

# Hill Country Innovations

## Installation Guide for Engineered Hardwood

**Prior to installation, installer should check material for appropriate grade, color, grain character and finish quality. Installer should **STOP THE JOB** if any defects that are detected or revealed through attempt to install are present. The manufacturer cannot accept responsibility for flooring installed with visible defects.**

Installer should test the subfloor for moisture content with a Tramex Concrete Moisture Meter or equivalent, to ensure that proper levels are present so flooring will perform properly. Proper concrete substrates should read no more than 3.5%. Pin meter readings on wooden subfloors should read less than 12%

*Note:* Wood flooring installed in areas where the relative humidity is below 35% may cup, shrink in width/length, or crack and in these dry conditions a humidifier is necessary to bring relative humidity above 35%. Flooring installed on top of wet sub floors may crown, (and then cup), swell, (and then shrink), buckle, telegraph, or edge/tip raise. Flooring that is soaked from above will do the same.

**\*\*\*DO NOT INSTALL THIS FLOORING ON WET SUBFLOORS OR IN OVERLY DRY CONDITIONS without first correcting any deficient conditions.**

Prior to installation of any flooring, the installer must ensure that the jobsite and subfloor meet the requirements of these instructions. The manufacturer is not responsible for flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions.

Temperature should stay between 60-80°F and should be consistent with normal, year-round living conditions for at least one week before installation of wood flooring. Humidity should be maintained between 30-50% RH. If jobsite environment is not controlled with HVAC, the conditions on the jobsite must be at or near expected living conditions prior to installation of the flooring.

Store the wood flooring, in the UNOPENED boxes, at installation area for 24 -72 hours before installation to allow flooring to adjust to room temperature. Do not store the boxes of flooring directly on concrete. **DO NOT OPEN THE BOXES PRIOR TO INSTALLATION!**

### **PRE-INSTALLATION SUBFLOOR REQUIREMENTS**

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Subfloor should be structurally sound, clean (swept and free of wax, grease, paint, sealers & old adhesive residue which can be removed by sanding), flat to 3/16" in a 10' radius, dry with moisture in plywood subfloors not to exceed 11% or concrete subfloors with less than 3.5% moisture as measured by Tramex Concrete Moisture Meter or equivalent meter.

It is highly recommended, that if gluing down on concrete, (even if you believe it is dry), which is on or below grade, use a Moisture Barrier System with specific products as appropriate for the particular jobsite conditions, as they provide warranties to you. Ceramic tile, resilient tile and sheet vinyl covered subfloors must be well-bonded to the subfloor, in good condition, clean and level - defined as flat to 3/16" in a 10' radius.

**Do not sand existing vinyl floors, as they may contain asbestos.**

**Radiant heat:** Use only floating installation over radiant heat. Subfloor surface temperature should never exceed 80°F. Check with radiant heat manufacturers suggested guidelines to limit the maximum water temperature inside heating pipes. Switch off heating unit one or two days before flooring installation and bring heat up slowly after installation.

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### **INSTALLATION TOOLS**

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For all installation methods:

Tape measure, Tapping block (or trimmed piece of flooring), Pencil, Pry bar, Chalk line, Wood or plastic spacers (3/8") or (1/2"), Crosscut power saw, Hammer, 3M Blue Tape specifically designated for use with wood flooring.

Flooring adhesives: Use DriTac, Taylor or other urethane adhesive appropriate for the subfloor and flooring type.

(Note: Use only urethane adhesives or polymer based adhesives – DO NOT USE water based mastics as they will cause this floor to fail)

On concrete slabs, which are on/below grade, we strongly recommend using the DriTac, or Taylor Moisture Barrier Systems. Trowel per adhesive manufacturer's recommendations on the label.

For nail-down installation over a wooden subfloor, you will also need:

Industrial Flooring Stapler or Nailer with appropriate adapter shoe to assure the proper position for the nail/staple – 3/16" x 1" staples for the floor runner stapler (18 gauge); 1" L-shaped cleats (18 gauge)

Air compressor

For floating installation, you will also need:

6-mil polyfilm or a 3-l underlayment designed for use with floating hardwood floors

DriTac 8100 Floating Tongue & Groove Adhesive or equivalent, 3M Blue Tape designed for use with wood flooring.

