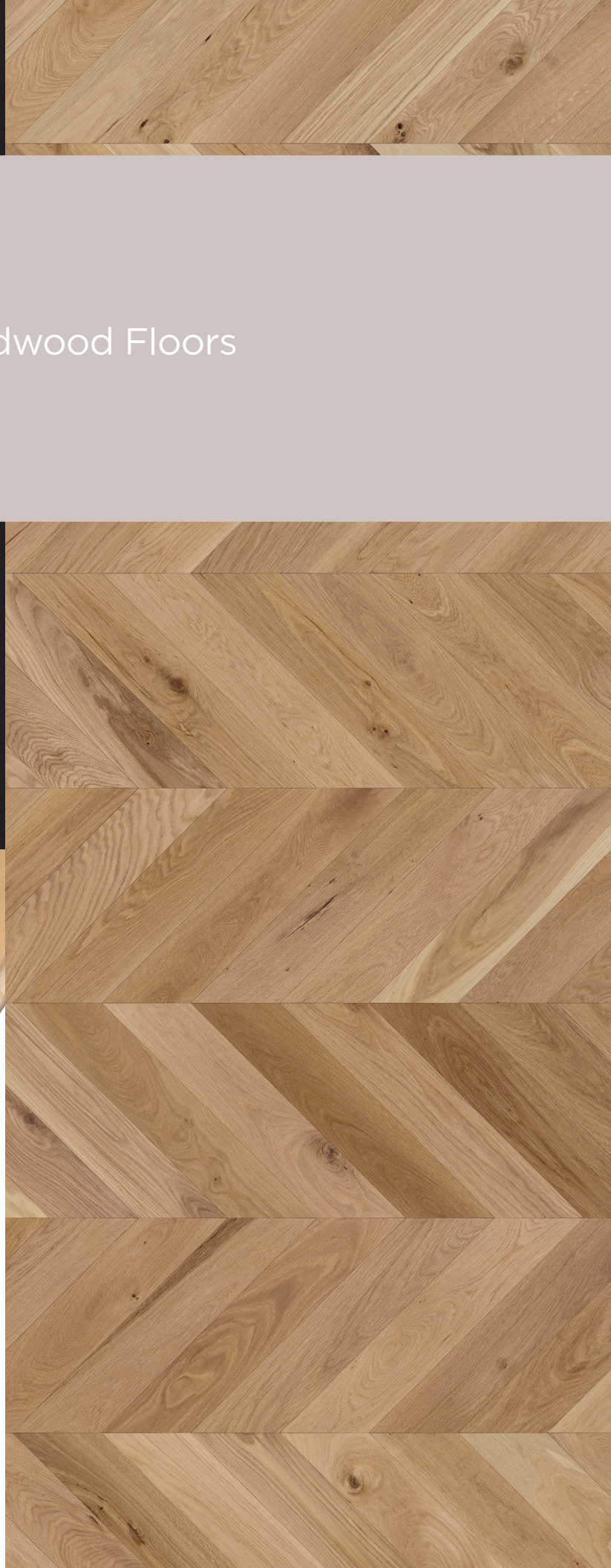
Installation Guide

TruBalance Prefinished Hardwood Floors
Chevron

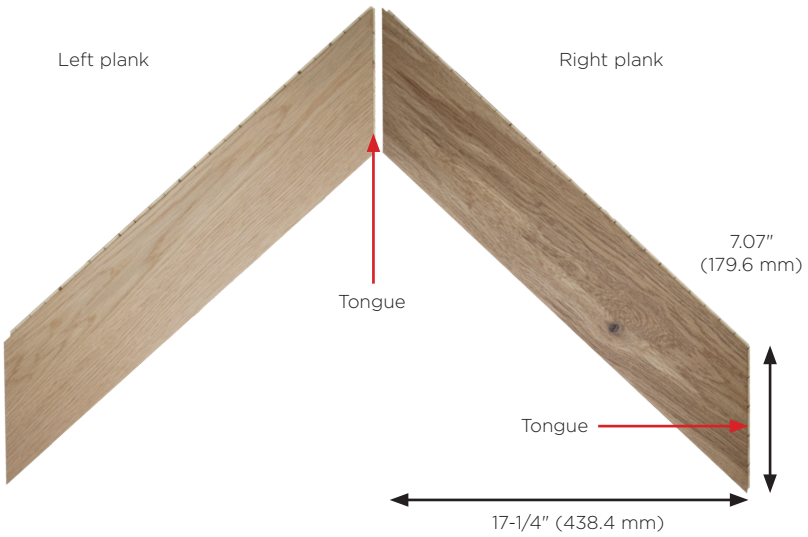
mirage™
TruBalance





BASICS

Chevron hardwood floors are distinguished by the classic V shape, creating a zig zag pattern since the sides meet to a point. All boards are manufactured to the exact specifications, allowing a variety of patterns to be created. It is highly recommended that professionals be called upon due to the detailed attention required for the installation of this type of floor.



PRODUCT USE

Mirage Chevron products are a classic tongue and groove profile that can be installed above, on or below grade. Most wood species, can also be installed over subfloor equipped with radiant heat systems.

Wood and concrete subfloors are suitable for glued-down installation of Chevron flooring.

Each box contains an equal amount of right and left planks.

INSTALLER AND OWNER RESPONSIBILITY

Prior to installation, the installer and owner must ensure that the work environment and subfloors meet or even exceed minimal specifications listed in this installation guide. Also, the installer and owner have final inspection responsibility as to grade, color, manufacturing, and factory finish quality of boards and conformity to the purchased product. Once installed, any board is considered as having been accepted by installer and owner, even if owner is absent at time of installation.

