lbs per 1000sqft in 24hrs. Relative Humidity In-Situ probe test should not exceed 75%. A moisture barrier is required over all concrete subfloors.

Floating Installation Method:

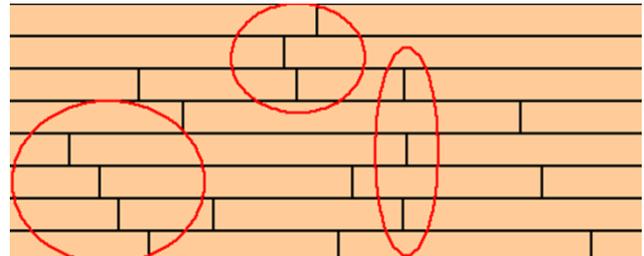
Approved Underlayments: Bellawood Platinum, Bellawood Premium, Eco Silent Sound HD, 3mm or 6mm cork, Quiet Walk, and Insulayment pads are approved for wood and concrete subfloors installations. Caution before installing over concrete a minimum 6 mil polyethylene sheeting moisture barrier **must be installed** prior to installing the underlayment pad to help protect the flooring from excessive moisture.

Expansion Space/T-molding Breaks: An expansion break is required to break continuous runs exceeding 30' in width and 30' in length. T-molding transitions are used to filled in the gap required for expansion breaks. A 1/2" gap is required at all walls and fix objects. **For room dimensions of greater than 30' in length or width, the flooring should be glued down using an approved adhesive.**

Flooring Layout: After installation of the first three rows, loose lay about 100sqft of flooring about 4" or 5" away from the last secured row. Pull from several boxes to mix board color and sizes to create a random look. Visually inspect flooring for defects while racking. Stagger boards randomly as possible, avoid creating patterns. See picture for proper layout guidance.

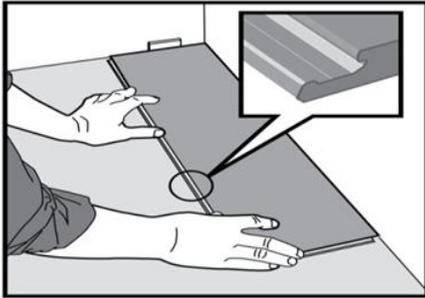


Stagger the end-joints randomly min 6" apart.

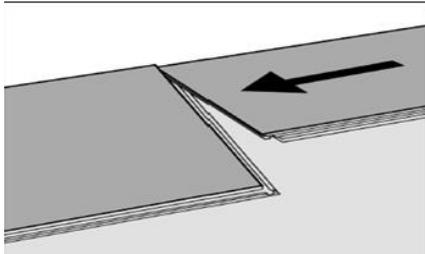


Avoid "stair-step", "H-Patterns" and close end-joints.

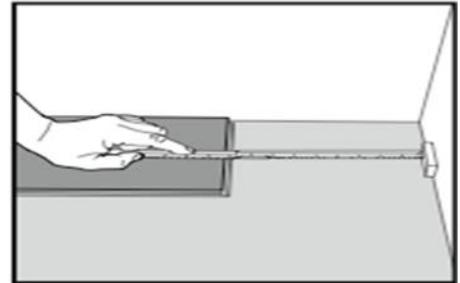
First row install



(1.) Install working left to right. The groove side should be facing away from the wall. Leave a min 1/2" space at all walls.

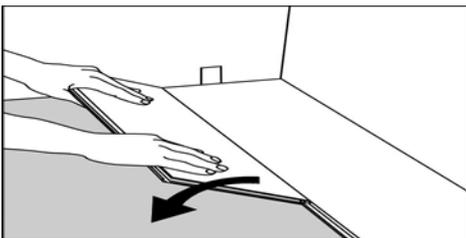


(2.) Install second plank overlapping the butt end of the first plank. Continue this until the row is complete.

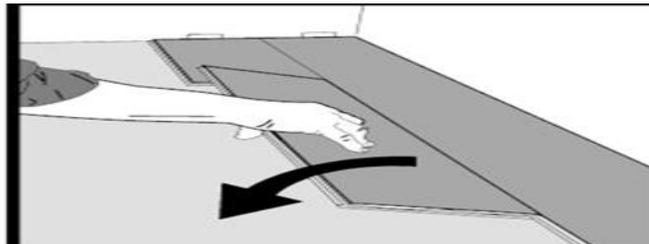


(3.) Cut the last plank in the row to size (min. 10" long) while still leaving a min. 1/2" expansion space. The left over half of the cut plank can be used as a starter plank for the next row.

