

Installer/Owner Responsibilities

GreenWood Products Company strives to offer its customers the highest quality hardwood floors. Please carefully read this installation guide to ensure satisfactory results of your GreenWood hardwood floor. Carefully examine the flooring prior to installation. Ensure adequate lighting for proper inspection. If flooring is not acceptable as to grade, color, finish, and quality - do not install it. Contact seller immediately and arrange for replacement material. **GreenWood cannot accept responsibility for the installation of any flooring with visible or objectionable defects.**

Prior to installation of any flooring, the installer must ensure that the jobsite and subfloor meet the requirements of GreenWood hardwood flooring installation instructions.

GreenWood is not responsible for flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions. When purchasing GreenWood hardwood flooring, add 5% - 10% to the actual square footage needed for cutting allowance depending on layout: diagonal installations may require more. The use of stain, filler or putty for the correction of defects during installation should be accepted as normal procedure.

Jobsite and pre-installation requirements

Hardwood flooring should be one of the last items installed for any new construction or remodeling project. All work involving water or moisture should be completed before hardwood flooring installation. Room temperature and humidity of installation area should be consistent with normal, year-around living conditions for at least a week before the installation of wood flooring. Room temperature of 60°-70° F and humidity range of 35-60% is recommended.

In dry climates (Nevada, Colorado etc.), **it is necessary to open flooring cartons and poly film covering the flooring in the installation area for 72 hours before installation to allow the flooring to adjust to room temperature and humidity.**

Do not acclimate the flooring in other areas (install directly from box to prevent the t&g from expanding).

Do not store flooring directly on concrete or near outside walls. When considering the use of GreenWood hardwood flooring for bathroom installations be sure to consider the level of care and maintenance in that type of environment. Water damage is not covered under GreenWood's warranty.

Installation

Tools you'll need:

Tape measure	Tapping blocks	Pencil
Crow bar or Pull bar	Chalk line	Wood or plastic spacer
Hammer	Handsaw (power saw is also helpful)	

For nail down installation, you'll need:

Stanley Bostich M111FS Flooring Stapler or equivalent
1 1/2" staples

For glue down installation, you'll also need:

Bostik's Best, Franklin 811, or other approved urethane based wood flooring adhesive
Manufacturer's adhesive cleaning product
3/16" x 3/16" V-notched trowel
Damp and dry towels

For floating floor installations, you will also need:

6-10 mill poly film Underlayment
PVAC glue Poly or Duct tape

Installation requirements

Quality of your floor installation is dependent on the quality and condition of the subfloor. Please read the following information carefully:

Acceptable Sub Floors:

Plywood (at least 1/2")

Underlayment grade particleboard (floating or glue down only)

OSB (at least 3/4")

Concrete slabs (floating or glue down only)

Existing wood

Ceramic tile (floating or glue down only)

Resilient tile and sheet vinyl (floating or glue down only)

Sub Floors must be:

Structurally sound

Clean: Thoroughly swept and free of all debris, wax, grease, paint, sealers, old adhesives, and other substances.

Level: Flat to 3/16" per 10' radius.

Dry and will remain dry: Subfloor must remain dry year-round. Moisture content of subfloor must not exceed 13% for most surfaces and must not exceed 2.5% for concrete. The flooring should be tested with a commercial moisture meter. Multiple readings are required (at least 1 for every 30 sf). Any reading over 2.5% will require a calcium chloride test to determine actual conditions.

Wood sub floors

Must be dry and well secured. Moisture content of the subfloor must not exceed 12% on a wood moisture meter and read more than a 4% difference than moisture content of product being installed. 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

Must be fully cured (at least 60 days old) and should have minimum 6-mil poly film between concrete and ground. **Do not install on concrete unless you are sure it stays dry year-round. All concrete should be tested for moisture.** The maximum acceptable reading for the calcium chloride test is 3lbs per 24hours per 1,000 sq. ft. Please contact a professional hardwood flooring installer to improve subfloor to an acceptable level.

Ceramic tile, resilient tile, and sheet vinyl

Must be well bonded to subfloor, in good condition, clean and level. Caution: Do not sand existing vinyl floors since they may contain asbestos.

Installation over radiant heat

Use only floating installation over radiant heat. Subfloor should never exceed 80° F; check with manufacturer's suggested guidelines for correct water temperature inside heating pipes. Switch off heating unit one or two days before flooring installation. Room temperature should not vary more than 15° F year-round. Follow floating installation instructions.

Preparing for installation

Door casings should be undercut or notched out to allow flooring to fit underneath. This can be done easily by placing a piece of flooring on the subfloor as a height guide for your saw. Base moldings and door thresholds should be removed and replaced after flooring installation. Since wood expands with any increase in moisture content, always leave at least a 3/8" expansion space between flooring and all walls and vertical objects (such as pipes and cabinets). This will be covered up once you reapply base moldings. Use wood or plastic spacers during installation to maintain this expansion space.

When laying flooring, stagger end joints from row to row by at least 10". 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" or less, cut a new plank at a random length and use it to start the next row. You will always begin each row from the same side of the room.

