FLOORING

Engineered Tongue & Groove

HERRINGBONE INSTALLATION GUIDELINES

INSTALLER/OWNER RESPONSIBILITY:
ADM Flooring Herringbone must be fastened to the subfloor with the glue-down method, the nail-down method, or a combination Glue and Nail method. The floating method is not recommended for herringbone installation.
Please read the following instructions thoroughly and carefully before laying the floor:

- Receive the floor and make sure it meets owner's expectations.
- Grade out and separate any pieces with undesirable visuals that are considered excessive and use them out of sight.
- Test the subfloor and jobsite itself, including ambient temperature/relative humidity and all other variables that may adversely affect a wood floor.
- Record the flooring moisture content upon delivery and at time of installation - RETAIN THESE RECORDS.
- The bundles of herringbone boards must be stored in a cool, shaded and protected dry place (ambient temperature of 60˚F to 80˚F).
- Open cartons entirely and allow flooring to acclimate for approximately 5-7 days with the goal of meeting acceptable moisture and temperature levels for storage and installation (listed below). This can sometimes be achieved earlier, but please confirm flooring and environment conditions to be safe.
- **Each board should be carefully checked prior to installation**: never install any damaged or defective planks. Do inspections as you before ad during your work.
- Always work out of several different bundles alternately for installation. Mix and match between packs to get better color and feature matching on your floor.
- **The surface-temperature of the sub-floor, before, during, and after installation, should be at least 60°F but never exceed 80°F, with the ideal relative humidity of 30% to 50 % but never below 30% or exceed 50%.**
- The sub-floor should be dry, clean, absolutely flat and free of any cracks.
- In case there is a need to level concrete sub-floor, a cement-based floor-filler should be used and cured thoroughly beforehand.
- Age resistant polyethylene membrane plastic sheets (0.2mm thickness) for vapor barrier are recommended and necessary for **nail-down** installation. Joining between the plastic sheets should have sufficient overlap and/or sufficient tight joins to avoid leakage of vapor from underneath. Recommended overlap should be at least 4 inches, but the recommendation is 8 inches.
- It is highly recommended that Rag Paper (Dried felt paper) be used as an underlay above the moisture barrier to reduce the sound of footsteps. You may also use plastic foam (Polyethylene cellular foam) with approved quality standards as an underlay.
- You can also use a 2-in-1 product that incorporates both a moisture barrier and sound barrier in one sheet (e.g. Volara foam or Floor Muffler). Follow underlayment manufacturer for instructions.
- Ensure that the sub floor is thoroughly cleaned to avoid fungus and mold growth. Should the RH of a concrete sub-floor be above 95%, no flooring should be installed. **This is strictly prohibited**.
- An allowance of at least 1/2" on each edge should be provided at all vertical surfaces to accommodate expansions, including at doorway, heating tube outlet, connection with tiles and any fixed items in the area where the floor is laid. Use spacing-wedges during the installation to assist in maintaining the expansions gaps.
- Using the Trammel Points method, find and mark the center of the room and then to define working lines (pg. 2).
- The plank in the last row must not be less than 2". Therefore measure and plan the floor before the installation begins to calculate the first and last plank with.
- **REMEMBER: Check your floor continuously** during installation. At this time, installed defective boards can easily be replaced. No claims will be entertained for any surface defects.
- **When laying the herringbone floor through several adjoining-rooms, expansion-joints must also be provided at every doorway.**

SUBFLOOR TYPES AND CONDITIONS

Types: (Refer to *NWFA Installation Guidelines, Section II* for Subfloor Information)

- CD: Exposure 1 plywood, minimum ¾" thick.
- Solid board: 1" x 6" wide, square edge, kiln dried.
- OSB: Exposure 1 (minimum ¾" thick).
- Concrete (refer to *NWFA Installation Guidelines, Section II, Chapter 5 & 6*).

The subfloor must be clean, dry, and flat to within 3⁄16" per 10' radius. If necessary, sand or plane high spots, and fill low areas using a cement based patching/leveling compound. Secure any loose boards or panels to prevent squeaking. The surface temperature of the subfloor, at time of installation should be at least 60˚F but never exceed 80˚F. Damage due to moisture issues is not a product failure and is not covered by the ADM Flooring warranty.

