

INSTALLATION INSTRUCTIONS of FREVINI Engineered Flooring (Herringbone pattern)

Important information before you start:

It is **EXTREMELY IMPORTANT** that you read and understand this information completely prior to starting, since improper installation can void the warranties.

Installer/Owner responsibility

- Goods should be brought inside the building and Inspected before installation for completeness of order.
- Warranties do not cover materials damaged during transport and or with visible defects once they are installed, whereby natural characteristics of wood cause variations in wood grain, figure, character marks, texture or color and are not covered under warranties.
- Transport damages should be reported on the delivery document directly during signing for delivery when possible and when not accepted as it, returned to the transporter.
- Provisions must be made to prevent the product from sliding or falling.
- The installer and owner assumes all responsibility for the final inspection of product quality.
- Carefully examine flooring for color, grain, design, finish and quality before installing it. Our strict quality control procedures cannot completely eliminate possible defects. If material is not acceptable, do not install it.
- This inspection of all flooring should be done prior to installation.
- Depending on availability, deliveries may contain non-standard lengths and non-standard packaging size.
- The installer must use reasonable selectivity and hold out or cut off pieces with deficiencies, whatever the cause.
- If material is doubtful as to grade, manufacture or factory finish, the installer should not use the piece. So do not install it and contact your supplier immediately.
- Imperfect and already installed boards cannot be claimed.
- The use of stain, filler or putty stick for the correction of minor defects during installation should be accepted as normal procedure.
- Even though our products are inspected many times, some grading or defect deficiencies may occur (in up to 5% of the floor area).

- When flooring is ordered, at least 5-7% for regular and 12-13% for angle installation must be added to the actual quantity needed for cutting and grading allowance.
- FREVINI flooring installation shall be the last step of any construction or renovation project. This helps keep the floor safe from damage caused by foot traffic and construction.

Tools & accessories needed

- For all installations: Dust mask, eye protection, moisture meter (wood, concrete or both), broom or vacuum, chalk line & chalk, (electric power) saw or hand saw, hammer, knocking block, square, tape measure, pencil, utility knife, pry bar, Hardwood repair kit (filler, putty stick or stain), distance spacers 8-15 mm.
- Glue-down installation also requires: ratchet floor clamps, blue tape, and a notched towel, as well as a glue cleaner.

Pre-installation & Jobsite Conditions

- The installer/owner is responsible for determining if the job site subfloor and job site conditions are structurally and environmentally acceptable for installation. The manufacturer declines any responsibility for floor failure resulting from or connected with subfloor, subsurface, job site damage, jobsite environmental deficiencies or deficiencies after hardwood flooring has been installed. All substrates must be dry, clean, structurally sound and flat. If your FREVINI floors are damaged by installation without you checking for potentially damaging environments, no warranty will be provided.
- The building should be closed with all outside doors and windows must be in place. All concrete, masonry, plastering, paint and other “wet” work must be thoroughly dry. The wall coverings should be in place and the painting completed except for the final coat on the base molding. When possible, delay installation of base molding until flooring installation is complete. Exterior grading should be complete with surface drainage directing water away from the building. Basements and crawl spaces must be dry and well ventilated.
- FREVINI flooring products may be installed below, on or above grade level.
- The installation site should have a consistent room temperature of 18-25°C and humidity of 40-60% 14 days prior installation to allow for proper acclimation and there after, to allow for proper acclimation. Dehumidifiers and humidifiers are suggested for this task. Even after installation room humidity should never exceed 40-60%. Keep in mind that if the relative humidity drops below 30% for extended periods, the flooring could shrink and expand causing surface crack, split, bow, crook or delaminating.
- The subfloor must be checked for moisture content by an appropriate testing method. Test results must be recorded. Concrete sub-floors must have a moisture level no higher than 2%, for anhydrous screed sub-floor no higher than 0,5 %, when the wood should not exceed 12%.

- Any deviations in sub-floor level cannot be higher than 2 mm for each 2 meters on the sub-floor. Test the sub-floors level and use of appropriate tools, products and methods for correcting subfloor voids should be accepted as a normal industry practice.
- Test the strength of your concrete sub-floor by scratching it with a hard thing or nail. If it crumbles into powder, it is not strong enough for your wooden floor and you CANNOT install it. This is because the compression strength of the concrete is too low.
- Perimeter glued resilient vinyl and rubber tiles are unacceptable underlayments and must be removed. Tiles and any other hard surfaces that are dry, structurally sound and flat, as described above, are suitable as a subfloor for installation of FREVINI products. As above, the surface must be sound, tight and free of paint, oil, existing adhesives, wax, grease and dirt. Tile must be sanded or treated with special primers to assure adhesion.
- For plywood subfloors should be at least 19mm thick and nailed down well. Sanding may be required at joints to even out surface. Where the subfloor is too uneven, apply 10mm plywood underlayment.
- For board subfloors (up to 150mm square edged) also require good nailing. If uneven, boards may require sanding. Nail 10mm plywood underlayment on boards.

