

# HERRINGBONE INSTALLATION INSTRUCTIONS – READ FIRST

Thank you for purchasing Mullican Flooring prefinished hardwood flooring. You made the right choice for the right product. Our timber is carefully selected and manufactured into the highest quality products, using the world's best available machines with the best-known processes.

We spare no effort to ensure that our products are free from manufacturing defects. Following strict procedures, we meticulously inspect each individual floorboard to make sure every piece belongs to the right product grade. The beauty and uniqueness of wood is characterized by distinctive variations in grain and color. These natural variations are not flaws but are part of the natural beauty. However, as a natural material, hardwood may reveal imperfections. The accepted standards in the industry allow a defect tolerance and grading variance not to exceed 5%, which may be of manufacturing or natural type.

## A. Owner/Installer Responsibility

Inspection of all floorboards shall be done before installation. Products with unacceptable grade, color, finish or manufacturing quality shall not be installed and shall be immediately reported to the seller. To get a uniform appearance across the complete floor it is important to blend several cartons of flooring boards. We suggest retaining and storing a few boards in case a future repair or replacement is required. Grade, color, finish, and manufacturing quality of installed flooring remains the sole and joint responsibility of installer and owner, even if owner is absent at time of installation. Once installed in place, any floorboard is deemed as having been accepted by installer and owner. Installer must exercise reasonable judgement based on common sense before and during installation. Floor boards showing visible defects or imperfections must be trimmed and installed in hidden places or not used at all. Use of stain, filler, or putty stick during installation shall be accepted as normal procedure. Individual pieces to be in doubt as to grade, finish or manufacturing quality shall not be installed, if unable to be trimmed or used in hidden places. Prior to installation installer must make sure that sub-floor and pre-installation inspections are carried out and all applicable standards and recommendations of the constructions and materials industries are satisfactorily met or exceeded. Flooring Manufacturer declines any responsibility for job failures resulting from or associated with sub-surface or job site environment deficiencies. When ordering hardwood flooring, it is normal practice to add 5% to the actual square footage needed as allowance for trimming and color grade variation. If any installed floor boards must be replaced on a later date, Flooring Manufacturer's liability shall be solely limited to the replacement of defective products i.e., materials only in excess of the 5% industry accepted norm, excluding trimming and waste allowances. In any case Flooring Manufacturer shall not be liable for installers lack of judgment, quality of installation, labor, installation costs or any other consequential losses.

## B. Installation Procedures

Recommended tools, materials, and accessories:

- Broom or Vacuum Cleaner
- Hand Saw
- Tape Measure
- 60-80 Tooth Saw Blade
- Level
- Wood and/or Concrete Moisture Meter
- Chalk Line and Chalk
- Adhesive Trowel
- 5/8" Expansion Spacers
- High Quality Urethane Adhesive and Adhesive Remover
- Tapping Block
- Recommended Hardwood Flooring Cleaner

Safety goggles or glasses are recommended during installation.

## Pre-Installation Check List

- As a rule of thumb, prefinished hardwood floor installation shall be the very last step performed on any construction or renovation project. Construction dirt e.g. from drywall can enter the pores and grain of the wood flooring and might result in discoloration of the wood floor and is **NOT** warranted.
- Make sure the sub-floor is dry, even and flat.

- Herringbone flooring may be installed on or above ground level. DO NOT install in full bathroom.
- To avoid moisture related damage, check the sub-floor for moisture content using appropriate test method.
- Air conditioning and heating systems shall be in place and operational. A consistent room temperature of 65° F to 75° F and relative humidity of 35% to 55% RH shall be maintained in the installation site for 14 days prior to and during installation and as long as the floors are in place (occupied and unoccupied houses).
- Keep the floor boards in its original unopened packaging for at least 72 hours in room temperature. Allow at least 4 in. (10 cm) space under pallet or carton for air circulation.
- Package shall only be opened just before the start of installation.

## Sub-Floor Preparation

- The sub-floor must be clean, dry, flat and level, and free from any cracks. Irregularities must not exceed 3/16" in every 8 ft radius.

## Sub-Floor Preparation Continued

- Use leveling compound to level the slab when necessary, in accordance with the builders recommendation – CONCRETE ONLY
- Concrete sub-floor must be completely cured and dried with the maximum moisture content of 2% dry weight basis. See adhesive manufacturer's instructions. For glue down installation, make sure that concrete sub-floor has compression strength of at least 3,000 psi.

