



Many homeowner's prefer to install their own prefinished flooring. While Rivershores would be happy to install the flooring for you, we recognize that many do-it-your-selver's find it satisfying and more cost effective. While we cannot offer all the advice that years of experience has taught us, we have compiled a general document encompassing the major points of prefinished flooring installation. For further instructions, please refer to the National Hardwood Flooring Associations installation guide.

## **Solid Tongue and Groove Flooring Installation Instructions**

### **Pre-Installation guidelines:**

These installation guidelines are at the suggestion of Rivershores Building Products, Inc. and are intended to help our customers develop a plan to install their prefinished flooring. It is also recommend that you consult a professional hardwood flooring installer, as well as, the National Hardwood Flooring Association at 800-422-4556 for further instructions.

Please carefully inspect all flooring material before installation. Warranties and claims are not covered after materials with visible defects have been installed. Verify that the correct product has been provided (species, color, grain, size, and quantity). Hardwood flooring – domestics, exotics, and eco-friendly are products of nature. Variations in color and grain patterns are normal. Be sure to add at least 5% to 10% additional material based on industry standards to your actual square footage to allow for cutting and waste. Rivershores flooring will not be responsible for installation of any defective material, the quality of installation, or any costs associated with a poorly installed floor. If any product is deemed unacceptable, please contact your supplier immediately as any flooring that has been installed is considered accepted by the owner and installer.

### **Job-site conditions and planning requirements**

The building in which the flooring will be installed must be completely enclosed. All windows and doors must be fully functional. Any drywall, masonry, concrete or plaster work must be finished and allowed sufficient time to completely dry. If these conditions are not followed, the moisture level of the air could be too high. HVAC systems must be operational for at least 10 days prior to installation. The room temperature must be within a range of 65 to 75 degrees. The relative humidity level of the air must be between 40% and 60% and remain this way year round. Wood is a product that will expand and contract depending on the moisture content of the air. These conditions are also necessary to properly acclimate your flooring to its new home. Gaps in your flooring can be seasonal and can be greatly minimized by equalizing the moisture level of the air. Be sure to acclimate your flooring a minimum of 4 to 7 days before installation, by opening boxes and removing shrink wrap film to let air circulate around your flooring.

During the inspection of your subfloor, you must determine the moisture level using a metering device for either concrete or wood depending on the type of sub-floor you have. The level of moisture in your subfloor will also be dependent on whether or not you have a crawl space or a full basement. Crawl spaces should be a minimum of 24" from the dirt floor to your joists. You must also lay down a polyethylene (6 mil) film as a vapor barrier to minimize moisture transfer from the crawl space to your sub-floor. Crawl spaces should also be well ventilated.

## Beginning your Installation:

Make sure to open several different cartons of flooring to begin working out of at the same time. This will ensure the best possible color and grain distribution.

Remove all wall base, shoe molding, and cut door casings. Wall base and shoe molding can be replaced after the floor is installed.

Make sure to remove all debris from the sub-floor as well as any wax, oil, or solvents. Your floor should be flat and should not be more than 3/16" out of level over an 8' radius. If your floor exceeds these measurements then you should use a filling compound that will fill the hollow spots in your sub-floor. Loose areas in the sub-floor should also be checked. To avoid any possible squeaks in your flooring, make sure to nail or screw every 6" along joists. Sub-floors should be a minimum of 5/8" to 3/4". 5/8" thick CDX plywood is recommended for 12" and 16" on center floors. 3/4" CDX plywood is recommended for 24" on center floors.

Wood sub-floors should be checked with a moisture meter, as well as your flooring. There must not be a difference of more than 4% between the moisture level of the flooring and the moisture level of the sub-floor. The moisture content of the flooring must not exceed 12%. If the difference is more than 4%, the source of the moisture must be located and corrected before installation.

Concrete sub-floors should be checked and measured with a concrete moisture meter at each outside wall as well as several times in the interior of the floor. A calcium chloride test is also acceptable and takes 24 hours to accurately measure. Make sure concrete is fully cured for at least 45 days.

If the calcium chloride test shows moisture content greater than 3 lbs there is too much moisture present and the source of moisture must be located and corrected before installation. Do not install over concrete unless you are sure it remains dry year round.

## Nail down installation: *[Not recommended for Strand Woven Bamboo]*

Recommended tools: Tape measure, hammer, pencil, chalk line, scribing block, carpenter square, table saw, chop saw

**Domestics, Exotics, Traditional Bamboo (Vertical/Horizontal), and Strand Woven Mulberry** - A pneumatic tongue-and-groove flooring stapler or nailer. 1-1/2" long staples or cleat nails are recommended. We recommend a Powernail 50p.

**Strand Woven Bamboo** - Rivershores does not recommend that you nail down strand woven bamboo floors. A glue down application is recommended. For those that do choose to nail down your floor, the Powernail 50p is a common choice among professionals. This pneumatic gun uses a 1 1/2" long 18 gauge cleat nail.