Standard trade practice allows a percentage margin of error for natural imperfections and manufacturing defects. When ordering Chevron, 10-20% should be added to the actual square footage according to the chosen pattern as an allowance for cutting waste. Refer to the annex at the end of this document to access the Chevron Quantity Estimator.

WARRANTY

Structural lifetime warranty

For the glued down installation, relative humidity must always be maintained between 25% and 80%.

Finish warranty

MIRAGE guarantees the original purchaser that the surface finish applied on its Mirage prefinished hardwood floor after June 1st, 2017, will not wear through or separate from the wood for a period of:

- Thirty-five (35) years from the date of purchase, when used under normal residential traffic conditions.
- Three (3) years from the date of purchase, when used under light commercial conditions.
- Five (5) years from the date of purchase, on Nanolinx® Commercial finish, when used under commercial conditions, excluding heavy commercial use.

To be eligible to fill a warranty claim, surface wear must be readily visible and cover at least ten percent (10%) of the total flooring surface area. For more information on the warranty, consult the Mirage Warranty Certificate. In the event of a discrepancy between the information in the Installation Guide and the Mirage Warranty Certificate, the latter shall prevail.

Disclaimer

- The nature of Character grade flooring explains the appearance of certain characteristics visible at time of purchase or developing over time, including pronounced color variations, open and closed knots, mineral streaks, cracks, surface holes, and other character or milling marks are part and parcel of this effect.
- Some distinctive marks may become prominent over time due to changes in the environment.

For more information on the warranty or for information on floor care prevention, consult the Mirage Warranty Certificate and the Mirage's Residential Maintenance on our website miragefloors.com. In the event of a discrepancy between the information in the Installation Guide and the Mirage Warranty Certificate, the latter shall prevail.

MIRAGE, Technical Service
1255, 98th Street, Saint-Georges (Quebec) Canada G5Y 8J5
Tel.: 418-227-1181 – 800-463-1303 – Fax: 418-227-1188
Or by email: technical@miragefloors.com

RECOMMENDED TOOLS, MATERIAL AND ACCESSORIES

- Vacuum cleaner or broom
- Scraper
- Leveling bar
- Level
- Leveling compound (optional)
- #20 grit sandpaper (optional)
- Wood and/or concrete moisture meter
- Miter saw
- Handsaw
- Security glasses
- Chalk line (various colors recommended) or a line laser
- Trowel
- Claw hammer
- Nail punch
- Pry bar
- Starter template Backer board 24.4" x 24.4" (optional)
- Measuring tape
- Repair kit
- *Klean by mirage* wood floor cleaner
- 3M tape
- Adhesive cleaner, mineral spirits or acetone if necessary
- Moisture meters and if necessary, use Calcium Chrloride test



Adhesive Requirement for Glued down installation

For guidance on recommended adhesives that meets the MIRAGE* performance criteria, refer to our Technical Newsletter #23 in the Guides and Support section of our website at miragefloors.com.

Recommended Equipment

- For TruBalance installation, we recommend using the same trowel designed for 1/2" thick hardwood floors. Refer to glue manufacturer for trowel's recommendations & requirements according to 1/2" thick hardwood floors.
- 3M blue adhesive tape or easily removable equivalent.
- Remover towels for hand and tool cleaning.
- Adhesive cleaner.
- Recommended underlayment if necessary. Refer to Technical Newsletter #26 for more information or contact our technical service department if in doubt.

Adhesive installation

- Begin installation along the centerline and spread out towards the edges of the room.
- Avoid getting adhesive into grooves to ease row-to-row installation and for a perfect tongue-and-groove fit.
- Only cover surfaces that can be reasonably laid in 2 hours, since adhesive may dry too quickly and not stick properly. This time may vary depending on quality of adhesive being used and temperature/humidity levels within the installation area (ref. manufacturer's specs on container).
- During application, work the trowel in a circular motion at a 45° angle. The quantity of adhesive left on the floor by the trowel teeth is the right amount. Press hard on boards to ensure they properly glue to subfloor.
- To maintain boards in place and avoid board movement causing gaps during installation, use 3M blue adhesive tape.
- Avoid getting adhesive on hands to minimize clean up. Carefully wipe any adhesive from floor immediately using solvent and towels. Do not over rub. Use a small amount of paint thinner, acetone or mineral spirits to remove stubborn adhesive spills.

Note: Boa-Franc G.P. cannot be held responsible for any floor damage resulting from use of inadequate fasteners or adhesive, differing from those recommended. All the installation material must be at the recommended room temperature prior to the installation ± 22 °C (± 72 °F).

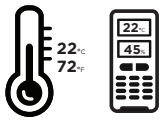
*MIRAGE, our renewed corporate brand, embodies the quality and care found in our prestigious brands such as Mirage Hardwood Floors, Vintage Hardwood Flooring, Ten Oaks and Alexandra Hardwood Flooring. Our legal entity is called Boa-Franc G.P.

HANDLING AND ACCLIMATIZATION

Prefinished hardwood flooring installations require a little more time and precaution than unfinished flooring; handle with care to avoid damaging surface and finish.

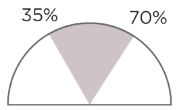
PRE-INSTALLATION CHECKLIST

Installing the hardwood floor should be the last step of any construction or renovation project.