Storage and handling

- Handle and unload products with care.
- Store products in a dry and warm place as described above.
- The flooring should not be delivered until the building has been closed in with windows and doors creating a controlled interior environment and until cement work, plastering and all other “wet” work is completed and dry.
- Concrete should be at least 60 days old and have a required moisture as described above.
- FREVINI flooring products must be stored, in its packaging, in the environment in which it is expected to be installed for at least 48 hours prior to installation. Only open them when it's time to install the floor.
- Provisions must be made to prevent the product from sliding or falling.

Installation with underfloor heating

- The maximum allowable heat output is 55 W/m² and must be evenly distributed over the entire surface of the floor.
- Surface temperatures must not exceed 27°C in all places. At the start of each heating season the temperature shall be gradually increased evenly over 7 days until normal heating levels are achieved. The adhesive shall be water and solvent free and elastic.

- More instructions for underfloor heating can be found in “FREVINI – underfloor heating” instructions document.

Glue – down installation for herringbone pattern

Precision is the key when installing hardwood flooring in herringbone pattern. On plywood, OSB sub-floors concrete subfloors we recommend glue-down installation. However, Herringbone pattern is one of the most difficult patterns to lay out and install therefore it is best to leave it to a professional.

Do not use floating floor installation method for installing hardwood floors in this herringbone pattern.

FREVINI offers 2 types of Herringbone packs:

L packs - Each pack contains left-handed planks.

R packs – Each pack contains right-handed planks

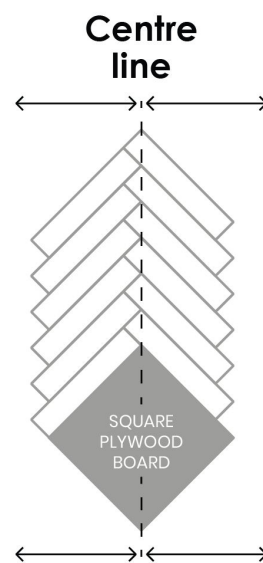
Before you begin your installation, we recommend that you sort the packs into two piles - left and right-hand.

Step 1 – Priming (only on concrete subfloor)

- Apply your primer to the sub-floor with brush or roller you feel comfortable using.
- Wait for the primer to dry before proceeding as long as primer producer advises.
- In a case of confusion, read the primer manufacturer's instructions before priming.

Step 2 – Layout the room and working lines

- Check the room for squareness. Measure the diagonals of the room. If they are equal, the room is square.
- Determine the layout for the floor and the direction the pattern will run. Typically, the pattern will follow the length of the room or the pattern running to the major room interest point e.g. main entrance, main window, or fireplace.
- Pre-plan your working lines. It is usually best to center your first line (called “center line”) along the orientation of the pattern and chalk it (Drawing 1.)
- Select your starting area in the middle of the room and screw the starter square plywood board on the subfloor in a diamond position with the top and bottom points aligned with the



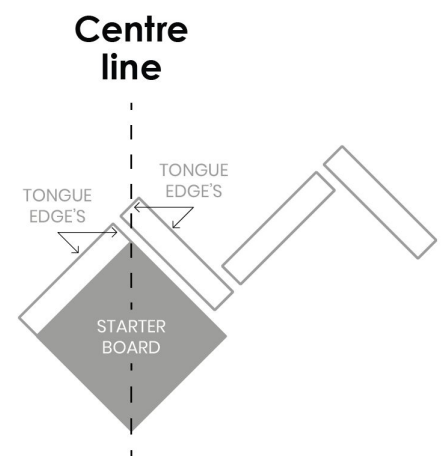
center line, starting at the nearest wall and following the central line.

Step 3 – Spreading the adhesive

- Be sure that the interior of the room in which you are working, and the adhesive are in the proper temperature range recommended by the adhesive manufacturer, usually 18 to 22°C. If it is colder or warmer than recommended, there could be difficulty in spreading the adhesive or getting it to set up as desired. Always follow the manufacturers' directions.
- Observe the manufacturers' recommendation for "open time" (Setting up or hardening). This allows the adhesive time to evaporate solvents and come to the proper consistency for sticking down the flooring.
- Do not cover the area most convenient to the entrance and starting point with adhesive so movement of materials can be accomplished without awkward motion or stepping in adhesive. This area is covered with adhesive toward the end of installation after all materials are in the room.
- Begin installation in the area, spread the adhesive out from the edges of the starter board and over a reasonable area.