Do not install over an existing glue down hardwood floor. ADM Flooring warranties DO NOT cover any problems caused by inadequate substructures or improper installation of said substructures.
ADM Flooring Herringbone is not covered under warranty if installed over radiant heat with any form of nail or staple installation method. For radiant heat installations, floor surface temperature must not exceed 80°F, and temperature changes must be gradual (no more than 5°F per day)

ITEMS NEEDED:

1. Straight Rule at least 3 feet (1 meter) long
2. A strong heavy-hardwood or Polyurethane Tapping block and a heavy hammer
3. Polyurethane (non-waterbased) Wood Flooring Glue of your choice. Semi fast curing recommended. Check out ADM's FA-5 or FA-25 adhesives
4. Electric saws – Miter Saw, Cross Cut saw or Jig Saw to cut boards to size
5. Table saw to trim final board to appropriate width.
6. Spacing tabs (1/2" or thicker)

PREPARING THE PERIMITER

- All wood flooring expands and contracts with changes in humidity. It is essential to install the floor leaving adequate expansion space between ALL sides of the flooring and ALL vertical obstructions, including door trim, jambs, studs, plumbing, cabinets, etc. This space will be covered with base molding. Failure to provide adequate expansion space in any single location can cause damage to the entire floor.

- Minimum expansion space of 9/16" – 3/4" (14.2mm to 22mm) for flooring thickness of 5/8" (15mm)

TRAMMEL POINTS METHOD

Using Trammel Points method, use the following guidelines to find and mark the center of the room and then to define working lines.

1. Begin on the left side from the center of the room, measure the from top to bottom (Marked Line A in Fig.1 on page 5).

2. Find the center point of Line A and mark it (Point B).

3. Move to the right side from the center of the room and measure the width of the room from top to bottom right of center (Line C).

4. Find the center point of Line C and mark it (Point D).

5. Adjust for any difference in center between Point B and Point D. For example, if Point B is one inch different than Point D, divide the difference by two to establish the new center point of Line A.

6. Snap a line the length of the room that goes through Point B and through Point D. This is now Line E.

7. Find the center point of Line E and mark it Point F.

8. From Point F, use trammel point at fixed position on flat board (eg 5') to mark through Line E left of center, and mark it Point G.

9. From Point F, use trammel point at the same fixed position on flat board (eg 5', same as for Point G) to mark through Line E right of center, and mark it Point H.

10. From Point G, use trammel point at a fixed position on flat board (eg 8', i.e. longer than previous trammel point length) to draw arc above Line E. Mark this Arc I.

11. From Point G, use trammel point at the same fixed position on flat board (eg 8') to draw arc below Line E. Mark this Arc J.

12. From Point H, use trammel point at the same fixed position on flat board (eg 8') to draw arc above Line E. Mark this Arc K.

13. From Point H, use trammel point at the same fixed position on flat board (eg 8') to draw arc below Line E. Mark this Arc L.

14. Where Arc I and Arc K intersect, mark it Point M.

15. Where Arc J and Arc L intersect, mark it Point N.

16. Snap a line that goes through Point M and through Point N across the room, and mark it Line O.

17. Where Line O intersects Line E is the center of the room. Line E and Line O also form a 90-degree angle.

B. INSTALLING INSTRUCTIONS

NOTE: Planning your Herringbone Layout. Points to consider:

1. Direction of Herringbone pattern: Herringbone creates a unique pattern of zigzags with V-shapes either heading away or towards you in opposing/zigzag direction. Generally, the Herringbone pattern is centered along the long dimension of the room.

2. You can also consider, the running direction of this V-shape patterns, to be used to align towards major architectural interest points or focus points in the room, example a fireplace in the corner of the room, main entrance, large French doors, patio doors or window wall, etc.

3. This installation instruction below is a guide to install Herringbone flooring in the conventional direction. The information below does not take into account any of the above special considerations. If you require special directions or features, please take time to understand the above points before you begin installation.