Before installing the Chevron floor, ensure the following:

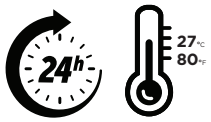
- The subfloor is perfectly even.
- The subfloor is dry, and the basement is well-ventilated to avoid any moisture-related damage.
- The heating system is in operation, and room temperature must have been maintained at ± 72 °F (± 22 °C) for at least one week.
- For below-grade installation, ensure that foundations, concrete slab or any adjacent objects are thoroughly leak proof.
- Relative humidity must be maintained around ±45% at all times. For the installation of Chevron flooring, we recommend maintaining the relative humidity within a 35% to 70% range. Staying within this range will ensure the pattern and overall look of your floor lasts over the years.





Radiant Heat Performance please refer to the Technical Newsletter #31:

- Make sure the wood surface temperature never exceeds 80˚F (27˚) and not vary from any point by more than 3˚F (2˚C).
- Mirage recommendations should never overpass the radiant heating system manufacturer's instructions.
- Make sure that the radiant heating system has been tested and in operation for a week prior to installation. The system temperature should be lowered during installation.



Subfloor Moisture Level Check

Wooden subfloor: Its moisture reading must not exceed 12% and differential between boards and subfloor must be less than 4%. Wood moisture meters are available from your Mirage Authorized dealer. If moisture reading is too high, postpone installation, find moisture source and correct it if needed. Raise heat and increase ventilation until reaching proper conditions.

Concrete subfloor: Prior to installation, concrete subfloor should preferably be 45 to 90 days old, **30 days being the absolute minimum.** Use the concrete moisture meter must be used to check subfloor moisture level; if the result exceed 3.5%, perform a calcium chloride test. **The concrete subfloor moisture content must not exceed 3 lbs / 1,000 sq. ft. /24 hours.** If the reading exceeds 3 lbs, use a complete moisture-proofing system (sealer and adhesive) compatible with the selected adhesive. Please refer to the warranty, for product limitations, and installation recommendations.

Product Temperature

Note: Ensure boxes reach room temperature if necessary. Do not open boxes or remove plastic wrap before starting installation.

Owner and installer are solely and jointly responsible for pre-installation subfloor moisture level check and must ensure that all conditions and/or specifications listed in this guide have been thoroughly met prior to installation of hardwood floor.

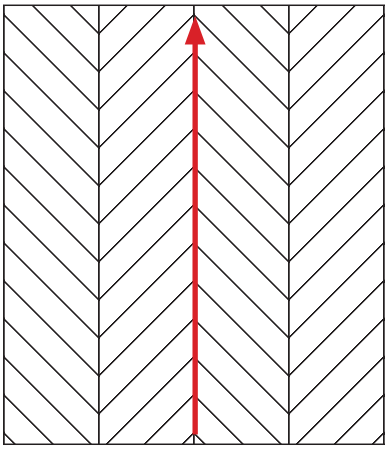
SUBFLOOR PREPARATION

- **Sound:** Securely screwed down the wooden subfloor to the joists to prevent any movement or squeaks. Thoroughly inspect and replace the existing floor or subfloor that shows evidence of water damage or structural weakness. Snow and rain during construction could negatively affect some properties, especially on OSB. Ensure the concrete subfloor is structurally sound before installing the hardwood floor; it should rate at 3000 psi for compressive strength.
- **Flat:** The subfloor surface must be flat. For glue down, the maximum tolerance is 3/16" (5 mm) over a 10 ft (3 m) span. To check the surface, use a rigid straight ruler and continuously measure (at all points) the entire subfloor in all directions (360 degrees). Correct deviations by flattening high points with a suitable tool and filling in low points with an appropriate filler to meet the required tolerances.
- **Level:** The subfloor must be level. Any deviation should be minimal, barely noticeable to the naked eye. Some standards suggest a maximum deviation of 1/2" (13 mm) over a 10 ft (3 m) span. It is important to note that leveled installation of items such as cabinets, decorative frames, and windows impact the visual perception of levelness and the overall visual appeal for the end user.
- **Dry:** Subfloor must be dry and within moisture reading specifications.
- **Clean:** Vacuum and free the subfloor from any debris or obstacles such as cleats, nail heads, dried glue or any other material.
- When used, recommended underlayment must be glued down over the subfloor before gluing down the floorboards using the same recommended adhesive (refer to. Technical Newsletter #26 at miragefloors.com).

PREPARATION BEFORE FLOORING INSTALLATION

- Remove baseboards, doorsills and old floor covering where applicable.
- Trim the bottom of the doorstop with a handsaw to insert boards underneath.
- Determine the layout of the floor and the direction in which the pattern will run. Generally, a Chevron pattern follows the length of the room.
- On the wall along which the Chevron pattern will run, establish the center point of the room where you will make your first "W" pattern (see Illustrations #1 and #2).
- Start by selecting the boards that go best with the transition moldings.
- Blend boards from several boxes to ensure a good balance of color and grain.

Illustration #1 First W



See annex at the end of this document



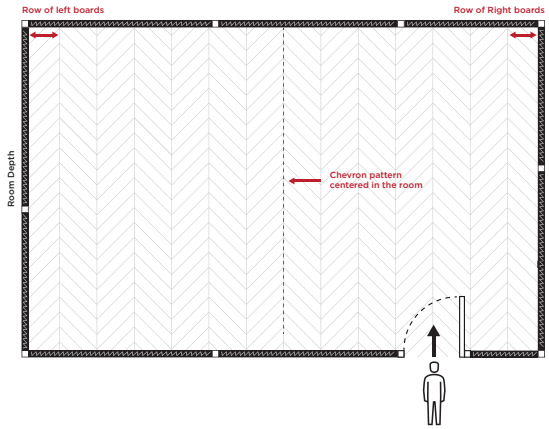
GLUED DOWN INSTALLATION INSTRUCTIONS

Wear security equipment and maintain a safe environment at all times.