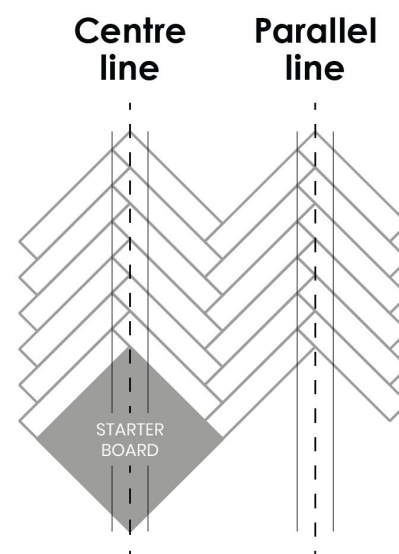
Step 4 – Installation

- Set the first left-tongue plank to the left-hand side of the starter board with the grooved side snug to the starter board and the tongue side facing out towards the room, make sure the upper butt ends aligned with the center line, press the left-tongue plank down with to the sub-floor. (Drawing 2).
- Set the right-tongue plank to the right-hand side of the starter board with the grooved side snug to the starter board and the tongue side facing out to towards the room, make sure the upper end is engaged (without any gap between) with that of the left-tongue plank and the tongue end of the right-tongue plank lines up with the tongue side of the left-tongue plank, press the right-tongue board down with to the sub-floor.
- Avoid pushing the board into place across the sub-floor as this may unevenly redistribute the adhesive. Instead, hold the new board above the sub-floor at an angle and engage the tongue and groove joint, then press the board directly down on the sub-floor.
- Start the second left-tongue plank, place the new plank with the groove side snug to the tongue side of the first board, make sure the upper ends aligned with the center line, press the board down on sub-floor.
- Continue the second right-tongue plank, place the new plank with the groove side snug to the tongue side of the first board, make sure the upper end is engaged with that of the



second left-tongue board and the tongue end of the right-tongue plank lines up with the tongue side of the left-tongue plank, press the right-tongue board down with to the sub-floor.

- Install the first 3 boards allow time for adhesive to cure before continuing with the installation in that section.
- Start the next row, place the new left-tongue plank against the previous row, make sure it is engaged with the previous right-tongue plank and press down, continue the second row with the right-tongue plank, make sure the upper end is engaged with that of the left-tongue plank and line up the tongues, press the right-tongue plank down. Snap a new parallel chalk line through the upper end, this is the center line of new row of flooring. (Drawing 3)
- Continue working forward until the first two rows flooring are complete to the far wall, cut the final row to fit, allowing 8-15mm expansion gap to the wall this gap will be covered with skirtings. Remove the plywood starter board and work back to complete the first two rows.
- Start the new rows as repeating the above instructions until the installation is completed. Measure and cut the final row planks to fit, allowing 8-15mm expansion gap to the wall this gap will be covered with skirtings.
- Check measurements and row alignment frequently to ensure that the rows are staying true and square.
- Always snap a new chalk center line with every row to server as guide line.
- Ensure no adhesive is forced into tongue & groove joints during installation. Avoid getting adhesive on the flooring surface, make sure clean up any spills immediately according to the adhesive manufacturer's instructions.



Step 5 – Job completion, Final touches

- Once the last row is installed, allow the adhesive to dry per adhesive manufacturer's instructions.
- No heavy furniture or activity should be allowed on the finished and installed floor for at least 24 hours after glue-down installation were used.
- A pre-finished FREVINI flooring does not need any surface treatment, as the boards are finished at the factory.
- Clean your floor using a vacuum cleaner or a dust mop fitted with a dry cloth and maintain the finished floor referring to "FREVINI Care and Maintenance Instructions".

- If further work is to be carried out in the room, the flooring should be covered with clean hardboard, porous cardboard, paper or similar, in order to avoid damage. It must be a material that “breaths”.
- Do not stick any adhesive, materials with glue, such as scotch tape, duck tape, etc., directly on installed flooring. This can cause damages to finishing for which seller does not hold responsibility.
- Protect the floor from damage by placing felt pads under all furniture legs.
- Keep the remaining planks in storage in case of repairs.