4. Regardless of the direction, herringbone will require a center line and two working lines.

5. Test concrete for moisture according to moisture testing procedures in Chapter 3, Moisture Guideline and Vapor Retarders. Moisture indicators should be within the adhesive and flooring manufacturers' specifications.

6. A minimum expansion space of 1/2" must be left around the perimeter and all vertical obstructions.

7. Herringbone planks should be installed using the glue down method, nail-down installation, or a combination of both Glue and nail, as long as the pattern continues to have an exposed side tongue in which to nail.

8. Follow the spread rate, trowel size and installation procedure as recommended by the adhesive manufacturer.

LAYING OUT THE HERRINGBONE PATTERN

1. The tongue and groove system used for Herringbone flooring is unique in that there are "left" and "right" boards to accommodate the directional design. The faces of a left board and a right board are a mirror image of each other. Equal amounts of both are shipped with flooring orders.

2. Use reference lines throughout the area that is being installed.

3. The multiple of the width should equal the exact length of the piece. If the width of the product varies, this will cause separations at the end of the herringbone pieces.

4. Determine the herringbone pattern orientation in the room.

5. Always confirm this information with the work order or your contact, customer, architect, salesperson, or designer.

6. Measure the room for center and strike the main control, perpendicular and diagonal reference lines using the trammel point method described previously and shown above and Fig.1 (page 5).

7. Herringbone can be laid out parallel or at a 45-degree angle to the room. Regardless of direction, Herringbone flooring will require a center line and two working lines.

8. To find the working lines, begin by laying out a few alternating slats. (See Fig.2 on page 5).

9. Snap lines A & B through the corners of the alternating slats.

10. Measure the distance from Line A to Line B. Line C should be half the distance and run parallel to Lines A and B. The center line of the room and the center of the pattern is represented by Line C.

11. Dry lay a small section in the middle of the room according to the working lines and measure to confirm a balanced layout.

12. Once the working lines are established and confirmed in reference to the approved layout plan, the installation can begin.

INSTALLING THE HERRINGBONE PATTERN

1. The starting point must include working lines and diagonal lines as described previously.

2. For direct glue, do not spread adhesive over working lines. Follow the glue manufacturers working time for the glue. Don't spread glue over too large an area. It is is better to work small areas and a few planks at the time to ensure correct angles and orientation.

3. To begin installation on working Line A (See Fig.3 on page 6), cut a square piece of plywood the size of the herringbone pattern. For example, if the herringbone pattern is 3" x 12", cut a 12" x 12" square of plywood.

4. Fasten the piece of plywood at your starting point on Line A, with one corner of the square pointing in the direction of the pattern.

5. Figure 3 shows the planks number in sequence of installation to start of the installation. Start with the tongue toward the build direction. Groove side of plank no 1 facing the plywood square.

6. Install the pattern one row at a time, periodically checking the alignment. Continue until you have completed this V pattern to the opposite wall.

7. Continue with next row following the first row. Work sequentially, completing each row prior to beginning another. This is to avoid misalignment from the center.

8. It is also a good idea to create more reference lines in the room to allow you to check for the alignment as the installation progresses (see Fig.4 on page 6). With the reference line in place, you will be able to ensure the diagonal patterns have not run adrift.

9. Remove any adhesive from the surface of the flooring (smudges, fingerprints, etc.) **immediately** before it dries. Glue residue might stain or create a defective flooring surface.

10. Use wood filler or putty to correct any minor flooring damage that might occur during installation.

11. It is important to retain excess planks for future repairs. This allows any future repairs to match the chosen color of the ADM floor as there might be variations in color from different batch production.

12. Once the whole floor is installed, ensuring the appropriate expansion space, skirting can be installed. Skirting must be attached to the wall and not the ADM floor.

A NOTE ON MOLDINGS

Pre-drill and install quarter round and/or baseboard moldings. Molding must be of sufficient thickness to cover the required expansion space. DO NOT FASTEN MOLDINGS TO THE FLOORING but rather attach to the wall. Ensure that there is adequate space between the bottom of the molding and the flooring to allow it to freely expand and contract.