Measure, Measure and Measure!

The secret of a successful Chevron floor installation is precision. Verify measurements and check row alignment accuracy frequently to ensure an even pattern. When installing Chevron flooring, a high degree of technical ability is required and should be only performed by qualified professionals and experienced installers. Establish the correct angles from the outset. The precision of these angles during the installation of the first couple of rows is essential to prevent running out of angle. Ensure that there are no gaps or openings between the floorboards. Otherwise, the gaps will become larger with every subsequent fitted row.

NOTE: A row of boards is 17-1/4" (438.4 mm) wide as per the board lengths set at a 45° angle.



Step 1: Pattern Direction

- Chevron flooring may be aligned with any room landmark such as windows, fireplaces, columns, low walls, or interior partitions. The direction in which you install the Chevron pattern on the floor largely determines how it will look and directly impacts the number of wood boards needed for the fitting. A zigzag pattern that follows the room's longest wall usually requires fewer wood boards.

Step 2: Installation Guidelines

- Mark a centerline in the middle of the room using a chalk line to establish the center of the pattern and its direction.
- Trace two lines parallel to the centerline, one on either side of it at 17-1/4" (438.4 mm) for 5" (127 mm) wide floorboards. These will be used as guidelines for the first two rows (top corners of the boards).
- Trace additional parallel guidelines according to floorboard width across the entire floor surface to ease the installation of subsequent rows.

Tip: While installing chevron add 3M tape to minimize movement and check the alignment of every row.

CAUTION: Subfloor imperfections could make lines deviate. Ensure all lines are straight.

Step 3: Installation of 4 Starter Rows

- Be careful while fitting the first 2 rows. Setting an accurate angle for these starter rows makes it easier to install the rest of the floor. Floorboards must be aligned extremely accurately at this stage to prevent running out of angle. Misaligned starter rows can cause side and end gaps (Alignment pictures).
- Apply adhesive on either side of the centerline up to the nearest parallel guideline, making sure to keep the lines visible. (See the Adhesive Application section on page 3 for more information of the present document.)
- Start assembling the left and right floorboards along the centerline in such a way that the peaks where the boards connect point away from you: ^. As boards are added to the first 2 rows it will create the first arrow, carefully check that they are well-centered along the chalk line and the tongue-and-groove connections are aligned. If there are deviations, adjust the boards as soon as possible. By referring to the point that all boards are aligned you'll make sure that your installation is correct.
- When the first 2 rows are complete, spread adhesive along the rows on either side of these. Then, add additional rows: one on the left and complete it and once it's complete make the right row and complete it as well. The form of these 4 rows together has a w-shaped pattern (Illustration #2). Measure the angle and ensure proper alignment while installing the floorboards.
- Leave adhesive of first 4 rows to cure overnight, before continuing the installation. However, scrape away any visible adhesive (outside the W) that is not covered by the installation immediately. Regularly verify your pattern and add 3M tape to minimize movement and check the alignment of every row. If not possible to dry overnight combine installation with a temporary nail in the tongue.

Alternative method for Step 3: Using a Starter Template

CAUTION: Using a Starter Template is a helpful tool, but it does not guarantee a good result. ONLY measuring and verifying the angle frequently will guarantee proper alignment of your flooring.

1. Cut out a perfect square from a plywood board. The sides should be the same length as the floorboards to install. For floorboards of 24.4" (620 mm) length, cut out a 24.4" x 24.4" (620 mm x 620 mm) square.
2. On the floor, align the upper and lower corners of the Starter Template square with the centerline in such a way that it forms a diamond from the wall and secure it to the subfloor.
3. Place a left and right floorboard on each side of the Starter Template. The peak where the boards connect should point away from the wall as such: ^
4. Measure the accuracy of the alignment and the angle.
5. Trace a line on the subfloor along the tops of the boards and remove the floorboards and the Starter Template.
6. Apply adhesive to the subfloor and place floorboards along the traced lines.