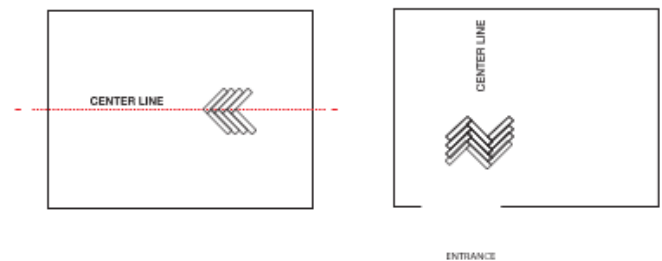
## Necessary Materials:

- Herringbone Flooring
- Adhesive
- Plywood

## Herringbone Glue Down Instructions

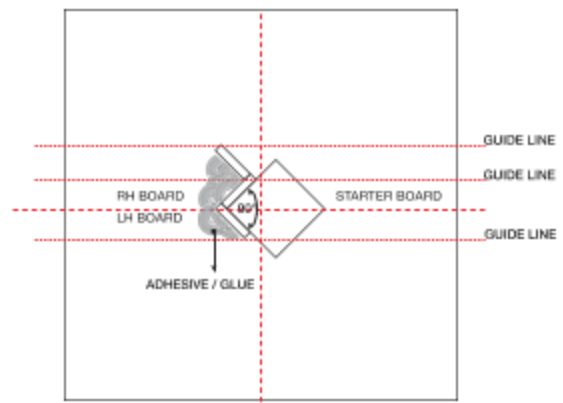
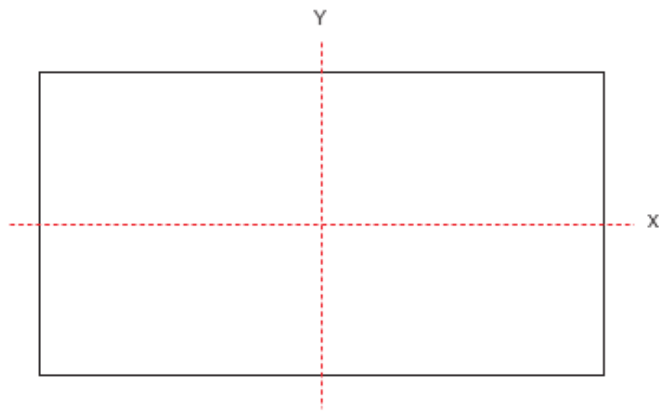
**Note: Herringbone is considered as one of the most difficult patterns to layout and install. Installation requires high technical skills and should only be performed by qualified and experienced professional installers.**

Determine the Herringbone pattern running direction in the floor installation layout. Typically, the pattern follows the length of the room but is not unusual to position it according to main entrance way or fixed fixture such as a fireplace.



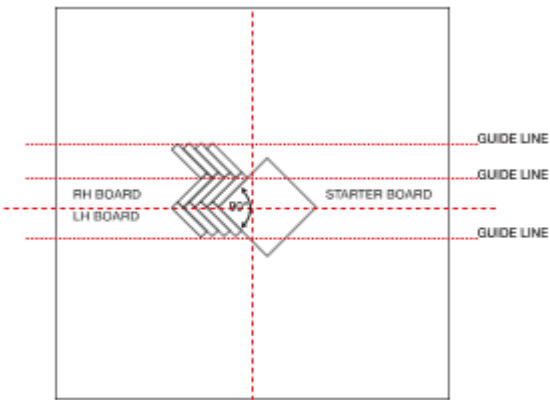
Determine the start point of installation and snap chalk lines to create X and Y axis crossing perfectly perpendicular to each other on the determined start point. This is a critical step as this will impact the aesthetic of the overall finished installation. Preparing the X and Y axis is no less important because once the boards have been laid there will be no room for adjustment and every successive board will accumulatively be off the line resulting in misaligned installation.

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Prepare a 20 x 20 in (500 x 500 mm) starter board from plywood, perfectly square for Herringbone and Chevron 90\* or with respective angle for Chevron 120\*. Dry lay 3 rows of boards carefully over the start point, position the starter board accordingly and secure it to the subfloor.

Snap chalk lines touching the edge points of the boards to create necessary guidelines. Measure the lines to make sure they are perfectly parallel with the X axis. These lines will serve as a guide for adhesive troweling and board pattern laying.



Remove the dry laid rows of boards, trowel sufficient adhesive to outer guide lines. Amount of adhesive spread shall account for reasonable boards able to be laid not to exceed the adhesive's working time.

Position first Board against the starter board's left side with its short edge aligned to the starter board's edge point.

Lay second board against the starter boards right side with its short edge matched to the first board.

Continue installing in this fashion until starting area is covered. Cut final row to fit adjacent wall, reserve 3/4 in expansion space allowance.

In joining the successive boards tongue and groove, avoid excessive sliding over the spread adhesive as this will scrub the adhesive spread and disturb its adequacy that may affect the bonding of the boards.

Make sure that during installation no adhesive is forced into tongue and groove joints as this may affect the fit of the joints.