C. MAINTENANCE INSTRUCTIONS

You have purchased a high-quality herringbone-floor product with a durable finish, which is ready for installation and **will not require any special treatment directly after installation**. What you have to be aware of is that even pre-finished herringbeon will naturally wear out; therefore some regular maintenance is needed to protect and to preserve its surface:

- Please ensure that an ideal room-climate with about 30-50% air humidity and temperature between 60°F and 80°F is provided before, during, and after installation. This climate is good for both your health as well as for the well being of the herringbone floor.

- Daily cleaning should be done with a vacuum cleaner (if vacuum has a beater bar [bristle brush] turn off before using), static mop or a smooth floor-broom. Any sand or dirt should be immediately removed because they can cause scratches and damage the floor surface.

- It is important and necessary that you affix some felt pieces under any furniture-bases or chair-legs etc. to protect the floor surface. For the entrance of e.g. Boutique, Halls, Corridors etc. a good floor-mat is also recommended and will be very useful to help preserve your floor.

- In case of any damage on the surface (e.g. by furniture movement etc.), acquire advice and help from a qualified installer or tradesman that is knowledgeable about oil finished flooring.

Wood is a living material that swells if their moisture or humidity is raised and also shrinks if their moisture or humidity is lowered. These not only show that your floor is a natural product, but can also lead to some irreversible deformation of the floor if the room climate and humidity is left too high or too low for an extended period of time. This can particularly happen if e.g. - in the wintertime - the humidity (RH) in a heated room goes below the specified 30%. In this case you should install an Air Humidifier in order to prevent damages to your floor. The same may also be necessary with Air Conditioned room.

Wood is also affected by UV light and therefore will change color when exposed for long durations. Floor coverings such as rugs and mats should not be placed immediately after laying. The floor should be allowed to stabilize for about a few weeks.

D. WARRANTY

ADM Flooring's Herringbone is warranted against any manufacturing defects and limited to the replacement of the product only. This warranty does not cover costs of installation or transportation. It is the sole responsibility of the installer not to install any material thought to be defective. No claim shall be entertained for any material installed, that have visible defects or damage prior to installation of boards. ADM Flooring will not be responsible for damages due to poor installation, transportation or storage. All products must be stored indoors at room temperature and protected from the elements.