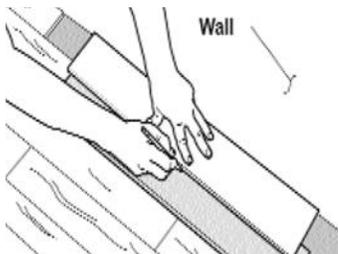
Second and consecutive rows



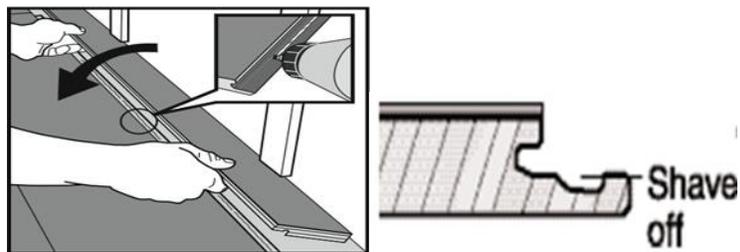
(4.) Start the second row with a min. 10" long plank. Work left to right. At a 30 degree angle install the long side tongue into the groove of the previous row.



(5.) Install the second plank into the groove of the first row while at a 30 degree angle off the subfloor. Slide the plank toward the butt end of the previous plank, and then rotate the plank down to the subfloor. Continue this method until the row is complete.

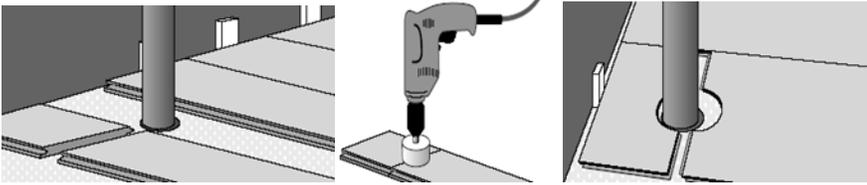


(6.) The last row may need to be cut to fit. Make sure to leave a 1/2" expansion space between the last row and the walls. Add PVA wood glue to the locking joints of planks less than 3" wide.



(7.) If needed shave off the lip to help locking in planks that are installed under door casings. When removing the lip, use PVA wood glue to bond the planks to the previous row.

CUTTING AROUND PIPES



STEP APPLICATIONS

Depending on the product purchased, stair nosing may be available to match your flooring:

You can find detailed stair installation instructions on the web site through the Lumber Liquidators Flooring 101 web pages. Stair parts should be nailed and glued for safety. Due to the complexity of stair installation and local building codes, it is highly recommended to consult with a professional installer or our Technical department for stair installation advice.

FINISHING

Remove spacers from perimeter of room. Clean up trash and use the Bellwood Cleaner to remove any dust. Install transitions and moldings. Furniture can be installed right after installation, but use special furniture glides designed to protect hardwood flooring before moving furniture back in place. Damage to the finish caused by moving furniture or appliances is not covered.

Glue Down Installation Method:

When gluing down the flooring, install the flooring the same way as you would using the floating installation method. The only difference is that adhesive will be trowel applied to the subfloor, and the flooring will be laid into the adhesive bonding it to the subfloor. Always check the adhesive manufactures guidelines on proper subfloor prep, moisture testing, approved substrates, trowel sizes, cure times, and coverage. *A moisture barrier is required over all concrete subfloors.* It is strongly advised to use moisture barriers that offer 100% moisture protection over concrete.

Recommended Adhesives: Use Bostik, Mapei, Morning Star, and Exmore adhesives that are designed for use with engineered wood floors. Technical Data Sheets for these adhesive can be found on the adhesive manufactures website, or on Lumber Liquidators Flooring 101 section at www.lumberliquidators.com. Technical data sheets provide the guidelines for approved subfloors, approved floors, subfloor prep, cure times, and trowel sizes among other information.

Expansion Space: A minimum 1/2" expansion space is required around all fixed objects and walls. T-molding expansion breaks are not required with glue down installation methods, but can be helpful in minimizing overall floor movement due to seasonal humidity changes inside the home.

Glue down Install: Start the installation parallel to the longest exterior wall in the room. Spread out only enough adhesive to install the first row of flooring leaving a min. 1/2" expansion gap at all walls. A laser level or string line can be used to make sure the first row is straight. Allow the first row to set up before installing additional rows. This helps prevent the first row from moving as the next rows are installed. Spread out enough adhesive to install 4 rows at a time. Planks must be wet laid into the adhesive. Discard badly bowed or warped planks. Periodically lift up a plank to verify proper adhesive coverage to the subfloor and bottom of the plank. After laying 4 rows clean up any glue that gets on the finish right away using the adhesive manufactures recommended adhesive remover. Use #2080 blue painters tape to hold planks together if needed until the adhesive cures. Don't leave tape on for more than 24hrs. Wait 24hrs before placing furniture back onto the flooring. Glue down tips can be found on the Flooring 101 section of Lumber Liquidators website. www.lumberliquidators.com

Radiant Heat Systems

For a list of radiant heat approved engineered floors, go to the Lumber Liquidators website (www.lumberliquidators.com) click the Flooring 101 link. Then type "radiant heat approved engineered floor list" in the search feature to locate the file.