Remove the starter board and work back to complete the whole row. Continue the installation in whichever direction best suits the working conditions. Just remember to leave the entrance area so movements of materials can be done without awkward motion or even stepping on adhesive spread.

Frequently check measurement and row alignment to ensure installation progress is staying true.

Keep foot traffic to absolute minimum to allow the adhesive to cure. Wait for at least 24 hours before moving furniture and resuming normal traffic on the floor.

## Important

### Herringbone Glue Down Instructions Continued

The use of adhesive tapes on any type of finish may affect the floor's surface. Flooring Manufacturer does not recommend the use of such tapes. However, installers may prefer to use strips of adhesive tape on narrow strips during installation to hold the boards together and prevent minor shifting or gapping. To do so, please consult with the tape manufacturer for the appropriate type and its correct use. Flooring Manufacturer shall not be held responsible for any affected surface due to the use of adhesive tapes during installation of Flooring Manufacturer's flooring.

When selecting an adhesive to use it is the installers responsibility to make sure the adhesives guidelines and specifications state it is suitable to use with Flooring Manufacturer's flooring products. The performance of the adhesive used to install Flooring Manufacturer's flooring in glue down installation is the responsibility of the adhesive manufacturer and Flooring Manufacturer does not warrant the adhesive bond between the wood flooring and the sub-floor.

## C. Attention

This guide is a general instruction manual that covers Flooring Manufacturer's range of classic tongue and groove products. While specific products may require specific installation methods, please consult your Flooring Manufacturer authorized dealer or retailer for the right installation method for your new hardwood floor.

## At All Times

For concrete sub-floors, conduct and document Calcium Chloride Tests per ASTM F1869. Test results must not exceed 2.0 lbs per 1,000 square feet per 24 hours (1.0 kg per 100 m2 per 24 hours) .

For wood sub-floors, use a pin type meter to document the moisture content of the sub-floor. Moisture readings should not exceed 14% in any location and readings for the sub-floor must be within 2% of the wood flooring at the time of installation.

Relative humidity at the job site must be maintained between 35% and 55% at all times. Failure to maintain proper humidity levels can lead to product failure.

**Wood flooring must be delivered to the job site and acclimated to room temperature in sealed cartons 72 hours prior to the start of installation.**

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Excessive heat, rapid heating, and/or failure to maintain humidity levels between 35% and 55% may cause cracking, cupping and other forms of failure.

NOTE: In wood flooring installations, moderate surface checking, cracking (especially at the ends of boards and around knots), shrinkage, gapping between planks, and slight cupping are all to be expected and do not constitute a product defect.

## CAUTION: WOOD DUST

Sawing, sanding, and machining wood products produce wood dust. Airborne wood dust can cause respiratory, eye and skin irritation.

## Precautions:

Equip power tools with dust collector. Use appropriate NIOSH designated dust mask in high dust level environment. Avoid dust contact with eyes and skin.

## First Aid Measures:

In case of irritation, flush eyes or skin with fresh water for at least 15 minutes.

## D. Care and Maintenance Tips

It is only natural that hardwood floors will show signs of wear over time. You can expect years of natural beauty from your floor by observing a few precautions and maintaining a regular cleaning and maintenance routine.

- Keep dirt, sand, grit and water off the floor by placing mats in front of all entrances to your home.
- Sweep or vacuum regularly to rid the floor of dust and grit that can scratch the finish.
- Maintain the floor with an approved cleaner. Contact the Flooring Manufacturer authorized dealer or retailer for the recommended maintenance products.
- Remove shoes with spiked or damaged heel before walking on the floor to prevent scratches and dents.
- Keep pets' nails trimmed and paws clean and free of dirt or soil.
- Always apply felt pads under any furniture or chair legs to prevent scratches and to ease movement. Keep pads clean at all times and regularly check and replace as necessary.
- Protect the floor when moving heavy furniture or large appliances. Place on mat and slide smoothly over floor.
- Use rugs in high wear areas i.e. in heavily traveled spots and pivot points such as room entries and stair landings.
- Never flood or wet-mop the floor with water or any other liquid products. Severe damage may occur that leads to product failure.
- Wipe up spills immediately with damp cloth.
- Exposure to sunlight UV rays accelerates the aging of materials. This may change the color of the floor. Periodically rearranging the furniture will allow the floor to age evenly.
- To maintain a consistent room temperature of 65° F to 75° F and relative humidity of 35% to 55% RH, air conditioning and heating systems must be in place and operational at all times.

## Flooring Features:

PRODUCT	PAD & RECOAT	SAND & REFINISH	INSTALL OVER RADIANT HEAT	WHERE TO INSTALL
ENGINEERED	YES*	YES*	YES (OAK ONLY)	ON GRADE ABOVE GRADE BELOW GRADE

\*Engineered flooring with a veneer thickness of 2mm or less cannot be sanded and refinished, only a pad & recoat can be performed.