STAPLE /NAIL DOWN INSTALLATION INSTRUCTIONS

REQUIRED TOOLS AND ACCESSORIES

* Tape Measure
* Pull Bar
* Hand Saw or Electric Saw (Recommend Carbide Tip Blade)
* Tapping Block
* Hammer
* 6’ Straight Edge
* Utility Knife
* 15 lb. to 30 lb. asphalt saturated felt
* Spacers (1/2”)
* Broom
* Carpenter’s Square
* Safety Equipment (Goggles & Mask)

REQUIRED FASTENERS

* Power Nailer #445 pneumatic 2” cleat nail with adapter plate
* Power Nailer #45 manual 2” cleat nail with adapter plate
* Stanley Bostich MIIIFS Flooring Stapler with 1 1/2-2” Staples and Adapter Plate
* Stanley Bostich MIIIFN Flooring Nailer with 1 1/2-2” Cleats and Adapter Plate
* Primatech Manual R610 Flooring Nailer with 1” T Cleats
* Porta-Nailer Manual Floor Nailer Model 401 with 2” Cleats and Adapter Plate

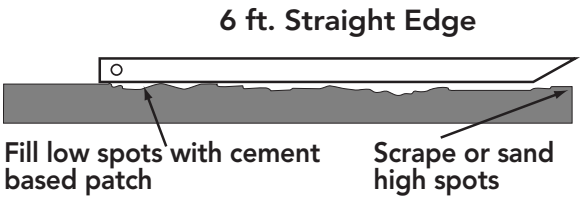
SUBFLOOR PREPARATION

Approved Subfloor Types:

1. APA approved 5/8” minimum thickness, preferred 3/4” or thicker exterior plywood . Note: When installing approved plywood, refer to specific structural panel manufacturer’s instructions.
2. 3/4” (23/32”) OSB on 16” center floor joists properly nailed
3. Concrete slab with additional approved subfloor of sleepers or screed system. (see NWFA for guidelines)
4. Existing wood floors (installed at right angle only)
5. Resilient tile and sheet vinyl only over an above mentioned and approved subfloor.

Subfloors must be:

- CLEAN - Scraped or sanded, swept, free of wax, grease, paint, oil and other debris



- SMOOTH/FLAT - Within 1/8” on 6’ span. Sand high areas or joints, fill low areas (no more than 1/8”) with a cement type filler. Hint - 2 pennies are equal to 1/8.”
- STRUCTURALLY SOUND - Nail or screw any loose areas that squeak. Replace any damaged sub-flooring or underlayments.
- DRY - Moisture content of the subfloor must not exceed 14% on a wood moisture meter, or read more than a 5% difference than moisture content of product being installed.

Concrete Slabs: Must have a minimum of 3/4” plywood with a minimum of 6 mil polyfilm vapor barrier secured to the slab. All concrete subfloors should be tested for moisture content. Below are methods to test for moisture:

- Tape down 2’ x 2’ polyfilm squares (a garbage bag or plastic drop cloth will do) in several places on the floor. Wait 24 -48 hours, then check for the appearance of condensation on the inside of the bag or plastic or for a darkening of the concrete subfloor. Either occurrence signals the likely presence of excess moisture, requiring a Calcium Chloride Test.
- Perform a Calcium Chloride test, the maximum acceptable reading is 3-lbs./24hours/1000 sq.ft.
- Use a Delmhorst moisture meter, Model G-40 or Tramex Concrete Encounter. Check the subfloor in several locations.

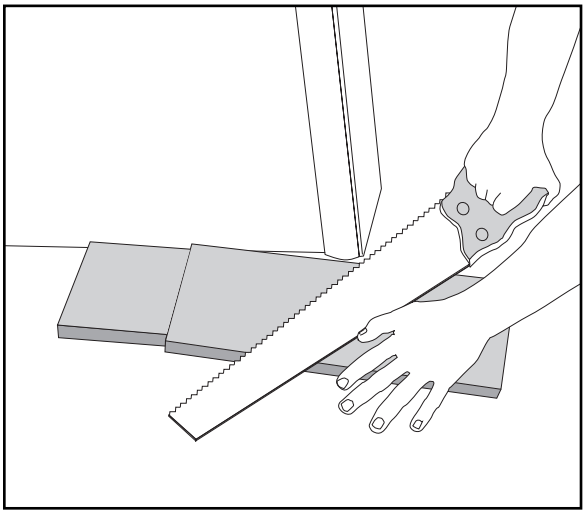
Remember: The moisture content of the subfloor must not exceed 14% on the moisture meter or read more than a 5% difference than the moisture content of the product being installed.

Installations Below the Soil Line: All Engineered Shaw Hardwood Flooring products can be installed on, above, or below the outside soil line. Below grade installations require that not only the floor, but all surfaces exposed to the ground are to be effectively water/moisture proofed.

Important: If a room or subfloor on, above, or below the soil line has too much moisture, correct the problem before installing any Shaw Hardwoods™ product.

