

## READ ALL INSTRUCTIONS BEFORE INSTALLATION!!!

### INSTALLATION/OWNER RESPONSIBILITY

Beautiful hardwood floors are a product of nature and therefore, include natural variations. Stoehr floors are manufactured in accordance with accepted industry standards which permit a defect tolerance not to exceed 5%. The Installer/Owner of Stoehr products has final inspection responsibility as to grade, manufacture and factory finish. He/she must use reasonable selectivity and hold out or cut off pieces with glaring defects, whatever the cause. Use of stain or putty stick for defect correction during installation is an industry accepted procedure. Five percent must be added to actual square footage needed as allowance for cutting waste and allowable manufacturing defects. Should an individual piece be doubtful as to grade, manufacture or factory finish, the installer should not use the piece. Stoehr assumes no liability for manufacturing defects that are identified after installation.

### DELIVERY, STORAGE, AND HANDLING

Do not deliver material during inclement weather conditions. Handle and unload with care. Store in a dry place, being sure to provide at least a 4-inch air space under cartons which are stored over on-grade concrete floors, flooring should not be delivered until the building has been closed in with windows and doors in place and until cement work, plastering and all other materials are thoroughly dry. Concrete should be at least 60 days old.

### TOOLS

You will need basic carpentry tools, along with a table saw, circular saw or jigsaw, chalk line, tape measure, hammer, drill, 1/16" drill bit, nailset and 7d flooring nails or equivalent, safety glasses, dust mask, and gloves. For ease of installation Stoehr recommends industry standard flooring fasteners like the Primatch Model 300 and 330, Primatch Model 200 Pneumatic Nailers, and the Powernail® Model 45 with 8-25 Adaptor Plate, Model 45R with 8-25 Adaptor Plate, or Model 445 pneumatic nailer. A Stanley-Bostitch MIIIFS Flooring Stapler is also acceptable. A non-marring white tip rubber mallet should be used when installing flooring. Do not use a hard mallet which can damage the wood floor.

### SUBFLOORS

¾" Random Length is for nail-down installation only over subfloors. In pier and beam construction it is necessary to have a board or plywood/OSB subfloor over joists. Do not nail over particle board or similar products. Before starting your installation, be sure the subfloors meet the following requirements (Fig. 1):

**JOISTS** – Plywood/OSB over joists (16" O.C.) should be a minimum of ¾" thick T&G exterior grade. The 4' x 8' sheets should be laid with the direction of the surface grain at right angles to joist direction. Offset the plywood end joints every 4 ft. and be sure to leave a 1/8" gap between sheets. Nail every 6" along each joist using 10d common nails or equivalent fasteners. \*Do not use marine grade plywood.

**CONCRETE** - One successful method of installing ¾" Random Length on concrete that is on/above grade, is to provide a Plywood/OSB nailing surface over 4 mil polyethylene film. Your poly-film should be laid loosely over the entire floor with edges lapped 4" and lapped 4" up your wall (Fig. 1). Next, lay down ¾" x 4' x 8' sheets of exterior grade plywood/OSB with 1/4" gaps between sheets and with your end joints staggered every 4 ft. Fasten down your subfloor with powder-actuated or hammer-driven concrete nails. Use a minimum of 18 nails per panel, starting at one end of the panel and working toward the opposite edge to be sure of flattening out the plywood and holding it securely.

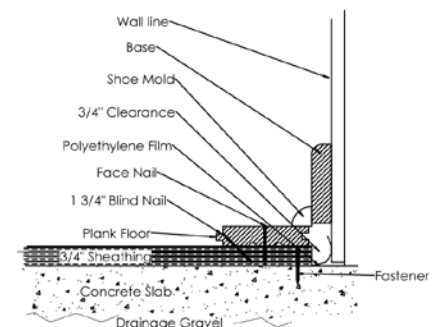


Fig. 1

**Note: Never install ¾" solid hardwood flooring in a basement. The excessive moisture which is natural in a basement will cause a floor failure. Never install ¾" solid hardwood flooring over concrete which has cured for less than 60 days.**

### MOISTURE RESISTANCE

Stoehr ¾" Random Length is crafted of the finest hardwoods available. However, we would like to point out that all wood naturally expands when exposed to moisture and even our high quality kiln-dried products will expand when exposed to unusually heavy moisture conditions. Because of the nature of wood, at least a ¾" space must be left parallel to the direction you lay the floor to allow for expansion. Do not install Random Length below grade (no basements) or over any subfloor with an existing moisture problem.

### MOISTURE CONTROL

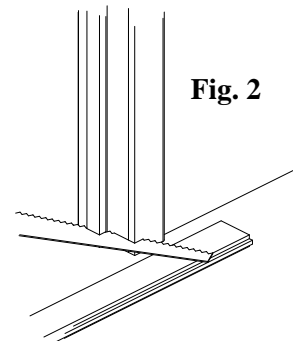
Look for and correct any cause of excess moisture, such as water in the basement, plumbing leaks, excessive condensation on water pipes, poorly fitted doors or windows, wet walls/foundations or 'green' lumber. In crawlspace homes it is recommended that you spread 4 mil thick (or greater) polyethylene below your subfloor. The difference between the wood moisture content in solid wood flooring and the subfloor material should also not vary more than four percentage points between them.

### VENTILATION

Proper air circulation is important to prevent moisture build-up. In crawlspace homes at least two vents on opposite walls should be left open year round with the combined size of the openings being no less than 1.5% of the square footage of the first floor.