**Strand Woven Palmwood** – A pneumatic tongue-and-groove flooring stapler with 1-3/16" Bostitch flooring staples is recommended.

## Beginning Your Installation:

Install a proper vapor retarder, overlap edges a minimum of 4" using a stapler to attach to floor. Make sure staples/nails are completely seated.

Install flooring perpendicular to flooring joists. Measure the distance from starting wall (longest straightest wall) in two different corners. Mark these points and snap a chalk line connecting them.

Leave a 1/2" expansion gap at edges of floor to allow for expansion and contraction around any walls, pipes, and cabinets. Wood will buckle or gap if expansion gap is not allowed for. Spacers are recommended to achieve a consistent expansion gap between flooring and walls or any vertical objects such as pipes or cabinets. Starter rows should be glued or finish nailed using the longest lengths available. If face nailing, pre-drill holes so as to not damage surface. You can use wood putty filler to fill holes later. Stagger end joints a minimum of 4" from each other and nail 3" from each end of rows. Space nail every 6-8" with a minimum of 2 nails/board.

Cleat nails or staples should hit joists whenever possible. PSI of pneumatic nailer will range from 55 to 95 psi. We recommend a Powernail 50p tongue-and-groove nailer. This nailer uses a 1 1/2" long 18 gauge cleat nail. Be sure to test the pressure on a test piece

before nailing actual flooring. It must be properly adjusted so as not to damage your floor in any way. This will help prevent tongue splitting as well as any surface damage. Rivershores Building Products cannot be responsible in any way for an improperly installed floor. When replacing molding and trim pieces always fasten to wall and not flooring.

**Glue Down installation: : *[Is acceptable for all prefinished flooring products]***

Tools recommended: Tape measure, hammer, pencil, chalk line, scribing block, carpenter square, table saw, chop saw, premium wood flooring adhesive (Bostik's Best Adhesive or Bostik's TKO), trowel (Bostik 1/4" x 1/4" square notch), and low adhesive painter's tape.

Make sure to always follow the adhesive manufacturer's complete set of instructions to keep your warranty in effect. Make sure concrete sub-floors have fully cured for at least 45 days. Use only 100% urethane based adhesive. Grind off any high spots in the concrete floor and fill low spots with leveling compound.

Spread your adhesive out according to directions and fit the tongue side into the groove side until they are flush up against each other. Use your removable painter's tape and tape rows together after they have been laid. If boards are slightly bowed or the floor is uneven make sure to weight down floor so as to achieve good contact. Walk the entire floor to make sure it has made good contact. Make sure to immediately wipe off any excessive adhesive from floor as you work. Use a light application of mineral spirits or Bostick's Adhesive Remover and rub lightly, so as not to damage your factory finish. Be sure to give your flooring a minimum of 24 hours to cure before traffic is allowed, then be sure to protect the floor from other construction traffic until your project is complete.

For floors that are wider than 20' please consult the National Wood Flooring Association's technical manual. There may be more spacing necessary in some areas.

Radiant heating: Most prefinished flooring products are suitable for radiant heat flooring systems, but not warranted. Please consult with your supplier regarding the warranty of your flooring products when a radiant heat flooring system is being used. It is important when installing over radiant heat that a few guidelines are strictly followed. Don't let floor exceed 85 degrees. Relative humidity must fall between 40% and 60%. Radiant heating system must be on and working more than 7 days prior to installation.

**Commercial Topcoating:**

When using our flooring products in high traffic areas, we recommend an application of 1-2 top coats of a very hard water-based finish. This will allow your floor to have an even harder finish, and help to prevent excessive scratching. This will also seal the bevels, preventing debris from accumulating, and make it easier to clean. We recommend Bona Traffic™, as an acceptable finish. Please visit [www.bona.com](http://www.bona.com) for more information.

**Commercial Topcoating – Refinishing:**

When the need to refinish your top coat is necessary and you have cared for your flooring properly, you can screen and re-coat your floor. Please follow the directions on the product, which usually includes: cleaning, lightly sanding, and then applying 1-2 top coats of a very hard water-based finish. We recommend the Bona Prep™ and Bona Traffic™ Systems. This will freshen your floor's appearance and continue to give you years of enjoyment. Please visit [www.bona.com](http://www.bona.com) for more information.