To pull planks together, use flooring straps and/or a tapping block and hammer. Tapping block should be used against the tongue only, never against the groove of the planks. When near a wall, you can use a crow or pull bar to close end joints. Take care not to damage edge of flooring.

Getting started

The flooring should be installed from several cartons at the same time to ensure proper color, grain and shade mix. For the best appearance, wood flooring is often laid parallel to the longest wall. You should make the final decision which direction the planks will run based on the layout of the room and locations of entrances and windows. GreenWood recommends you begin installation next to an outside wall, which is usually the straightest and best reference for establishing a straight working line.

Establish your working line by measuring an equal distance from the wall at both ends and snapping a chalk line. The distance you measure from the wall would be the width of the plank plus about 3/8" for expansion space. You may want to dry lay a few rows (no glue or nails) before starting installation to confirm your layout decision and working line.

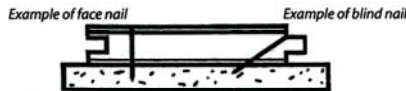
Note: If outside wall is out of square, adjust working line to make straight for the rest of your installation. You'll need to scribe cut the first row of planks to match the wall and make possible the straight working line.

Nail-down Installation

See "Preparing for installation" and "Getting started"

Installing first and second rows.

Lay flooring perpendicular to floor joists, unless subfloor is existing hardwood and/or has been strengthened to prevent sagging. Lay first plank inside chalk line with grooved edge toward wall. Pre-drill 1/2" from grooved edge about 8" apart and secure planks with finish nails. Use nail punch to sink nails below surface and fill with wood filler. Repeat on tongue edge of plank. Install entire first and second row in the same manner. Always leave at least 1/4" expansion space between flooring and all walls and vertical objects (such as pipes and cabinets). Use wood or plastic spacers during installation to maintain this expansion space.



Installing Floor

Lay subsequent rows by using floor nailer to blind nail top inside edge of tongue at 45-degree angle. Nail each board every 8" and within 2" of each end. Remember to stagger end joints from row to row and use tapping block to fit boards together.

It may be necessary to face nail in doorways or tight areas where the nailer can't fit. The last two rows will need to be face nailed in the same manner as the first two rows.

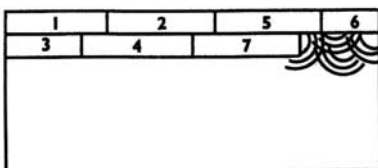
See "Finishing the job"

Glue-down Installation

See "Preparing for installation" and "Getting started"

Spreading adhesive

Use only GreenWood approved adhesives. Read adhesive instructions carefully for proper trowel size and adhesive set time. Always allow for adequate cross ventilation when working with flooring adhesive.



Starting at the outside wall, spread as much adhesive as can be covered by flooring in 1 hour (or as recommended by your adhesive instructions). Spread with the trowel at a 45° angle.

Installing the floor

Lay the first row of flooring with tongue facing the wall; and continue laying the flooring until adhesive is covered. Check your working lines to be sure the floor is still aligned. Use flooring straps or a tapping block to fit planks together, but be careful not to let the installed floor move on the wet adhesive while you are working.

When the first section is finished, continue to spread adhesive and lay flooring section by section until the installation is complete. Remember to stagger end joints from row to row. **Use recommended adhesive remover/cleaner to immediately remove any adhesive that gets on the flooring surface.**

Always leave at least a 3/8" expansion space between flooring and all walls and vertical objects (such as pipes and cabinets). Use wood or plastic spacers during installation to maintain this expansion space.

Walk or roll each section of flooring foot-by-foot within the adhesive working time to ensure a solid bond with the adhesive.

Flooring planks on the perimeter of room may require weight on them until adhesive cures enough to hold them down.

See "Finishing the job"

Floating Installation

See "Preparing for installation" and "Getting started"

Laying underlayment

Poly film: If below grade, first lay a 6-10 mil poly film with seams overlapped 8". Fasten seams with duct tape or poly tape. Run the outside edges of poly film up perimeter of wall 4" (trim after flooring installation is complete). If installation is on or above grade, poly film is still recommended.

Installing the floor

Start first row with groove toward the wall. Glue end-joints of first row by applying adhesive to groove. Always leave at least 1/4" expansion space between flooring and all walls and vertical objects (such as pipes and cabinets). Use wood or plastic spacers during installation to maintain this expansion space. Lay subsequent rows of flooring by applying glue to side and end joints and fitting planks together with tapping block. Remember to stagger end joints from row to row.



Finishing the job

Remove expansion spacers and reinstall base and/or quarter round moldings to cover the expansion space.

Install any transition pieces that may be needed (reducer strips, T-moldings, etc.).

Do not allow foot traffic or heavy furniture on floor for 24 hours (if glue-down or floating).

Dust mop or vacuum your floor to remove any dirt or debris.

Refer to the floor care and maintenance section for tips on maintaining your wood floor.

GreenWood Products Company

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