HILL COUNTRY
INNOVATIONS

Installation Instructions

GENERAL INFORMATION:

Owner/Installer Responsibility:

Beautiful hardwood floors are a product of nature and therefore, not perfect. Our hardwood floors are manufactured in accordance with accepted industry standards. For optimum performing hardwood flooring, carefully read and follow these installation instructions.

!) These hardwood floors were manufactured in accordance with accepted industry standards, which permit grading deficiencies not to exceed 5%. These grading deficiencies may be of a manufacturing or natural type. When flooring is ordered, 5% must be added to the actual square footage needed for cutting and grading allowance (10% for diagonal installations).

2) The owner/installer has final inspection responsibility as to grade, manufacture and factory finish. Inspection of all flooring should be done prior to installation. The flooring should also be carefully examined for color, finish and quality before installing it.

3) The installer must use reasonable selectivity and not use or cut off pieces with deficiencies, whatever the cause. Should an individual piece be doubtful as to grade, manufacture or factory finish, the installer should not use that piece. If material is not acceptable, do not install it and contact the seller immediately.

4) Prior to installation of any hardwood flooring product, the owner/installer must determine that the job-site environment and the sub-surfaces involved meet or exceed all applicable standards. Recommendations of the construction and materials industries, as well as local codes, should be followed. These instructions recommend that the construction and subfloor be clean, dry, stiff, structurally sound and flat. The manufacturer declines any responsibility for job failure resulting from, or associated with, subfloor and substrates or job-site environmental deficiencies.

5) Use of stain, filler or putty stick for touch-up and appropriate products for correcting subfloor voids is accepted as part of the normal installation process.

All subfloors must be:

Clean: Subfloor must be free of wax, paint, oil, sealers, adhesives, drywall dust, plaster and other debris.

Flat: Subfloor must be within 3/16″ in 10′ (5 mm in 3 m) and/or 1/8″ in 6′ (3 mm in 2 m). Sand high areas or joints. If the floor is to be glued down, fill low areas with a latex additive cementitious leveling compound of 3,000-PSI minimum compressive strength Patch, Underlayment & Embossing Leveler with Underlayment Additive. Follow the instructions of the leveling compound manufacturer and make certain the leveling compounds are completely DRY before beginning installation. Leveling materials must provide a structurally sound subfloor.

DRY: Check and document moisture content of the subfloor using the appropriate moisture test. Concrete subfloors must a minimum of 30 days old before testing begins.

STRUCTURALLY SOUND: Any areas that are loose or squeak, must be nailed or screwed. Concrete slabs must be free from voids or loose concrete.

N.W.F.A., National Wood Flooring Guidelines prevail. A Summary is provided.

Jobsite and Pre-Installation Requirements:

Hill Country Innovations flooring should be one of the last items installed for any new construction or remodel project. Any work involving water or moisture should be completed before hardwood

installation. Room temperature and humidity of installation area should be consistent with normal, year round living conditions for at least one week before installation of wood flooring. Room temperature of 60°~80° Fahrenheit and humidity range of 30~50% is recommended.

A. Subfloor Must Be Flat

1. Make sure the concrete slab is flat to the wood flooring manufacturer's specification. Typically, manufacturers will specify a flatness tolerance of 1/8" to 3/16" in a 10-foot radius.

2. If the slab is out of specification, consider grinding, floating or both. Many high spots can be removed by grinding, depressions can be filled with approved patching compounds, and slabs also can be flattened using a self-leveling concrete product.

3. When sanding or grinding concrete, care must be taken to minimize the amount of silica dust produced. OSHA recommends using dust-collection devices or applying water to the concrete before sanding. Approved respirators may also be used to minimize the amount of silica dust inhaled.

B. Subfloor Must Be Dry

1. Refer Chapter 3, Moisture Requirements and Moisture Testing.

2. Concrete moisture meters and other tests can be useful in identifying moisture problem areas.

3. If a slab tests too high in vapor emission to glue a floor down, consider using a vapor retarder type product, installing a vapor retarder and a plywood sub-floor or using an alternative installation method.

4. Concrete slabs with a calcium chloride reading of more than 3 require use a vapor retarder with a perm rating of 1 or less. It is strongly recommended to use an impermeable vapor retarder with a perm rating of .13 or less, such as 6 mil polyethylene film.

C. Slab Must Be:

1. Minimum 3000 psi

2. Free from non-compatible sealers, waxes, and oil, paint, drywall compound etc. Check for the presence of sealers by applying drops of water to the slab, if the water beads up, there may be sealers or oils.