JOBSITE PREPARATION

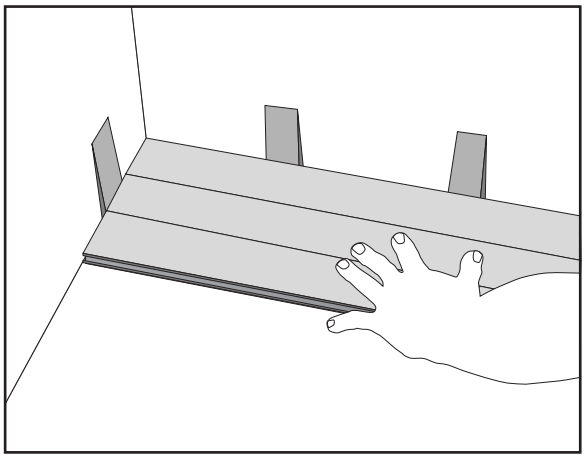
- Undercut door casings.
- Remove any existing wall base, shoe molding, quarter round or doorway threshold. Cover the clean subfloor, wall to wall, with 15 lb. asphalt saturated felt. Butt the edges together.



Step 1: GETTING STARTED

1. Choose a wall to start on. Measure the size of the room carefully to make sure the final row of boards (which almost always needs to be cut) is at least 2" wide. If it is not, cut off the long side of the boards on the first row. See installing the last row.

   Note: To cut the boards, always saw with the teeth cutting down into the face or top of the board. Cutting from the top down helps protect the surface.

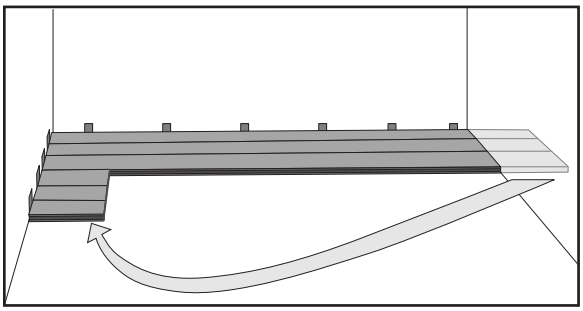


2. Begin installing the first row in the left corner at the base wall, so that the short grooved side will be against the wall to your left and the long grooved length of the board will be against the wall in front of you. The first row of boards should be face nailed and side nailed through the tongue. Place face nails 1/2" from back (groove) edge, 1 - 2" from each end and at least at 3" intervals. Side nail the tongue at 8" intervals. Counter sink heads and fill with filler. Be sure to put

1/2" expansion spacers between the floor and walls at 12" intervals. You will place spacers around the entire room as you go. Always place expansion spacers against the wall where two boards meet. This will make maintaining a good square seam easier.

Note: Larger rooms require additional expansion space. Add 1/16" to the width of the spacers for every 3' the room extends beyond 25'.

3. If the starting wall is out of square, it will be necessary to scribe the first row to match the wall, allowing the opposite side of the row to present a true square base for the rest of the floor. When the first row is complete, you must have a straight, even base established.



4. Start each new row on the left side with the remaining portion of the previous board. Remember: Atways stagger 18" between end joints of adjacent board rows. The end joints should not repeat visually across the installed floor.

Step 2: INSTALLING THE REST OF THE FLOORING

Important: The flooring should be installed from several cartons at the same time to insure proper color, grain, and shade mix.

After face nailing the first row, begin the second row by side nailing each board through the tongue at 8" intervals and within 2 - 3" of the end of each board using the appropriate Nailer or Stapler specified in "Required Fasteners". Continue this procedure throughout the remaining rows of flooring until you reach the last row.

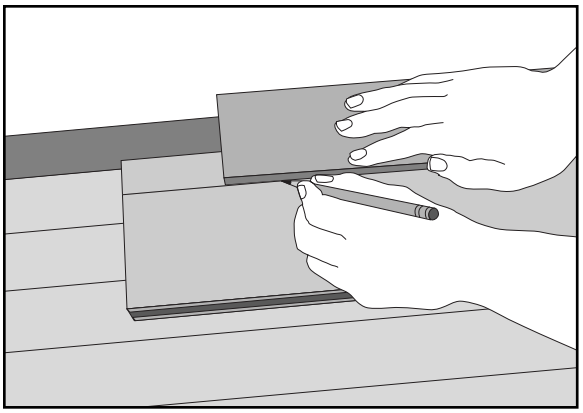
Important: Set air compressor to 80 PSI (or follow manufacturer's suggested PSI setting). Adjust the air pressure to insure proper setting of staples or nails. If tongue damage occurs, lower the air pressure.

Important: If you need to remove a side nailed staple, do not pull straight up from the tongue. This will damage the surface of the board. Instead, pull out the staple or nail from the tongue at the front of the board with all pressure from the hammer head directed into the subfloor.

Step 3: INSTALLING THE LAST ROW

Most often the entire length of the last row will need to be cut so that it is narrow enough to fit the remaining space. When this occurs, follow this simple procedure:

- Lay a row of boards with the tongue toward the wall, directly on top of the last row installed.
- Take a full width scrap piece of the Shaw Hardwoods™ product that is being installed with the tongue side against the wall. Use 1/2" spacers against the wall to ensure the proper expansion space.



- Draw a line along the row moving down the wall. The resulting line gives the proper width for the last row which, when cut, can then be wedged into place using the pull bar.

The last row will need to be faced nailed following the same instructions from the first row, nailing 1/2" from back (tongue) edge, 1 - 2" from each end and at least at 3" intervals. Counter sink heads and fill with filler.

Note on Top Nailing: Some parts of the room will be tight and the stapler will not fit where you can apply side nails correctly. In these situations, you will have to use top nailing. Always counter sink and cover with filler any nails that will not be covered by molding

Make sure when the installation is complete that the spacers are removed and the expansion space is covered with an appropriate molding as described in: MOLDINGS, TRIMS & TRANSITION PIECES.