Alignment pictures

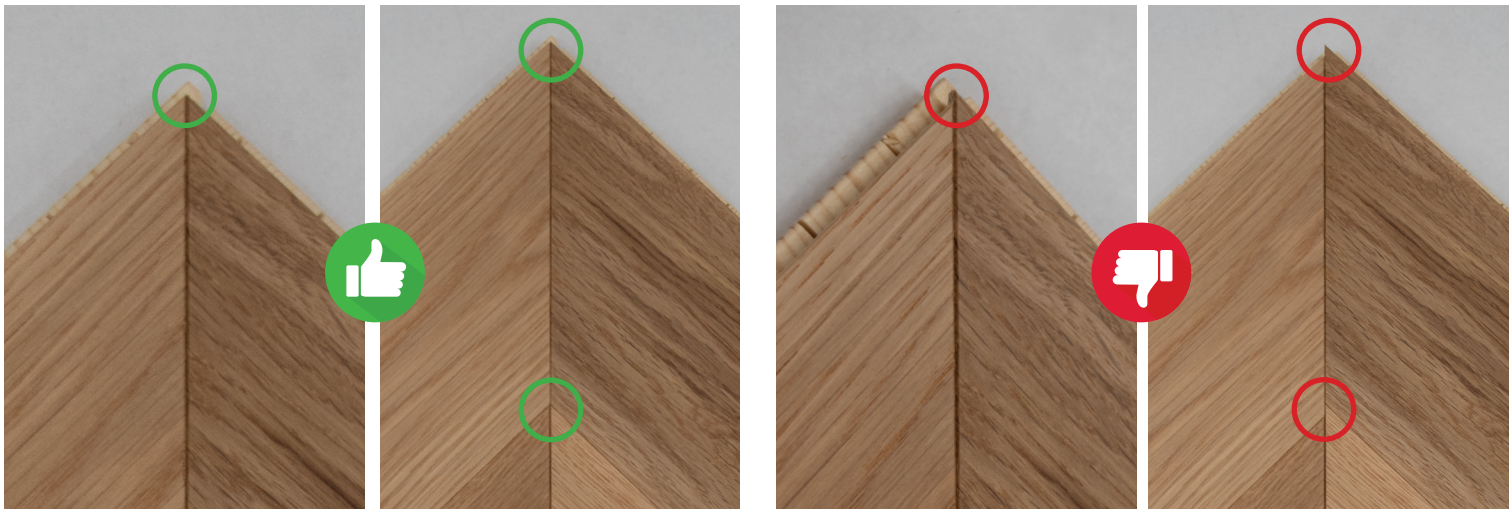


Illustration #2

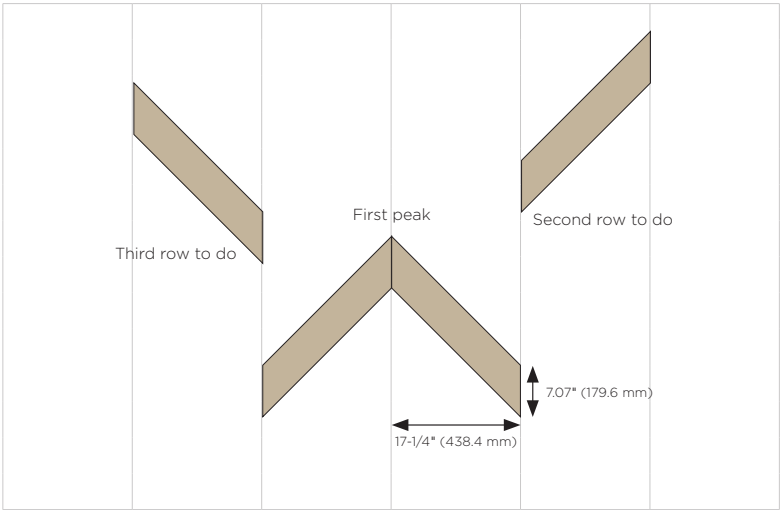
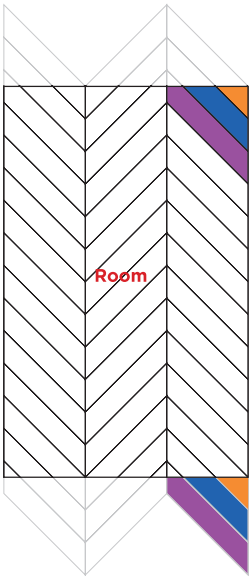


Illustration #3 i.e. the purple plank that you cut at the bottom you can use it at the top (purple plank)



Step 4: Installation of the remaining flooring

- The next day, verify that the installation of the 4 starter rows are well aligned.
- Choose the side that you wish to start with. Start the next row. Place the next plank against the previous row, make sure it is engaged properly and pressed down, continue working until your row of flooring is complete. Complete this side of the room by continuing the rows, do not change direction. (i.e from vertical to horizontal).
- When you finish the rows on one side, keep the board cuttings since they could be used on the opposite side of the row. This will reduce waste (Illustration #3).
- Use the following parallel guideline as the centerline of the next side of rows of flooring to the outer wall. Always check that each board is well aligned. Also, check measurements and row alignment frequently to ensure that the rows are staying true and square. To maintain floorboards in place and avoid board movement causing gaps during installation, use 3M blue adhesive tape. Continue to do one row at a time up to the far wall.
- Measure and cut the final row of boards to fit, allowing 1/4" expansion space to the wall.
- Repeat the steps above with the other outer wall.
- When installation is complete, remove all the tape from the floor. Do not leave the tape on the floor for more than 24 hours.

Step 5: Accessories installation

- Where applicable, install transition moldings, stair nosings and reducers.
- Where applicable, reinstall baseboards and quarter rounds, making sure to nail them only to walls and not to flooring to allow free floor movement.

Step 6: Post-installation

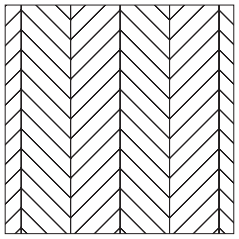
- Wait 24 hours before moving furniture back into place or allowing heavy traffic.
- Set a few boards aside in case of future repairs.
- Vacuum floor thoroughly, spray a light mist the *Klean by mirage* Hardwood Floor Cleaner on microfiber mop cover and clean floor.

How to estimate the number of boxes needed for your Chevron floor installation

Mirage Chevron floors are a distinguished flooring option that can be installed in a variety of patterns. However, a high degree of technical ability is required when installing Chevron flooring. It is therefore strongly recommended to use the services of qualified professionals and experienced installers.

This document is a guide to help you estimate the number of boxes of flooring needed for installing the Chevron pattern with 24-7/16-inch-long (620 mm) wood boards ONLY.