## Practical Installation Tips

- It is recommended that the industry standard of 5-10 percent be added to the actual footage of required flooring materials as an allowance for cutting and waste during installation.
- Installation of a factory-finished hardwood floor requires more care than a conventional floor to prevent damaging the floor's finish during installation. Frequent use of a vacuum cleaner during installation is highly recommended to eliminate sawdust and wood chips.
- A sharp, fine-tooth (finishing) circular/miter saw blade is recommended for cutting. Taping the area to be cut makes for a cleaner cut.
- Always use a tapping block and never hit flooring directly to avoid fracturing the flooring edge. A small piece of your flooring makes a good tapping block.
- Nails and staples are best placed at least three inches from the edge of the boards. For wood sub-floors, nail every six inches.
- It is recommended that door casings be cut at the bottom so flooring will fit under it instead of scribing the flooring to fit around the door jambs.
- Leave approximately 3/8 inch space at each wall for expansion of flooring. The expansion gap can be covered with some base molding.
- Take care of moisture problems or potential problems BEFORE installation. Special precautions should be taken below grade. A vapor barrier or flooring paper placed between the sub-floor and the boards will help keep the humidity content of the flooring more stable. If your flooring installation is hampered by a moisture problem, contact a professional installer to improve the situation. A calcium chloride test should be performed on any concrete flooring before installation occurs.
- To avoid a pattern of end joints, cut the initial boards in each row at varying lengths so that all the board ends are staggered throughout the installation. Ensure that the joints are at least six inches apart.
- Before installing, lay out the flooring in a rough fashion according to how you would like it to appear. Arrange the flooring's natural range of color in a manner that is pleasing to your eye. Remember, as noted before, like other natural products, some color variation is expected in flooring.
- Slightly bent or bowed boards are not defective. These boards may be a little harder to install, but they will lie flat after installation.
- Use pull straps at three-foot intervals to hold the boards firmly together while installing. You could also use wide masking tape.
- For adhesive installation, use a 100% urethane-based adhesive such as Bostik's TKO or Bostik's Best. Be sure to follow Bostik's instructions so their warranty is in effect.



## Maintaining Your Hardwood Flooring

If you have purchased raw flooring that has been sanded and finished, you have had one of the finest polyurethane finishes available applied. This finish provides a protective layer for your floor. If you have purchased a prefinished floor, it has had several UV coatings applied in the factory giving it a very hard finish surface. The key to maintaining your floors natural beauty is through both preventive and regular maintenance. To assist you, we have listed several maintenance tips.

### Preventive Maintenance Tips:

- Use protective walk-off mats at the exterior doors to help prevent sand and grit from being tracked onto the floor. Sand and gritty dirt are any floor's worst enemy.
- If your hardwood floor is located in the kitchen, you may want to place a throw rug in front of the kitchen sink to catch spills and splashes. The polyurethane finish is not a waterproofing agent.
- Install proper floor protectors on the legs of all furniture in the rooms where you have hardwood. Protectors allow chairs to move easily over the floor without scuffing. Protectors must be cleaned on a regular basis to remove any grit that may have become embedded. Felt floor protectors are available at Rivershores Building Products, Inc.
- Vacuum regularly. When vacuuming your household carpets, it is a good idea to also vacuum the hardwood floor. A soft brush attachment works beautifully.
- Do not use household dusting sprays or treatments as they may cause your floor to become slick, or dull the finish. The best treatment is to sweep the floors frequently.
- NEVER wet mop a hardwood floor. Excessive water will cause the wood to expand, possibly damaging your floor. The finish put on your floor is to protect the stain and the wood surface. It is not a bonding or waterproofing substance.
- Keep high heeled shoes in good repair. Heels that have lost their protective cap, exposing the fastening nail, exert over 8,000 lbs per square inch of pressure on the floor. This kind of pressure will damage any floor covering.

### Regular Maintenance Tips:

- Food spills should be cleaned up in a timely manner using a damp rag. Poly Care, available at Rivershores, is an excellent product. It is a waterborne neutral cleaner which leaves no residue. We do not recommend the use of furniture dusting products, oil soaps (Murphy's oil soap, etc.) or other harsh cleaning products.
- Shoe marks can be removed using a spot application of Scuff Remover, available at Rivershores Building Products, Inc. and a non-abrasive scrubbing pad. Marks that are especially difficult to remove are best treated with a "white" grade maintenance pad and cleaner.
- Waxing is not necessary, nor is it recommended. Once you wax a urethane floor, it is difficult to re-coat the floor, as the finish does not bond to the wax. In addition, once wax is used, you must maintain the wax AND the floor. Preventive cleaning is the key to maintaining your floor.
- Re-coating should be done when the floor BEGINS to show wear. Do not wait until the finish is worn off and dirt and spills have penetrated the wood, or the floor will have to be sanded to the bare wood and completely refinished.

### Moisture & Humidity Issues causing Cracking:

All the wood in your home will contract or expand according to the moisture in the air. Doors and windows may swell and stick during rainy seasons. In dry, cold weather, cracks and fine lines of separation may appear in wall cabinets and furniture. This is characteristic of wood because wood is a product of nature, and its natural quality is what makes it desirable.

The same reaction to humidity or the lack of it is happening constantly in your wood floors. Tiny cracks between edges of boards may appear when unusually dry conditions are produced by your heating system. Normal cracks, if truly normal, close up in summer months and no repairs are needed. This can usually be corrected simply by installing a humidifier. With a more proper balance of moisture content in the house (40 to 50%), both family and floors benefit from a healthier environment.