



MOOSEWOOD
MILLWORKS

Installation and Warranty

Hardwood flooring is a product of nature and, like nature, has its imperfections. These imperfections are standard in the industry and expected. Although MooseWood Flooring inspects every piece of MooseWood Engineered flooring before being boxed, a 5% defect, and grading tolerance is permitted. Defects may be of natural or manufacturing origin. This tolerance will not exceed 5% of the total floor purchased, and must be taken into consideration when ordering your floor. Before installing your MooseWood Engineered Floor, the installer, be it professional or DIY, must verify the installation environment and sub-floors involved, meet or exceed all the requirements specified in the Moosewood Engineered flooring Installation Guide.

Each strip or plank needs to be inspected by the installer prior the installation. All installed strips or planks will be considered as accepted by the flooring owner and the installer once installed. Therefore all claims to **MooseWood Flooring** regarding defects apparent post installation will be rejected. In the unlikely event that a flawed piece appears after installation, MooseWood Flooring will be responsible for the replacement of the material only (labor and time not included)

Product Specification:

MooseWood Engineered Hardwood Flooring is 13mm thick by 82.55mm (3.25")

wide or 127mm (5") – 13mm, 7 ply fingered core. The strips are micro beveled on all 4 sides. Lengths will range 304.8mm (12"). The MooseWood Engineered wear thickness is approximately 4 mm, and has been sawn (our unique sawing method recreates the look and feel of a traditional hardwood floor). The number of pieces per box will vary. Your MooseWood Engineered Floor also comes with the MooseWood finish, Aluminum Oxide Finish, backed by MooseWood 50 year wear warranty. MooseWood Engineered Flooring can be installed below grade, on grade, or above grade.

MooseWood Engineered Flooring can also be installed over radiant heat, providing MooseWood radiant heat installation and releases have been completed.

Radiant Heat: For the installation over a radiant heat system please refer to the specific heat radiation guide.

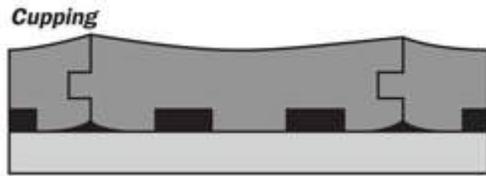
STOP: Job Site Inspection

MooseWood Engineered Flooring should be one of the last items installed when renovating your home or condominium. For new construction, the heating system must be operating for at least one week (7 days) at normal residential temperatures (approx. 70° F/22° C) prior to installation. The relative humidity level in your home must be maintained at 50% (between 40%-60%) throughout the year. Where conditions in the home have high and low humidity levels, MooseWood Engineered Flooring is much more dimensionally stable in comparison to ¾" solid hardwood flooring.

SPECIAL NOTE: Although MooseWood Engineered flooring is much more stable, it will however, react to changes in relative humidity according to season. Moisture or lack of it, is wood's worst enemy. If relative

humidity is below 40% for a prolonged period of time, the floor will contract causing the surface of the board to cup (see fig # 1 of cupping).

fig # 1



Cupping is considered normal when relative humidity is too low. The floor should return to its normal state once the relative humidity is back to normal (40-60%). These variations can be minimized with proper ventilation, dehumidifying or heating. You may need to improve your humidification and/or dehumidification system in order to maintain the required 40-60% humidity levels. Using a moisture meter, check the moisture content of the sub-floor. The sub-floor should not exceed 12% and must be within 4% of the moisture content of the wood being installed. If the moisture content of the sub-floor is too high, delay installation. Increasing ventilation, and turning up the heating system will assist in drying out the sub-floor. The concrete sub-floor must be dry and should be at least 75 days old before installing the MooseWood Engineered Flooring.

The installer and /or owner will take full responsibility for moisture testing to ensure that the wood sub-floor and the concrete slab (when applicable) are within acceptable moisture tolerance levels.

Preparation of Plywood Sub-Floor

MooseWood Flooring recommends that all MooseWood Engineered Floors be installed with a minimum of 5/8" A.P.A approved,

C.S.P/D.F.P stamped plywood or 23/32" O.S.B Underlay grade P52-92 rated. Consult your authorized MooseWood dealer for recommendations on our specific sub-floor application. Any failure of MooseWood Engineered Flooring relation to improper sub-floors, of sub-floor preparation is not the responsibility of MooseWood Hardwood, and will not be covered under warranty. Sweep and vacuum sub-floors. For wood sub-floors, make sure they are level, clear, dry and securely fastened. Repair and/or replace any section that is rotted or damaged.