- The radiant heat system must have been tested and in operation for a few weeks prior to installation.
- The radiant heating system needs to be turned off prior to installation and the floor needs to be close to room temperature 65 to 75 degrees. If the radiant heat pipes are visible or exposed in the subfloor, you must cover them with 3/8" plywood to spread heat more evenly.
- After the flooring is installed, slowly raise the temperature to the preferred comfort level (over at least a 5 day timeframe) beginning two days after installation or at the onset of colder weather conditions.
- The radiant heat system must be controlled and the surface temperature of the flooring must never be allowed to exceed 85°F.
- Proper relative humidity must be maintained within your home at all times during the year. For best results and to minimize seasonal gaps keep indoor humidity between 30% to 50% RH. If you are in an arid part of the USA or Canada, it is especially imperative that you use a humidifying system to maintain this moisture in the air.
- Forced air heating system also can dry out the air inside your house much more than you might imagine, so use of a Relative Humidity meter (Hygrometer) is recommended to ensure you know when you must use a humidifier to keep the relative humidity above 30%.
- Even when these guidelines are followed it is still possible that your flooring may experience some cracks (seasonal checking) on the plank surface and/or gapping between planks due to slight shrinkage, which are not covered by the products limited warranty.

MOLDINGS & TRANSITIONS:

Install transition moldings directly to the subflooring. Pre-drill and hand nail transitions moldings to wood subfloors using 6d finishing nails. Use a wood urethane tube adhesive to bond wood transitions to concrete. Cut moldings using a electric miter saw using a 60 tooth or 80 tooth fine finish carbide tipped blade makes the best cuts. Attach base or quarter round moldings to the wall, never into the floor. Mitered cuts hide better when joining moldings.

- 1) Base Board - for hiding imperfections and adding a custom finish along any wall.
- 2) Quarter-Round - for covering the expansion left at walls and other fixed surfaces.
- 3 & 6) Reducer Moldings - used to transition to lower floors.
- 4) Stair Nosing - for finishing the exposed edges of stairs and landings.
- 5) T-Expansion - for joining two areas of flooring of similar heights.
- 7) End Cap - for finishing the space at sliding glass doors, at bath tubs or transitioning to carpet.

Routine Care/Protection

Care

1. Use the Bellawood Cleaner or Dream Home cleaner to keep the floor clean. We do not endorse any other cleaners.
2. Apply mineral spirits on a cloth to help remove oil, paint, markers, lipstick, ink, or tar. Then buff with dry cloth.
3. Only use vacuums designed for hard surface floors.
4. Do not use wet mops, steam cleaners, oils, polishes, waxes on the floor.
6. Do not use buffing or polishing machines.
7. Remove hardened candle wax and chewing gum with ice, then gently scrape with a plastic scraper, such as a credit card.
8. Repair white scratches with stain markers. Dents and chips can be concealed with wood putty, wax crayons, or wood epoxy sticks.
9. Maintain home climate between 60F and 80F with humidity between 30% to 50% year round.
10. UV light can cause wood and bamboo to lighten or darken overtime. Periodically rearranging your area rugs and furniture will allow the floor to antique or age evenly.

Protection

1. Use mats at entrance doors to collect dirt, grit, and wet shoes
2. Only use breathable rugs and rug pads that are safe for hardwood floors. Verify with rug manufacture. Do not use PVC, petroleum or solvent based backings.
3. Use floor protectors and wide-load bearing leg bases for heavy object like fish tanks, pool tables, and pianos.
6. Do not walk on your floor with stiletto heels, shoes with sports cleats or exposed metal parts.
8. Keep pet nails trimmed to prevent scratching the floor.
10. Use protection when moving heavy furniture or appliances. Never try to slide or roll heavy objects across the floor.
11. Felt pads should be used under chair legs. Use soft rubber castors or felt castors on office chairs.



CAUTION: WOOD DUST Cut flooring outside

Sawing, sanding and machining wood products can produce dust. Airborne wood dust can cause respiratory, eye and skin irritation. The International Agency for Research on Cancer (IARC) has classified wood dust as a nasal carcinogen in humans.

Precautionary Measures: Cut flooring outside. Equip power tools with a dust collector. If high dust levels are encountered; use an appropriate NIOSH-designated dust mask. Avoid dust contact with eye and skin, USE EYE AND EAR PROTECTION. First Aid Measures in case of irritation: flush/rinse eyes or skin with water for at least 15 minutes.

TO OBTAIN ASSISTANCE WITH PRODUCT INFORMATION, PLEASE CONTACT THE STORE OF ORIGINAL PURCHASE OR CONTACT CUSTOMER CARE AT 800-366-4204. VISIT THE "FLOORING 101" or www.lumberliquidators.com FOR INSTALLATION TIPS AND ADDITIONAL WARRANTY INFORMATION.