### PRE-INSTALLATION PREPARATIONS:

As part of your subfloor preparation remove any existing base, shoe mold or doorway thresholds. These items can be replaced after installation to cover any unattractive cut edges. All door casings should be undercut or notched out to avoid difficult trim cuts. This can be easily done with a jamb saw or by laying down pieces of flooring on your subfloor as a depth guide for your handsaw (Fig. 2). For best results the subfloor should be level to ¼" in a 10' radius.



### GENERAL INSTALLATION RULES:

1. Your floor should be delivered to the job site at least 72 hours before installation. The flooring boxes should be opened up and the heating or air conditioning turned on so the flooring can acclimate to the conditions under which it will remain after installation. For best results, relative humidity and temperature should not vary more than 15%. If the environmental conditions are not properly maintained, excessive shrinkage or expansion may result. Optimal conditions are 65-80° F and 35-50% relative humidity.
2. Your ¾" Random Length flooring should be installed at right angles to your joists. If your installation requires the flooring to lay parallel (or less than 45° toward parallel) to the joists, blocking must be used 24" O.C. between the joists.
3. Random Length requires a ¾" expansion void between the first and last rows of strips and the walls, and at all vertical obstructions within the room.

Notes: In climates with extreme humidity or areas with excess soil moisture (coastal areas, waterfront sites, etc.) consider including expansion space between the floor boards about every 12"- 15" within the floor (as well as at

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the wall lines). This is easily done with strips of 1/32" sheet metal, thin metal washers, etc. placed between the rows of flooring before nailing tight. Extended acclimation time before installation is also recommended.

Red rosin paper or 15 lb. roofing paper placed between the subfloor and Stoehr flooring will assist in dampening slight squeaks as well as noise transfer. 15 lb. felt will also slightly reduce moisture transfer from below.

**4. Because of the natural color variation in hardwood flooring from piece to piece, it is important to work out of three or four cartons at a time to ensure a beautiful blend of shading.**

5. The proper nail spacing (by hand or by machine) is at least one nail every 10" to 12". Every board should be nailed so there will be nails within the last three inches of both ends of the board. Additional nails will enhance holding power. Do not nail closer than two inches from the ends of boards.

6. For machine nailing over plywood-on-joists use 2" or 1 ¾" cleats or staples in your nailing gun. For machine nailing over plywood-on-concrete use a 1-¾" cleats or staples in your nailing machine.

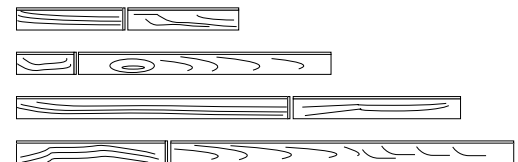
7. Because of the size of an industry standard nail gun/fastener, you will need to hand-nail the first 2 rows of strip and the last 3 rows of strip. Pre-drill you nail holes with a 1/16" drill bit to avoid splitting. Be sure to countersink all hand-driven nails. Countersink and putty all nails which are driven through the exposed face of the boards.

**INSTALLING YOUR FLOOR**

1. From your starting wall, measure out a distance equal to the width of the strip plus 1 inch in both corners. Snap a chalk line between these two points so you will have a guide to keep your first row of strips absolutely straight.

2. Line up your first row with the edges of the tongue on the chalk line and the groove side ¾" away from the wall.

3. It is important to create a random pattern at the beginning of the installation. The easiest way to accomplish this is by staggering the first four rows by at least twelve inch intervals, thereby creating a "stair step". Then, when the end of the row is reached, your final cuts are used to start the next four rows (Fig. 3).



**Fig. 3**

Reminder:

- Use a non-marring white tip rubber mallet when tapping boards into place (do not use a hard mallet which can damage the floor). Use industry standard 15/16 gauge flooring fasteners.

4. Pre-drill and face-nail the first row of strips using a 7d flooring nail or equivalent every 8" along the groove side (Fig. 1).

5. Random Length has "end joints". The end joints should be staggered by a minimum of 6 inches between rows.

6. Face nail the first row (Fig. 1) and next row of strips by hand. Pre-drill your nail holes at a 45 degree angle down through the nailing groove on top of the tongue. The next rows should blind nailed. Avoid bruising the wood by using a nail punch to drive the nails the last 1/4" into the tongue. Use 7d flooring nail or equivalent.

7. Continue nailing by hand, or start using your nailing gun to lay consecutive rows of flooring. As you nail, be sure to pull the flooring right together. While slight bows in ¾" solid flooring are normal, Stoehr's unique

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manufacturing process helps minimize the potential. Bowed boards can usually be pulled straight by use of a pry bar or by simply using additional nails as needed.

8. The last 2 or 3 rows of strips will have to be either blind-nailed or face-nailed by hand. The last row of strips may need to be ripped down in width to provide at least ¾" room for expansion at the wall line.

9. Putty any nail holes and small gaps using a matching putty stick (available at most retail flooring centers) and install your thresholds, base moldings, and/or shoe moldings, being careful not to obstruct your ¾" expansion space.

Note: It is a good idea to keep some extra flooring for repairs in the future.



**INSTALLER**

You are the final grader for this Stoehr Hardwood Floor. The product has been graded at the mill, but if there are any unacceptable defects do not install that piece. **STOEHR ASSUMES NO LIABILITY IF DEFECTIVE MATERIAL IS INSTALLED.**

Stoehr Flooring denies any responsibility for problems arising from jobsite failures, inappropriate or improperly prepared subfloors, improper installation procedures, environmental, or moisture issues.

Please visit [www.Stoehrflooring.com](http://www.Stoehrflooring.com) for Warranty information.