TOOLS & ACCESSORIES –

General guidelines only Tools and Accessories that you will need for installing your MooseWood Engineered Flooring:

For glue-down installation:

1. Table saw, jig saw, miter saw, jamb saw or circular saw
2. Chalk line
3. Measuring tape
4. Hammer
5. Knocking block
6. Safety glasses
7. Gloves
8. Trowel
 - a) For 3 1/4" widths, use:
1/4" x 1/8" x 1/4" trowel
 - b) For 5" widths and installations using both 3 1/4" and 5" widths, use:
3/16" x 3/16" x 3/16" trowel
- 9) One of the 3 Recommended Glue
 - 1)Bostik : EFA, BST, TKO, BEST
 - 2)SKA : T-55, T-54, T-53, T-52
 - 3)Mapei : Ultrabon ECO980

NOTE: Using the wrong trowel can also cause the wood floor to sag. MooseWood Flooring is not responsible for any damage caused by the use of improper tools.)

For nail-down installation:

1. Table saw, jig saw, miter saw, jamb saw or circular saw
 2. Chalk line
 3. Measuring tape
 4. Nail punch
 5. Hammer
 6. Knocking block
 7. Safety glasses
 8. Gloves
 9. Nail gun (manual or pneumatic)
 10. Rubber mallet
 11. 1" (approx. 25 mm) finishing nails
- * Use of the proper nailer as well as the appropriate staples and cleats (base and shims if necessary) is critical. Improper fasteners and tools can cause severe damage and may ruin surfaces.

For floating installation:

1. Table saw, jig saw, miter saw, jamb saw or circular saw
2. Chalk line
3. Measuring tape
4. Hammer
5. Knocking block
6. Safety glasses
7. Gloves
8. Mineral spirits
9. 1/2" (12 mm) adjustable shims
10. 3M-2080 blue tape
11. Glue (Dural FL-37)
12. Strip puller

Glue Down Application**– Step by Step Instructions****Step #1 – Mark your starting line**

MooseWood Flooring recommends that your MooseWood Engineered Floor be installed parallel to the longest, straightest wall in the room. Start by measuring out from the wall the width of 8 boards plus 1/2". This measurement allows for 1/2" expansion gap at the wall. Using a chalk line draw a guideline parallel to the wall based on the above measurements. This will

eliminate any ripping of material at the end of the job for the last row. Using the straightest pieces of 1"x2"x8' length of wood and 2-inch concrete nails or screws fasten the strips to the concrete. Your first row of starter boards will butt against this, so make sure that the strips are in line with the chalk line because this will determine how straight your floor will be.

-Step #2 – Spread the adhesive

NOTE: MooseWood Flooring will only guarantee installation when moisture-cured glue is used. Do not use latex based glues. Apply the recommended adhesive with a trowel according to the manufacturer's installation instructions (found on the adhesive pail) for the specific adhesive that is being used.

SPECIAL NOTE: Open time on adhesives vary from manufacturer to manufacturer so read instructions carefully before starting. Open time can also be affected greatly depending on the temperature and humidity. The trowel should be held at approximately 45 degrees to the floor when spreading the adhesive. This will give you the recommended spread rate of approximately 40 to 50 sq.ft. per gallon, depending on the adhesive manufacturer. Only spread adhesive over an area that can be covered in less than 1.5-2 hours, otherwise the adhesive may become dry and lose its ability to bond.

-Step #3 – Install the strips

You should inspect each piece of MooseWood Engineered Flooring before installation. Boards that you may not like the look of, or with a flaw that you think will affect the look of the floor should be used as the cut pieces for your start and/or end pieces. You may also choose to put these pieces in less conspicuous areas such as closets or under couches, etc. Start your first piece with the tongue facing the area that will be completed last. Line up the groove of the boards against the holding strip, and then press the board into the

adhesive. Working from left to right, lay the next board and continue working towards the right, until you reach the wall and require a cut piece. Choose one of the pieces set aside for cutting and cut the desired length. **NOTE:** If you are cutting a piece that has not been set aside for cutting, make sure it is long enough to yield your next row's starting piece. Leave 3/8" (8mm) between the wall and the end of each strip in each row. Start the second row with a strip of at least 6" (150mm) longer or shorter than the strip used in the first row. This will eliminate unsightly step effects. The remainder of the floor should follow this rule to insure an aesthetically clean looking floor.