### **Acceptable Subfloor Types:**

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- Plywood (at least 23/32" thick), Underlayment grade particleboard - floating/glue-down only), OSB PS2 rated (at least 23/32" thick) – Note: Some particle board and OSB may not be compatible with some flooring adhesives, resulting in flooring installation failure and/or squeaky floors. We recommend you test compatibility prior to installation as issues related to subfloor are not covered in this warranty.
- Concrete slab - high compression strength required for glue-down installation. Floating method required for gypsum or light-weight concrete
- Existing wood floor (Do not install over existing glue-down on concrete)
- Ceramic tile (floating/glue-down only)
- Resilient tile & sheet vinyl (floating/glue-down only)

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### STARTING YOUR INSTALLATION

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- Make sure subfloor is tested for moisture first and is properly prepared.
  - Since wood expands with any increase in moisture content, always leave at least a 3/8" expansion space between flooring and all walls and any other permanent vertical objects, (such as pipes and cabinets). This space will be covered up once you reapply base moldings around the room. Use wood or plastic spacers during installation to maintain this 3/8" expansion space.
  - When laying flooring, stagger end joints from row to row by at least 8". 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" in length or less, discard it and cut a new plank at a random length and use it to start the next row. Always begin each row from the same side of the room.
  - Work from several open boxes of flooring and "dry lay" the floor before permanently installing the floor, but never open more than a few boxes in advance. This will allow you to select the varying grains & colors and to arrange them in a harmonious pattern. It also allows you the opportunity to select out very dark/ light pieces for use in hidden areas in order to create a more uniform floor. *Remember, it is the installers' responsibility to set the expectations of what the finished floor will look like with the end user first and then to cull out pieces that do not meet those expectations.*
  - To draw planks together, always use a tapping block (a short piece of flooring) and hammer, as tapping the flooring without this tool will result in edge damage. **DO NOT USE A RUBBER Mallet AND STRIKE THE FACE OF THE FLOORING TO ENGAGE THE TONGUE AND GROOVE.** Use a pry bar to pry close the side and end joints near a wall. Take care not to damage the flooring edge. For glue down & floating applications, use 3M Blue Tape (designated for use with wood flooring) to hold any pieces which might have side bow to hold them straight & tight until the adhesive sets up.
  - Begin installation next to an outside wall. This is usually the straightest and best reference for establishing a straight working line. Establish this 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 3/8" for expansion space. You may need to scribe cut the first row of planks to match the wall in order to make a straight working line if the wall is out of straight.
  - 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 the flooring is to be installed adjacent to any cabinets, install cabinets first and run the floor to the cabinets. Do not install the cabinets on top of the floor. Water damage is common around cabinets and it will be much harder to spot repair the floor if the cabinets are installed on top of the flooring.***

### RECOMMENDED - GLUE DOWN INSTALLATION

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- Make sure subfloor is tested for moisture content first and is properly prepared (as referenced above).
- On concrete subfloors, which are on or below grade (ground level), always assume the worst and even if they measure dry, we now recommend taking the following installation steps to ensure a trouble-free installation. The cost of the precaution is little when compared to costs to rip out and replace a floor which has failed due to high moisture from the subfloor.
- \*\*\*DO NOT use water based adhesives!**
- Follow adhesive instructions for proper trowel size and adhesive set time before beginning installation of flooring.
- Once the spread adhesive has set sufficiently per adhesive manufacturer's instructions, lay the first row of flooring with groove facing the wall, and continue laying flooring. Always check your working lines to be sure the floor is still aligned. Use tapping block to fit planks together, but be careful not to let installed floor move on the wet adhesive while you are working.

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When first section is finished, continue to spread adhesive and lay flooring section by section until installation is complete. Use urethane adhesive cleaner on a damp cloth to immediately remove any adhesive that gets on flooring surface. Warning – DO NOT allow adhesives to dry on the finished flooring as it is very difficult to remove it once dried without damaging the flooring. For info on an adhesive remover: DriTac or Bostik's Ultimate Urethane Adhesive Remover. Remember to stagger end joints from row to row a minimum of 8".

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 each section of flooring in order to make sure it is well bonded to the subfloor within the adhesive working time. Flooring planks on the perimeter of the room may require weight on them until adhesive cures enough to hold them down. Make sure the floor is clean from debris to avoid unwanted denting.

### STAPLE/ NAIL DOWN INSTALLATION

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Make sure wooden subfloor is tested for moisture content first and is properly prepared and documented. Use Industrial Flooring Stapler from Bostich or Powernail – air stapler/nailer with 3/8" Naildown adapter or a stapler/nailer of your choice after testing to make sure that stapling/nailing will not cause dimpling in the finished floor.

