

## Engineered Hardwood Installation Guide – Glue Down & Nail/Staple Velvet Grove Herringbone

### Recommended Tools for Installation Include:

Markers or pens, tape measurer, chalk line, square, 6' straight edge or level, white mallet, hammer, tapping blocks, board puller, jamb saw, table saw, jig saw, miter saw, adhesive trowel (refer to Fuzion adhesive instructions), kneeling boards, drill, flooring nailer with appropriate nails for floor thickness, nail set, 2" spiral finishing nails, colour matched putty or filler, and expansion spacers or shims.

### Recommended Adhesives:

Premium Wood Flooring Adhesive: Fuzbond 5500, Fuzbond 5603, Fuzbond 5650 and Fuzbond 1850 T&G adhesive, Franklin 771, 811, or 821, Bostik GreenForce, BEST, or VaporLock, or Bona R851, Apac/Mapei 999/985. Adhesive Remover recommended by the manufacturer of the adhesive selected. Adhesive Trowel recommended by the manufacturer of the adhesive selected.

### Expansion Space:

All floors naturally expand and contract and therefore require expansion space around perimeter walls and any vertical obstructions. The expansion space should be equal to the thickness of the material being used or a minimum of 1/2".

**Note:** INSTALL ONLY over approved concrete, wood, plywood, or OSB subfloors. Follow flooring nailer and nail manufacturer subfloor requirements for the engineered wood flooring thickness. Particleboard subfloors are approved ONLY for floating floor installations. When nailing or gluing down a floor and for subfloors where particleboard exists, it is recommended to replace it or use a double layer subfloor system. Generally adding minimum 1/2" (12mm) plywood overtop.

### Job Preparation:

- Calculate the surface area required and add 5%-10% and then round up to the nearest full carton.
- Acclimatize flooring by spreading out sealed packages in room/ environment where the floor will be installed at a room temperature between 16°C (60°F) and 27°C (80°F) and relative humidity between 35%-55% for 48 hours. Ensure packages remain sealed/closed during acclimation and until ready to install.
- Ensure the facility is equipped with permanent or temporary HVAC systems that can maintain the temperature and humidity levels required for the wood flooring 60°F (16°C) and 80°F (27°C) and relative humidity between 35%-55%. These systems must be operational for a minimum 14 days prior to the delivery of flooring materials to properly condition the jobsite and maintain these environmental conditions before, during, and after installation.
- Do not use propane heaters for temporary heating.
- Ensure subfloor is clean, flat, sound, dry, and free from any debris, movement, damage, or texture that could interfere with installation.
- If installing over a crawl space, a minimum 6-mil poly vapor barrier must be laid over all exposed dirt, and ensure the area is adequately ventilated.
- Remove any existing quarter round and undercut door jambs allowing the flooring to flow under the jamb to provide a preferred aesthetic.
- Check flooring planks for any visual defects in structure or aesthetics. Planks installed with visual defects are not covered under warranty.
- Work from at least 3 cartons at the same time to ensure randomness of pattern.

## Subfloor Requirements:

### Wood Subfloors:

Subfloor must be 3/4" thick, dry and well secured with moisture content < 12%. Wood subfloors must be nailed down or screwed down every 6" along the joist to avoid squeaking. Existing wood subfloors must be a minimum of 3/4" thick. If this is a renovation and the existing wood subfloor does not provide a clean and smooth surface, you may use a 1/4" or 3/8" wood underlayment to cover the existing subfloor and provide you with a pristine surface for installation. If installing new subfloor us 3/4" underlayment grade plywood or OSB.

**Prior to and at the time of delivery**, moisture testing must be conducted on both the wood subfloor and the flooring materials. The subfloor moisture content (MC) must be below 12%, and the MC of the flooring must be within 2% of the subfloor. It is recommended to take a minimum of 20 subfloor readings per 1,000sq. ft. (with an additional 4 readings per 100sq. ft. thereafter) and 40 flooring readings per 1,000sq. ft. (with an additional 4 readings per 100sq. ft. thereafter). Compare the average moisture content readings of each and ensure they are within acceptable range.

**Any unusually high or low moisture readings** must be identified, isolated, and properly addressed before proceeding with installation.

### Concrete Subfloors:

Subfloors must be fully cured for at least 60 days. The subfloor must remain dry all year round. Test for moisture using a calcium chloride test or relative humidity test. On and below grade applications are susceptible to moisture and should be tested for moisture prior to installation in several locations within the installation area. Installer should record moisture test results in the space provided on the last page of this document and leave with the owner as part of their records. Acceptable conditions for

above, on and below grade applications on concrete are:

- Less than 3 lbs./1000sq. ft./24 hrs. Calcium Chloride Test (ASTM F1869) - 3 kits for first 1,000sq. ft. and 1 per additional 1,000sq. ft. thereafter.
- Less than 75% RH Levels in Concrete Using In-situ Probes (ASTM F 2170) - 3 tests for first 1,000 sq. ft. and 1 per every 1,000 sq. ft. thereafter.