D. Do not attempt to glue a wood floor over a chalky or soft concrete slab.

E. Burnished, slick steel-troweled slabs may require screening with a 30-grit abrasive.

Concrete Subfloors: This flooring can be glued directly to concrete using an adhesives with a minimum compressive strength of 3000 PSI. Do not install over a concrete sealer or painted concrete. If present, sealer or paint must be removed by grinding or sanding. Do not install over slick, heavily troweled or burnished concrete. The surface must be roughened as necessary by sanding or grinding. Use an appropriate NIOSH-designated dust mask. Floating floors can be installed over any structurally sound concrete slab.

Concrete Moisture Tests: **All** concrete subfloors should be tested, and results documented, for moisture content. Visual checks may not be reliable. Test several areas, especially near exterior walls and walls containing plumbing.
Acceptable test methods for subfloor moisture content

include: • Tramex Concrete Moisture Encounter Meter (Figure 2): Moisture readings should not exceed 4.5 on the upper scale. (Figure 3 shows an unacceptable reading of over 4.5) Concrete Moisture Meters give qualitative reading results-not quantitative ones. These results are a quick way to determine if further testing is required.

NOTE: The following tests are required in residential/ commercial applications if high moisture is suspected or noted from moisture meter testing. Either or both tests are acceptable. If both tests are conducted, then both tests must pass.

• Calcium Chloride Test (ASTM F 1869): The maximum moisture transfer must not exceed 3 lbs./1000 ft.2 in 24 hrs. with this test

• RH Levels in Concrete Using In-situ Probes (ASTM F 2170) should not exceed 75%. "DRY" CONCRETE, AS DEFINED BY THESE TESTS CAN BE WET AT OTHER TIMES OF THE YEAR. THESE TESTS DO NOT GUARANTEE A DRY SLAB.

Hill Country Innovations strives to provide the highest quality hardwood flooring. Please carefully read this installation guide to ensure satisfactory results from your Hill Country Innovations floor. Carefully, inspect the flooring prior to installation for grade, color, finish and quality. Inspect hardwood in well lit conditions to ensure proper inspection. If flooring is not acceptable contact your Hill Country Innovations distributor and arrange for replacement. Hill Country Innovations will not take responsibility for installation of flooring with visible defects. Prior to installation of any flooring, the installer must ensure jobsite and subfloor conditions meet the requirements of specified flooring for installation. Hill Country Innovations is not responsible for flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions.

Installation Requirements (Glue or Nail)

The quality of your floor installation is dependent on the quality and preparation of the subfloor. Please read the information carefully. Subfloor must be structurally sound. Clean: Thoroughly swept and free from debris. Free of wax, grease, paint, sealers, old adhesives and other substances. Level: Flat to 3/16" per 10' radius. Dry: Test with a moisture meter or Calcium Chloride Test. Acceptable Subfloor types: Plywood (at least 3/4"), OSB (at least 3/4"), Concrete slabs (glue only).

Installation Tools

Tape measure, pencil, chalk line, power saw, tapping block, pull bar, spacers, hammer, safety glasses.

Nail Down: Approved pneumatic guns: Power Nail pneumatic Model 50P 18 gauge, Cleat 1 1/2". Flex Porta Nail pneumatic Model 4160° 18 gauge, 1/4"crown x1 1/2". Primatech pneumatic Model Q550R 18 gauge, L cleat x 1 1/2", Bostitch pneumatic Model EHF1838K 18 gauge, 1/4" crown x 1 1/2". Glue-down: Contact adhesive manufacturer for suitability of use.

Wood Subfloors

Moisture content of wood subfloor must not exceed 8%. There should be no more than a 4% Moisture Content difference between properly acclimated wood flooring and subfloor materials, taking into consideration normal living consideration and equilibrium moisture content (EMC). Subfloor must be dry and well secured. 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 30 days old). All concrete should be tested for moisture. If calcium chloride or a moisture meter is unavailable, tape a 2' x 2' section of clear plastic to concrete slab, creating an airtight seal. If condensation or discoloration appears on plastic after 24~48 hours, moisture content is too high for wood flooring installation. Acceptable moisture for installation is 3 pounds or less for a calcium chloride test.