Chevron pattern



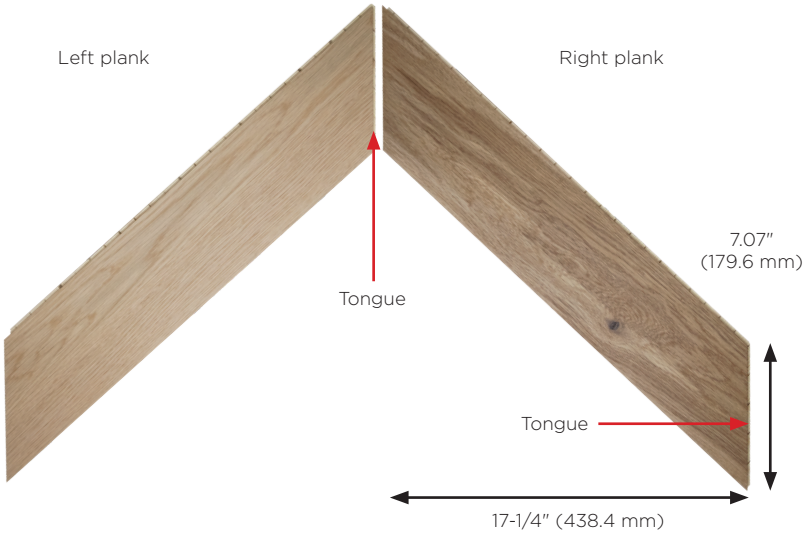
Please contact our technical department for assistance if you are installing another Chevron flooring pattern (e.g., Spearhead, Brooklyn Bridge, Leaf line, and Boardwalk).

MIRAGE, Technical Services
1255 98e Street, Saint-Georges, Qc Canada G5Y 8J5
Tel.: 418-227-1181 – 800-463-1303 – Fax: 418-227-1188
Email: technical@miragefloors.com

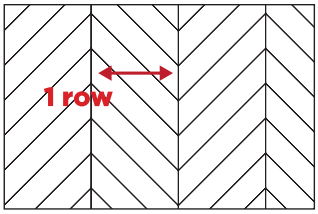
NOTE: See the reference chart at the end of this document for a list of typical room dimensions for which the number of boxes is already provided. If the dimensions of your room do not correspond exactly to the dimensions in the chart, follow the instructions below.

Right Boards and Left Boards

A Chevron floor requires left and right wood boards to create the pattern. Each Chevron box contains 8 right wood boards and 8 left wood boards, covering 13.6 square feet.



A row of wood boards is 17-1/4 inches (438.4 mm) wide.



Installing a Chevron flooring pattern requires a larger number of wood boards than other types of installations because the boards at the edges of the room—those adjacent to the walls—must be cut. As a result, the surface area of wood boards needed will be larger than the actual surface area of the room.

Keep the wood board cuttings as they may be used to complete the edges.

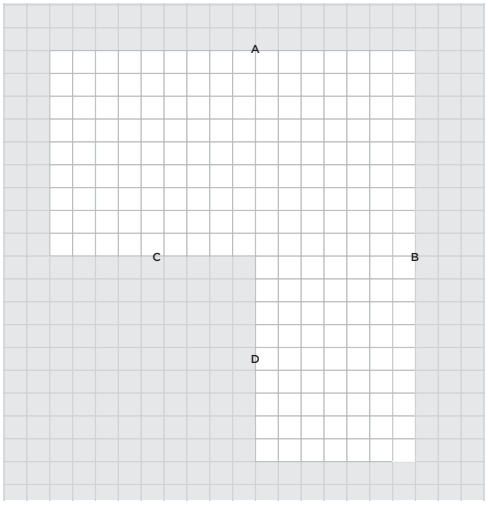
INSTRUCTIONS

1- Measuring the dimensions of the room

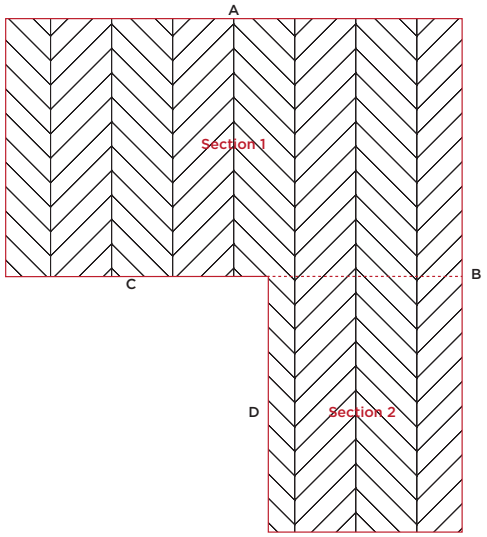
Draw the floor plan of your room and measure the length of each wall in inches.

The walls of the room where you will install the Chevron must be straight to get the correct calculation at the end.

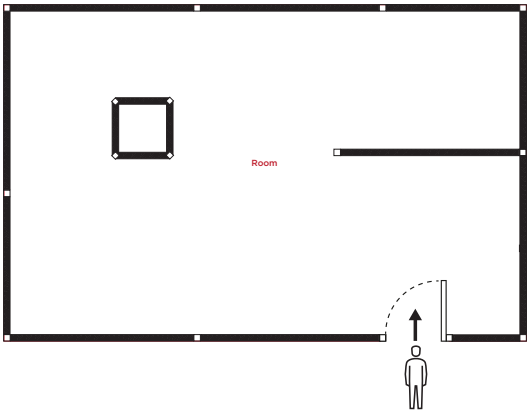
Also, if your room has an irregular shape, divide it into sections, and take measurements separately for each section. However, note that when the Chevron pattern is centred in one section of the room, the other sections will follow the same alignment.



A: 393.7"	**B**: 393.7"
C: 196.85"	**D**: 196.85"



Do not subtract the area occupied by low walls, columns, or any other interior partition of the room.