It is critical that the concrete slab be free of contamination such as sealers, curing compounds, waxes, oils, paint, dust, or drywall compound that may interfere with adhesive bond. Verify that the concrete subfloor meets the Concrete Surface Profile (CSP) requirements specified by the adhesive manufacturer.

### Subfloor Flatness:

Flatness is critical to the performance and longevity of your wood flooring. Prior to installation, ensure the subfloor does not exceed a deviation of 1/8" over 6'. Any high spots must be ground down, and low areas will need to be filled with an appropriate patching compound compatible with the adhesive. This is usually cement based.

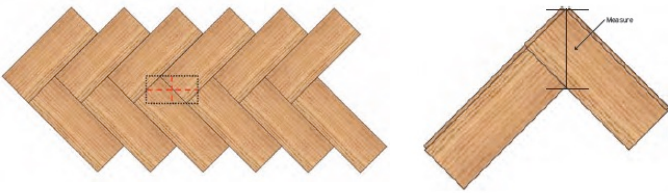
Subfloor flatness should be assessed across the entire surface of each room receiving wood flooring using a straightedge, laser level, or string line. When transitioning between rooms, the subfloor must remain within specified flatness tolerances.

### Glue Down Installation Instructions:

Herringbone flooring **MUST** be installed using a glue down or nail down method **ONLY**. Precision is critical when installing herringbone flooring. Verify measurements and check row alignment often to ensure pattern is installed accurately. Herringbone flooring requires a high installation skill level and suggested installation by qualified professional installers. Improper installation may void the warranty.

Precision is important and you must find true square of the herringbone to establish a control and working lines.

To determine the true center on the pattern to establish the working lines, when working with a herringbone pattern, you can find the center by dividing the diagonal measurement by four. This resulting dimension is used to establish the working lines A and B on both sides of the control line. It's important to note that this measurement will vary depending on the width of the flooring.

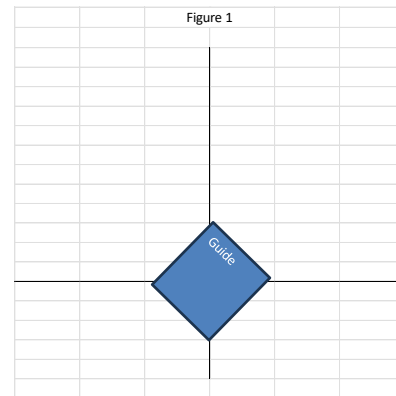


Make sure herringbone planks are designated as LEFT and RIGHT. Equal amounts of left and right planks are included in each package.

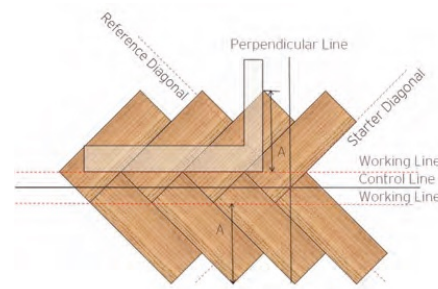
## HERRINGBONE INSTALLATION:

1. Herringbone pattern direction should be parallel to the longest wall or in the direction of the room's light source, or towards a major focal point in the room. If conflicting, you will need to choose the best aesthetic. Once direction is established, snap a chalk line down the center of the room's length.
2. You will need to snap a second chalk line perpendicular to the line in Step 1. Ensure there is a 90° angle formed where the two lines intersect using the Pythagorean method. This line should be snapped approximately 24" from the bottom of the room.
3. You will require a square object to use as your guide. Ideally a square piece of plywood, OSB, or ceramic tile 12" x 12" or 18" x 18". For best results, it's recommended that the square backer piece be the same size as the herringbone piece. It is

extremely important that this backer piece be true square. Line up each corner of this square on your chalk lines. **See Figure 1.** Nail or glue into place. Use a small amount of adhesive at each corner and allow to set before proceeding. You will be removing this guide once your pattern is established so be sure not to over glue or over nail your guide.

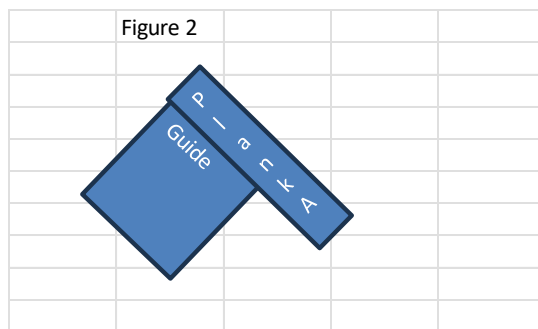


4. Once your control lines and perpendicular lines have been set up it is highly recommended to snap working lines along the main control line. Working lines should fall through the corners for each alternating piece.