Radiant Heat

See NWFA installation guidelines. Subfloor should

never exceed 80° Fahrenheit; check with manufactures suggested guidelines for correct water temperature inside carrier pipes. Relative humidity should be maintained at a minimum of 35 to 40%. Hydronic, water-based radiant heat systems must be used (Use of electric mat systems is not authorized. Installation with radiant heat should be performed using the floating installation method.
Products Excluded from Radiant Heat Warranty:
All Hickory Products

Preparing For Installation

Door casings should be undercut or notched out so flooring will fit underneath. Base moldings should be removed and replaced after flooring installation. Since wood expands with any increase in moisture content, always leave at least a 1/2" expansion space between flooring and all walls and vertical objects such as pipes or cabinets. This space will be covered once you put on trims and base. When laying flooring always stagger the end joint by at least 8". When cutting the last plank in a row to fit, you can use the cut-off end to start the next row. Do not use pieces less than 6" to begin new row. To pull planks together always use a tapping block and hammer. Tapping block should be used against the tongue only, not against the groove. When near a wall, you can use a pull bar to close the end joints. Take care not to damage edge of flooring.

Getting Started

Wood flooring is often laid parallel to the longest wall for best appearance. We recommend 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 should be the width of a plank plus about 1/2" for expansion space. You'll need to scribe cut the first row of hardwood to match the wall to create a straight working line.

Nail Down

Lay flooring perpendicular to floor joists or parallel to the floor joists only if the subfloor has been strengthened for support. Lay first plank inside chalk line with grooved edge toward wall. 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 same manner. Always leave at lease a 1/2" expansion around walls and vertical objects. Use wood or plastic spacers during installation to maintain this expansion space. 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 snug boards together. You may need to face nail tight around (doorways) and the last 2~3 rows where the nails will not fit.

Glue Down

Read adhesive instructions carefully for proper trowel size, adhesive set time, and angle to spread adhesive.
Urethane Adhesive is required for warranty. DriTac, Henry's and Taylor adhesives or equivalent per Hill Country Innovations guidelines sheet.

WARNING: Always allow for adequate cross ventilation when working with flooring adhesive.

Once adhesive has been troweled, lay the first row of flooring with groove facing the wall; and continue laying flooring until adhesive is covered. Always check your working lines to be sure the floor is still aligned. Use tapping block to snug planks. Be careful not to let installed floor move on the wet adhesive while you are working. When first section is finished, continue to spread adhesive and lay flooring section by section until installation is complete. Use a damp cloth to immediately remove any adhesive that gets on flooring surface. Remember to stagger end joints from row to row. Always leave a 1/2" expansion around walls and vertical objects. Use wood or plastic spacers during installation to maintain this expansion space. Work each section of flooring foot-by-foot within the adhesive working time to ensure a solid bond with the adhesive. Flooring planks on perimeter of room may require weight on them until adhesive cures enough to hold them down.

Float In

Allow for 1/2" or greater expansion at all areas. NEVER net fit, pin down or nail anything into a floating floor as it prevents the normal expansion and contraction the floor has to have. Always leave at least a 1/2" expansion around walls and vertical objects. Use a D3 or equivalent adhesive on both side and end groove. Apply adhesive to bottom of groove application of adhesive. A minimum of 6-mil poly sheeting overlapped 6 inches and taped is required below underlayment pad.

Finishing The Job For All Applications

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

Install any transition pieces that may be needed.

Do not allow foot traffic or heavy furniture on floor for 24 hours (if gluing).

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

Floor Care Guidelines

Hill Country Innovations flooring is an excellent choice for easy maintenance and long-lasting beauty.
Cleaning your hardwood floor is simple – dirt and dust are easily removed with a vacuum featuring a hard-surface attachment, beater bar turned off or a broom. Grit control is your best defense to keep a wood floor looking great for many years.

For more difficult-to-remove soil, use a cloth moistened very lightly with plain water. Then wipe the surface with a clean, dry cloth. Under no circumstances should the floor be wet-mopped.

Heavier stains, such as crayon, felt-tip markers, etc., may be removed with a standard wood floor cleaner designed for Urethane finish products.

Hill Country Innovations flooring needs no special treatment – never use soap solutions, sealers, polishes, or any abrasive materials.

Protect the flooring in high traffic areas and from excessive tracking of outside dirt and soil with walk-off mats at all entrances. Rubber Mats are to be avoided as they oxidize finish and result in discoloration.
Hardwood is a natural product that is affected by light over time. Rearrange rugs and furniture periodically to help minimize the effect that sunlight and direct lighting can have on the color tone of the hardwood floor. Use quality floor protectors, such as felt pads, beneath furniture legs to help protect the flooring surface.
Hill Country Innovations flooring is best maintained in a balanced room climate with 30~50% relative humidity at normal room temperature (60°~80° Fahrenheit).

Chemical spills such as acids, alkalis or petrochemicals should be removed. The floor should then be cleaned with a wood cleaner and dried with a soft absorbent cloth to prevent any residue from remaining on the flooring surface.

If you have any questions regarding the installation or care of your new Hill Country Innovations floor, please call our technical support hotline for assistance: 800-888-0601.