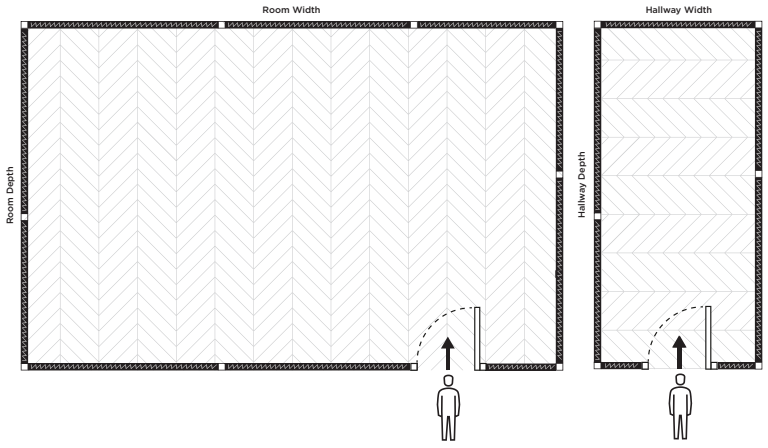
2- Determining the installation direction

The direction in which you install the Chevron pattern on your floor largely determines how it will look and directly impacts the number of boxes of wood boards required.

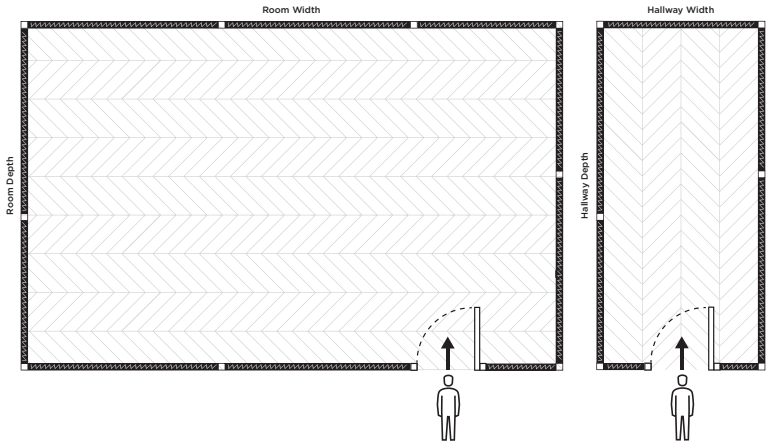
A zigzag pattern that follows the room's longest wall usually requires fewer wood boards.

For instance, in the images below, Installation 1 (room and hallway) usually require fewer wood boards the Installation 2 orientation.

Installation #1

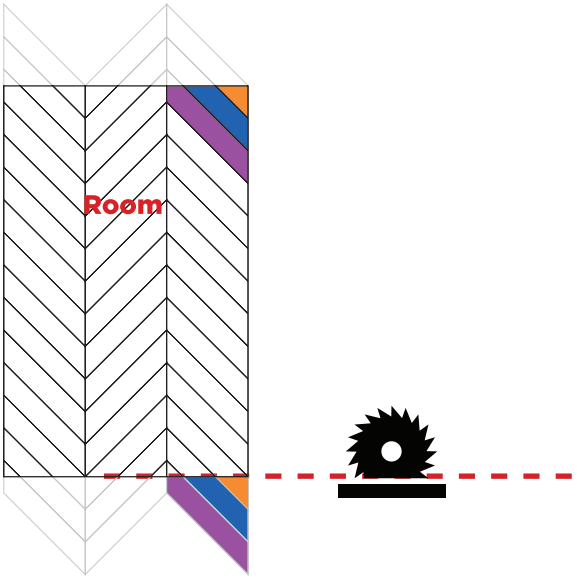


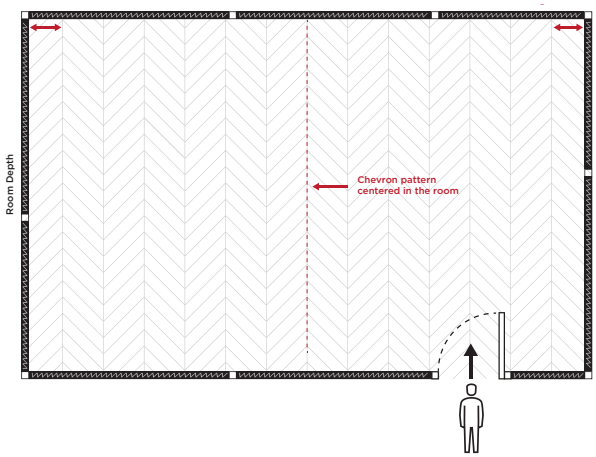
Installation #2



Because the boards adjacent to the walls of each row may need to be cut, installing along the “narrow” edge of the room multiplies the risk of having unusable wood board cuttings. However, some wood board cuttings can be used to finish the edges.

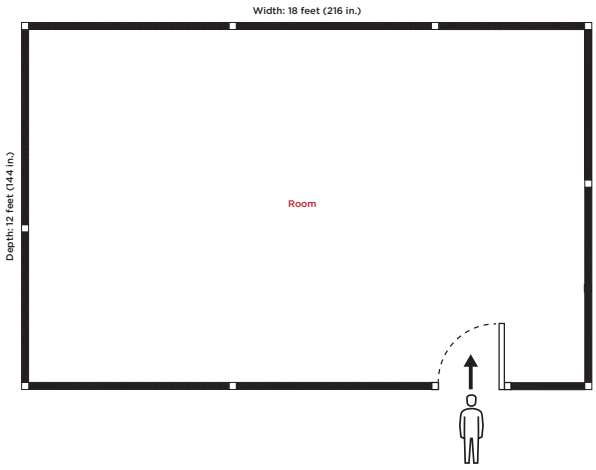
When a Chevron pattern is well-centered in a room, the rows ending near the walls on either side of the room will be composed of opposite boards (left and right).