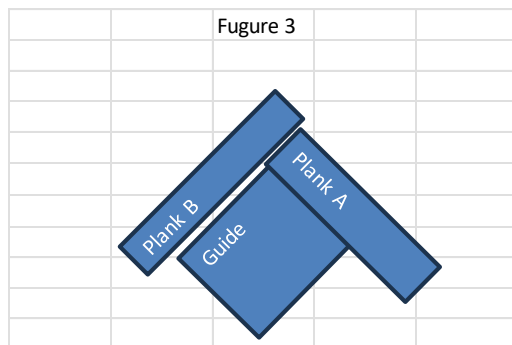


5. Trowel adhesive above the guide. This is where you will be installing your herringbone. Only trowel enough for the first plank length and width.

- Using a RIGHT designated plank, with the groove facing and resting against the top right side of the guide, position your first plank, **Plank A**, with the top short side parallel to the left side of your guide. Do not press plank into adhesive. See **Figure 2**.



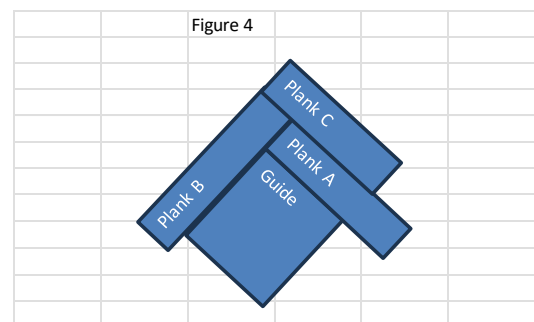
- Trowel adhesive for the second plank, **Plank B**. Using a LEFT designated plank, with the groove facing and resting against the top left side of the guide, position your second plank, **Plank B**, with the top short side parallel to the outer long side of **Plank A**. Engage tongue and groove with **Plank A**. Do not press plank into adhesive. See **Figure 3**.



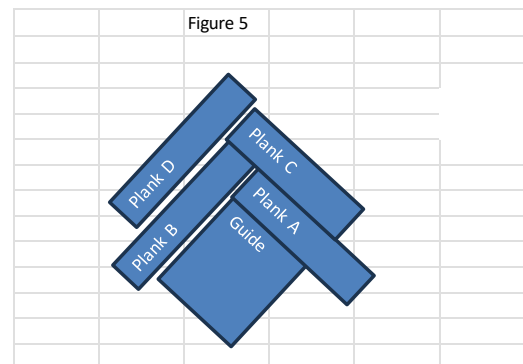
- Ensure alignment and positioning meets your preferred room aesthetic and press both planks into adhesive. These first planks will set the basis for your entire floor and will therefore require time to set before proceeding to minimize movement and planks becoming unaligned. Wait

1-3 hours before proceeding. See adhesive properties for set and cure times.

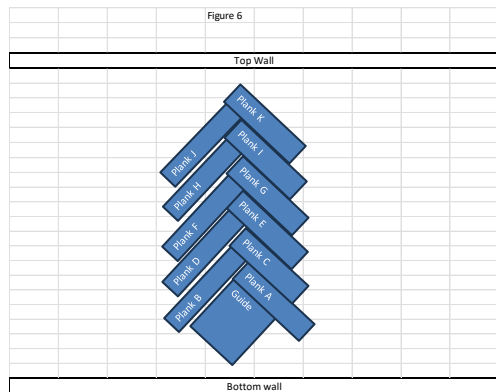
- When **Plank A** and **B** have set, trowel adhesive to install subsequent planks. install a RIGHT plank, **Plank C**, as per **Figure 4**. Engage the tongue and groove with the long side of **Plank A** and the short side of **Plank B** and press into the adhesive. Do not spread more adhesives than you can work with observing the adhesives working time.



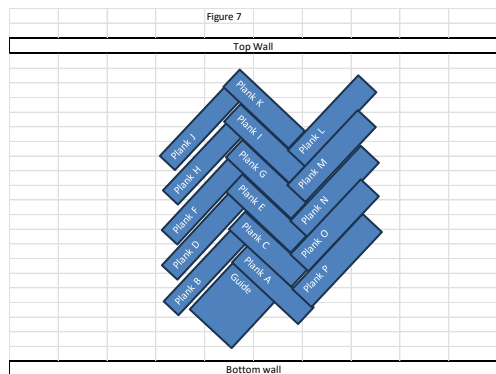
- Install a LEFT plank, **Plank D**, as per **Figure 5**. Engage the tongue and groove with the long side of **Plank B** and short side of **Plank C** and press into adhesive.