**For the first and second starting rows:** Lay first plank inside chalk line with grooved edge toward wall. Loose Lay entire first row in the same manner. 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. In order to affix these first rows, use screws to set a strong and straight starting row rather than face nailing. Begin the subsequent rows, and once you have installed enough flooring whereby the nailer will not move the starter row off alignment, unscrew the starter row, throw away the damaged pieces and glue down replacement boards with a urethane adhesive. Place weight on top of these rows and allow them to set.

**Subsequent rows:** Install using floor nailer/stapler to blind-nail top inside edge of tongue at a 45 degree angle. Nail each board every 4-6" along the length of the plank and within 2" of each end. Remember to stagger end joints from row to row a minimum of 8" and use a tapping block to fit boards together. It may be necessary to face-nail in doorways or tight areas where the nailer/stapler can't fit. (or glue down in these areas and weight them while the mastic sets). The last two rows will need to be face-nailed, (or glued down with urethane adhesive), in the same manner as the first two rows.

**WARNING** – Stapling/nailing can cause dimpling on the face if stapled incorrectly. Always make sure to visually check the installed floor as you go to ensure that the stapling/nailing is not causing dimpling on the face. (Note: be sure to look at the face of the installed flooring at a low angle from a distance to see if dimpling is occurring as it is hard to see when directly above the floor.) If dimpling does occur, STOP and adjust the stapler/nailer shoe and angle/place of staple entry in order to avoid it. The manufacturer is not responsible for dimpling.

### FLOATING INSTALLATION

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\*Floating installation method not recommended with Sliced Face Flooring

Make sure subfloor is tested for moisture content first and is properly prepared. Not all underlayments are the same. ALL underlayments must be approved prior to installation by the manufacturer and confirmed in writing for the warranty to apply.

- Place an underlay of polyfilm: If below or on grade, first lay a 6-mil polyfilm with seams overlapped 8". Fasten seams every 18"-24" with duct tape.

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- Run the edges of film up the perimeter of each wall 4" (trim to top of floor after installation is complete)
- Laying foam: lay foam underlayment by butting the edges, not overlapping. Tape the full length of the seam with a clear tape
- Installing the floor: Start first row with groove toward wall. Glue end joints of first row by applying a small but continuous bead of DriTac 8100 Floating Tongue & Groove Adhesive (equivalent) to bottom side of the side groove. 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. Lay subsequent rows of flooring by applying glue to side and end joints and fitting planks together with a tapping block.
- Remember to stagger end joints from row to row at least 8" apart. Clean up any adhesive on the floor by using a towel dampened with water or mineral spirits – DO NOT allow adhesive to dry on the flooring face as it is difficult to remove without damaging the flooring face.

### DOUBLE GLUE WITH UNDERLAYMENT INSTALLATION

**\*\*\*Gluing underlayment and hardwood to a subfloor is considered a commercial application. This is considered a system of materials that must all work together. DO NOT INSTALL OVER UNDERLAYMENT WITHOUT WRITTEN CONFIRMATION FROM THE HARDWOOD MANUFACTURER THAT ADHESIVE AND UNDERLAYS ARE APPROVED AND WILL BE DONE ON A CASE BY CASE BASIS.**

### AFTER INSTALLATION

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- Clean up any adhesive that is on the face of the floor by using mineral spirits on a damp towel
- DO NOT allow adhesive to dry on the flooring face as it is difficult to then remove without damaging the flooring finish.
- If you decide to cover the floor (to allow the other construction trades to continue working, in order to protect the floors prior to final cleanup and turnover to the owner), use brown paper (or other protective, breathable material) to cover the floors. Tape protective paper only to itself and to walls or baseboards. NEVER TAPE DIRECTLY TO THE HARDWOOD FLOOR. The plasticizers in the tape may create a stronger bond to the finish than the finish to the wood itself, resulting in finish delamination. This is not a manufacturer issue. **DO NOT USE** plastic film or other non-breathing type coverings as this can cause the floor to become damaged from humidity buildup.
  - Remove expansion spacers and reinstall base and/or quarter round moldings to cover the expansion space.
  - It is suggested that you buff the floor with lambswool pads in order to "pull any splinters", remove any residues and handprints/foot prints, etc.
  - Install any transition pieces that may be needed to cover required expansion spaces and transitions (reducer, T-moldings, nosing, 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.

***Care/Maintenance Instructions available separately. Contact your sales representative.***