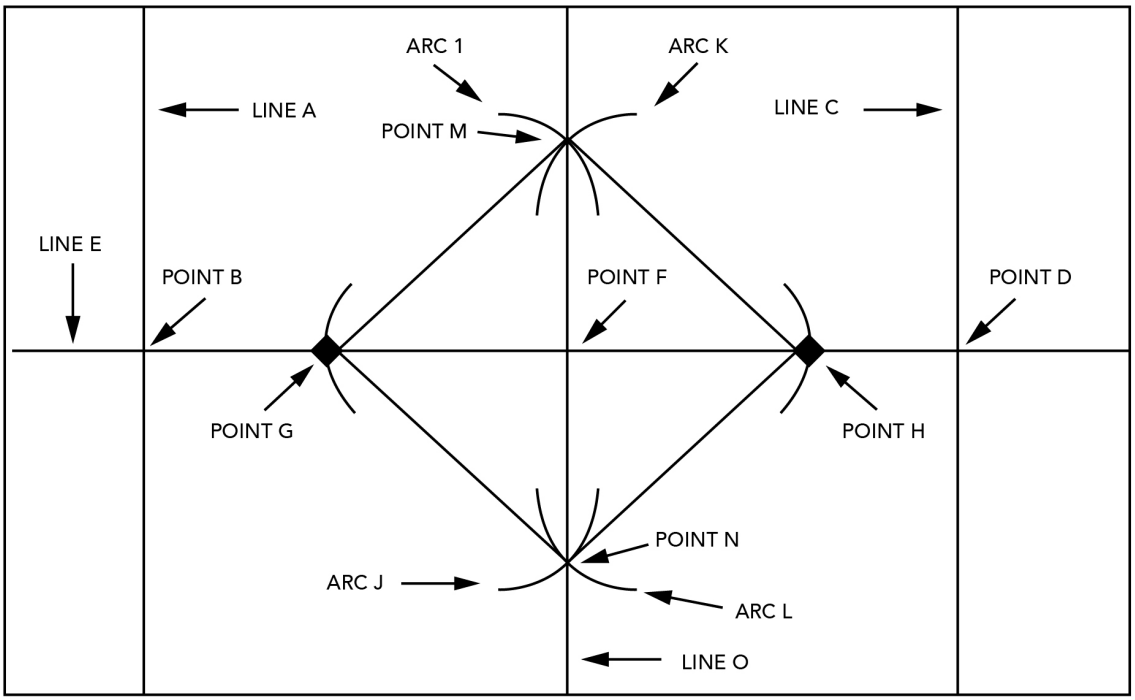


Figure 1

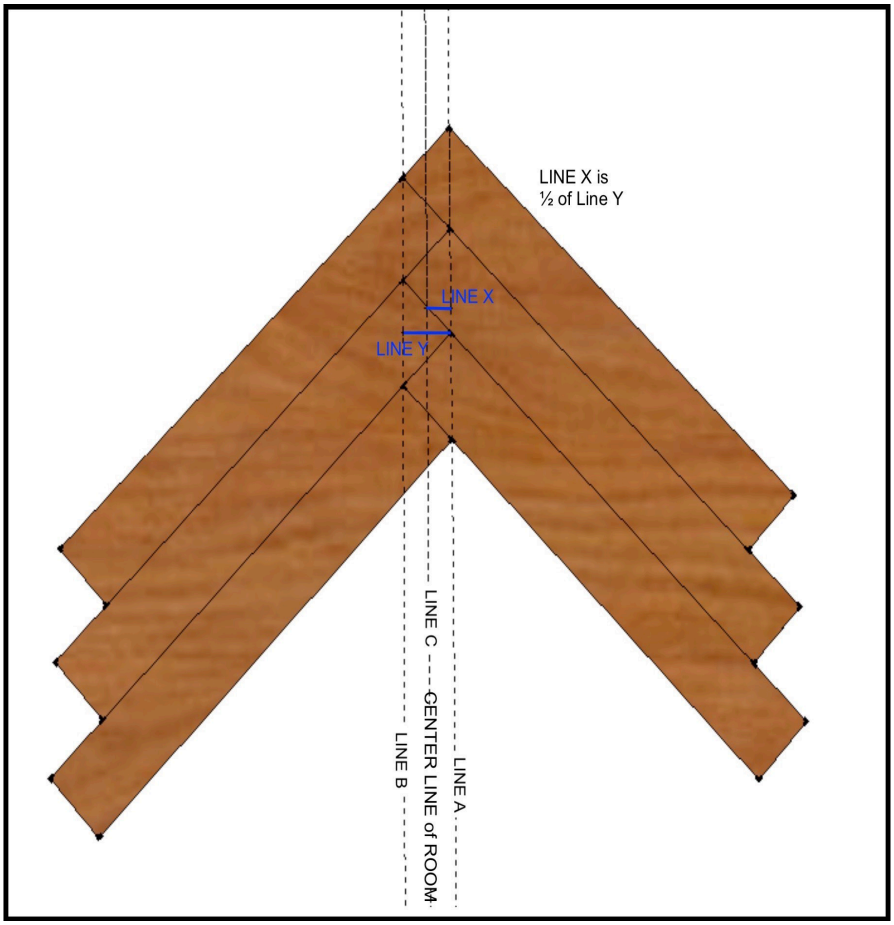


Figure 2