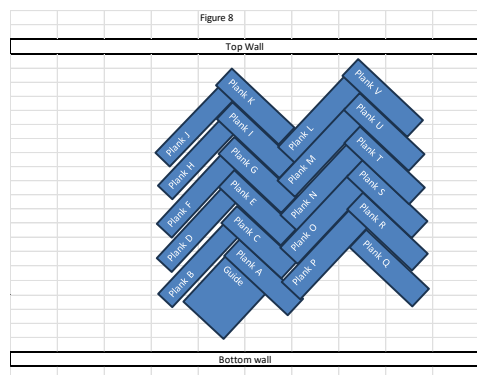
- Repeat steps 8-9 until you reach the top/far wall. Take care not to step into the adhesive or on planks that have been pressed into the adhesive as you will push them out of alignment. See **Figure 6**.



12. Take LEFT planks, **Planks L-P** or as much as required based on your room size and install as per **Figure 7** engaging tongue and grooves.



13. Take RIGHT planks, **Planks Q-V** or as much as required based on your room size and install as per **Figure 8** engaging tongue and grooves.



14. Continue installing rows of LEFT planks and RIGHT planks until you can no longer install full planks.

**Note:** At some point you will be required to position yourself on newly installed flooring. To avoid separating newly installed planks, use a "kneeling board" to disperse your weight and pressure. A kneeling board is used to disperse weight and pressure points that cause separation on freshly installed glue down planks. To make a kneeling board you can use 1/8" plywood or heavy corrugated cardboard. Using either material, cut to make two 3' x 3' pieces.

15. Remove Guide and scrape off/clean any remaining adhesive or debris. Cut LEFT and RIGHT planks accordingly to fill in less than full plank spaces that remain.
16. Follow adhesive directions regarding rolling if required. Keep traffic off floor for 24 hours.
17. Complete installation with appropriate moldings. If minor gaps exist between boards, use a colour matched filler to fill gaps.

### Nail-Down / Staple Installation Instructions:

**Subfloor Wood:** Subfloor must be wood and 3/4" thick for a nail down installation as per flooring nail requirements. Follow the same steps as in glue down method but instead of glue, use an appropriate flooring nailer and flooring nails, nailing into the long side tongues of the LEFT and RIGHT planks. Your first two boards will require face nailing. Countersink the nails and cover with pre-stained colour coordinated filler. Nail-down will require the pattern to always have an exposed tongue, will depend on layout. Be careful when using a pneumatic nailer on herringbone, as the force of the impact can shift the planks from their intended position, potentially throwing the entire pattern out of square.

### General Tips and Care

- Sweep regularly, with a soft bristle broom.
- Vacuums with a beater bar or power rotary brush

head can damage a wood floor and should never be used.

- Clean up spills and standing water as soon as possible. With oil finished floors, water left for prolonged periods may cause water-spotting.
- Use felt protectors under heavy pieces of furniture and chairs.
- Use protective mats at all exterior entrances. Do not use mats or area rug cushions constructed of rubber or PVC. Instead use urethane backed products.
- Spiked heels or shoes can severely damage your floor.
- Replace hard plastic, metal casters or wheels on furniture with soft rubber casters or by using a protective mat under the casters.
- Never wet mop your floor, with water or any other cleaning agent, be sure to thoroughly ring out the applicator or mop prior to applying it to the floor. A damp mop is fine as long as the moisture is limited to an amount that will evaporate almost immediately. Moisture that is allowed to seep into the seams between the planks may cause damage to your flooring.
- Protect your floors from UV exposure that can change the colour of your floor, by regularly moving furniture or area rugs and kept blinds drawn on sunny days.
- Keep animal nails trimmed.
- Protect your floor when using a dolly for moving furniture or appliances. Never slide or roll heavy furniture or appliances across the floor.
- Never use steam cleaners on your wood floors. This will force moisture into the wood and cause damage to your flooring.
- Use protective window coverings to protect hardwood floors from excessive heat during periods of direct sunlight.

For more information regarding care and maintenance, please refer to our warranty guidelines.

**Disclaimer:** The installer is the final inspector of the product and is responsible for assessing subfloor and job site conditions to ensure compliance with all referenced standards. If conditions or materials do not meet requirements, installation must not proceed until corrected. Installation instructions must be read thoroughly prior to starting. If the installer identifies any grading, manufacturing, or finishing concerns that cannot be resolved by placing the board in a less visible area, they must not install the material and should contact the retailer. Boards not installed due to colour variation, appearance, length, or personal subjective standards are not considered defective. Once a board is installed, the product is deemed accepted by the installer and/or homeowner, who assumes full responsibility, even if the homeowner is not present.