3- Calculating the number of boxes required

The calculations in the following examples are based on a room with the following dimensions:



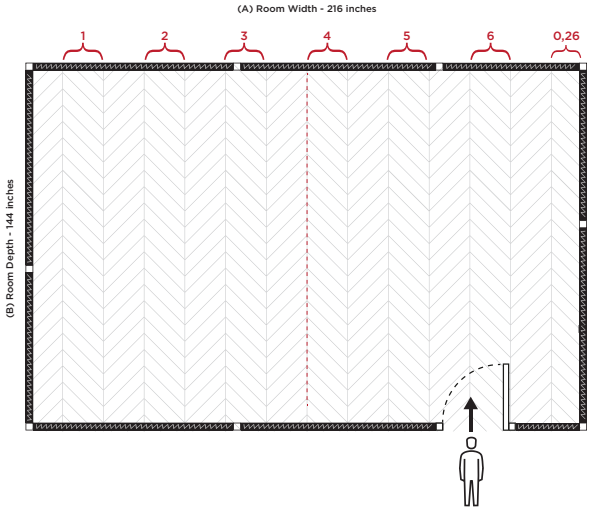
a) Divide the width of the room (216 in.) by the width of a row of Chevron boards (17-1/4 in.) to **calculate the number of rows**.

* Note: In many cases, an odd number of rows is more economical than an even number.

Ex. $\frac{\textbf{216 in.}}{\textbf{17.25 in.}} = \textbf{12.52 rows}$

b) Divide the number of rows obtained in step a) by 2 to find the **number of rows of left and right boards** and the fractions of wood boards needed to finish the floor adjacent to the walls.

Ex. $\frac{\text{12.52 rows}}{\text{2}}$ **= 6.26 rows of left & right boards**



*REMINDER: For an irregularly shaped room, calculate each section separately and according to the chosen pattern.

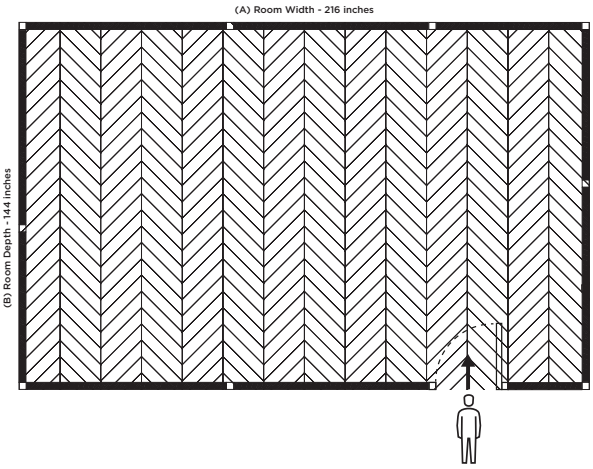
c) Round up the decimal number calculated in step b) to the next whole number to determine the **number of rows of whole wood boards** needed.

Ex. 6.26 rows = 7 rows

d) Calculate the **estimated width** first by multiplying the result in step c) by 2, and then by 17-1/4 inches.

Ex. (7x2) x 17.25 = 241.5 in.

e) When installing Chevron boards along wall A (see image below) of the room and all the walls parallel to it, fractions of wood boards forming triangles will be required to finish the pattern along the wall. To account for the "missing triangles", **add 8 inches to the room depth measurement (144 inches)**.



Ex. 144 + 8 = 152 in. depth

f) Calculate the **total area of wood boards required** by multiplying the depth of the room by the estimated width. Then, convert the result to square feet by dividing it by 144.

Ex. $\frac{241.5 \times 152}{144} =$ **254.9 sq. ft.**

g) Determine the **required number of boxes** of wood boards by dividing the total area of wood boards required by the area of wood boards in a box (13.6 sq. ft.) and round up the result to the next whole number.

Ex. 254.9 / 13.6 = 18.74 boxes

Number of boxes required = 19

REFERENCE CHART

Here are a few sample calculations for specific room sizes.

Measured Width of Room	Measured Depth of Room	Number of Boxes to Order
10 ft. (120 in.)	12 ft. (144 in.)	11
11 ft. (132 in.)	12 ft. (144 in.)	11
11.5 ft. (138 in.)	12 ft. (144 in.)	11
11.7 ft. (140.4 in.)	12 ft. (144 in.)	14
12 ft. (144 in.)	12 ft. (144 in.)	14
13 ft. (156 in.)	12 ft. (144 in.)	14
14 ft. (168 in.)	12 ft. (144 in.)	14
15 ft. (180 in.)	12 ft. (144 in.)	17
16 ft. (192 in.)	12 ft. (144 in.)	17
17 ft. (204 in.)	12 ft. (144 in.)	17
18 ft. (216 in.)	12 ft. (144 in.)	19
11 ft. (132 in.)	14 ft. (168 in.)	16
12 ft. (144 in.)	14 ft. (168 in.)	16
13 ft. (156 in.)	14 ft. (168 in.)	16
14 ft. (168 in.)	14 ft. (168 in.)	16
15 ft. (180 in.)	14 ft. (168 in.)	19
16 ft. (192 in.)	14 ft. (168 in.)	19
17 ft. (204 in.)	14 ft. (168 in.)	19
17.3 ft. (207.6 in.)	14 ft. (168 in.)	22
20 ft. (240 in.)	20 ft. (240 in.)	31
25 ft. (300 in.)	30 ft. (360 in.)	59
28 ft. (336 in.)	35 ft. (420 in.)	76
30 ft. (360 in.)	40 ft. (480 in.)	95
34 ft. (408 in.)	42 ft. (504 in.)	109