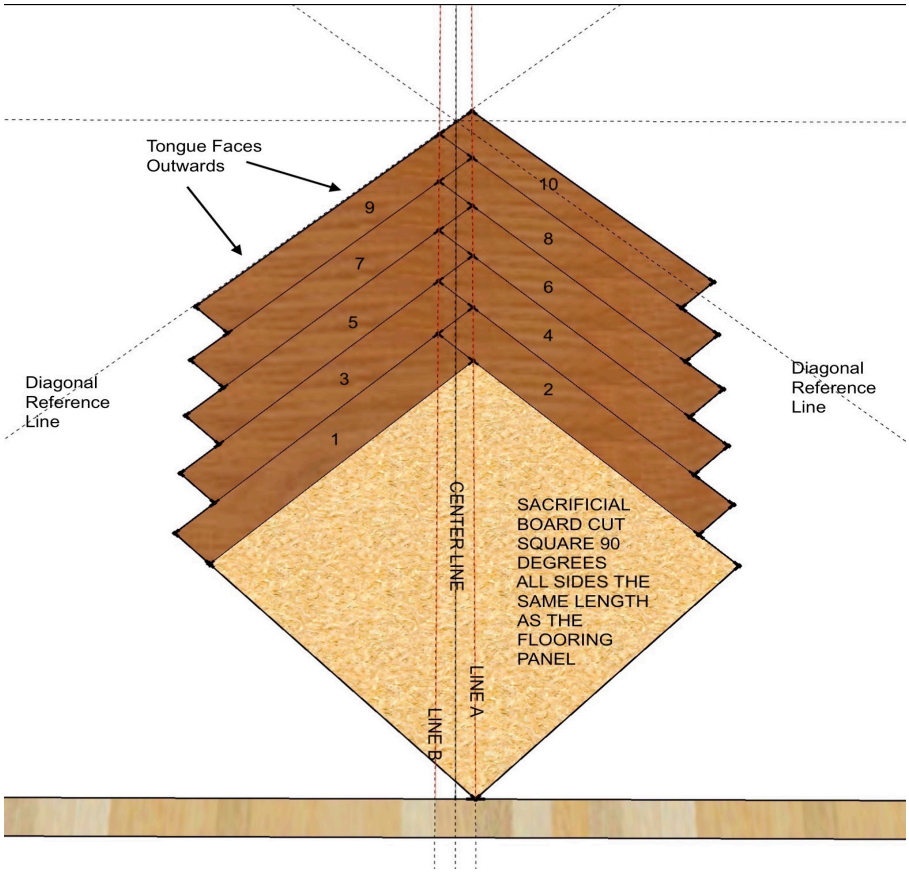


Figure 3

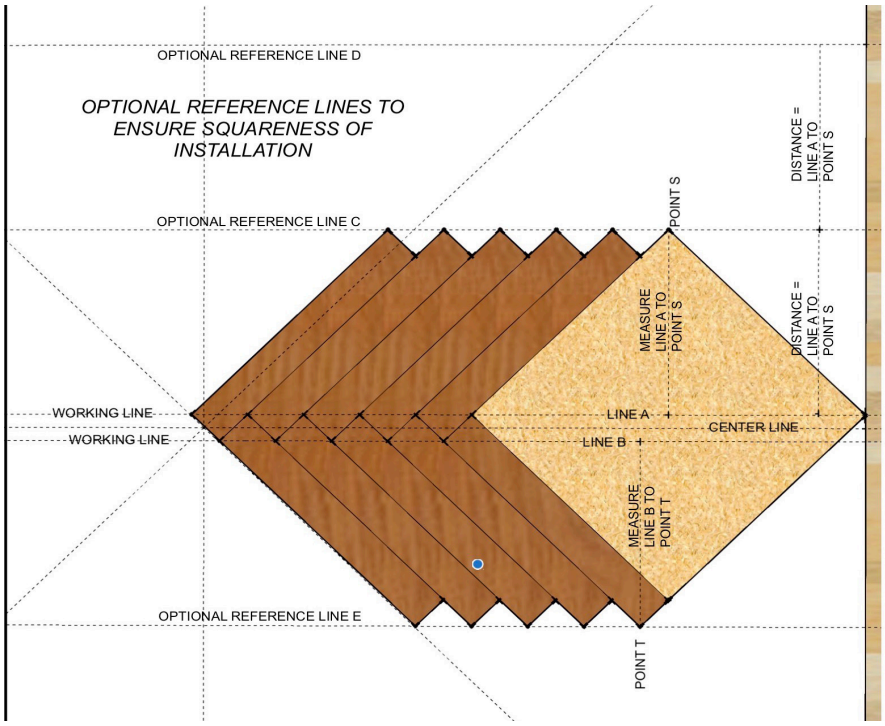


Figure 4