Minimize glue from getting into the tongue or groove; otherwise, the strips of the flooring may not fit tightly. If glue gets on the finished side of the strips, clean immediately with appropriate cleaning products – refer to glue instruction. (Glue cleaner should be tested on a sample piece of flooring to be sure it does not affect the finish)

MooseWood Engineered Flooring pieces may require slight tapping in order to ensure a tight fit. You may use 3M's blue tape (if required), to hold pieces together until glue bond has developed.

If a roller is required to obtain maximum adhesion, wrap a foam sheet around it to minimize any damage to the surface of the floor. When you get to the end of the wall, you may require a pry bar to get the pieces tight. Use shims where required until the glue has dried.

-Step #4 – Installation of Accessories & Cleaning

After the floor has dried, you may install the baseboards and quarter rounds. Make sure that the nails penetrate the wall and not the floor.

NOTE: Always keep left over pieces for future use. Flooring may become damaged and require replacing several pieces. It's a good idea to have the same production

dates put aside. Use a vacuum to pick up any dust and loose fibers.

Floating Application

Sweep and vacuum the sub-floor before laying any material. Make sure that any high points in the sub-floor are removed, cleaned and sanded.

***When installing over a wood sub-floor, you should install your flooring perpendicular to the joist to avoid any sinking between the floor joists.

Using the longest pieces available, lay the first row against the longest and straightest wall. Carefully apply glue to the upper edge of the groove along the whole length of the piece. Lay the first piece with the grooved edge against the wall. If the wall is not square, use wedges/shims between the flooring strips and the wall to achieve the desired 3/8" (8mm) expansion gap.

Start the second row with a strip of at least 6" (150mm) longer or shorter than the strip used in the first row. This will eliminate unsightly step effects. The remainder of the floor should follow this rule to insure an aesthetically looking floor. Clean any glue that gets on the finished side of the flooring before the glue dries.

MooseWood Engineered Flooring pieces may require slight tapping in order to insure a tight fit. You may use 3M's blue tape, if required, to hold pieces together until glue bond has fully developed. Rip the strips for the last row to the required width, not forgetting to allow for expansion. Use a crowbar to insure tight fitting boards, use shims to hold in place until glue has dried. Remove the wedges 24 hours after laying.

NOTE: Always keep left over pieces for future use. Flooring may become damaged

and require replacing pieces. It's a good idea to have the same production dates put aside. Use a vacuum to pick up any dust and loose fibers.

IMPORTANT As the work proceeds, take care to leave the expansion gap along the walls and around any obstacle (pipe work, foot of stairs, post, fireplace etc.).

Nailed Down Application – Step by Step Instructions

-Step #1 – Mark your starting line

Using chalk line, draw a guide line out from the starting wall at 3-3/4" (95mm) for the 3 1/4" and a 5 1/2" (139.7mm) guide line for the 5" (127mm). This line is where your first strip of flooring is going, and also allows for the 3/8" (8mm) expansion gap. **It is very important for the starting line to be straight and square.**

Although MooseWood Flooring takes every precaution to ensure that MooseWood Engineered Flooring is graded and shipped to industry standards, we suggest you inspect each piece of MooseWood Engineered Flooring before installation. Boards that you may not like the look of, or contain a mark that you think will affect the look of the floor should be used as cut pieces for your start/end pieces. You may also use these pieces in less conspicuous areas such as in closets or under couches, etc.

-Step #2 – Install the strips

Face nail or glue the first row of strips with the grooved side facing the wall; put the nails as close to the wall as possible, this way the quarter round will cover the nail heads. Nails should be spaced a minimum 2-4" (100mm) from both ends of the boards, and all other nails are spaced 4-6" (100-150mm) apart.

Measure and cut the strip to the required length to finish the first row. The remaining section should be used to start the second row, in order to minimize cut waste.

The strip selection for completing the first row must be long enough to yield a

remaining section of adequate length. Leave 3/8" (8mm) between the wall and the end of each strip in each row.

The subsequent rows must be installed in the same manner. Don't be afraid to waste a few strips in order to adjust and test the nailing machine and always inspect for nail dimpling in the floor before proceeding to install the flooring.

When you reach the last few rows, you may not be able to complete these rows with the nail gun, due to vertical obstructions. Toe nail, face nail, or glue the last remaining rows with a moisture cured adhesive (best practice). **NOTE:** You may have to rip the last strips along the wall in order for them to fit properly. Don't forget to leave 3/8" (8mm) minimum space for expansion.

*For detailed installation guidelines for your specific installation, contact your Authorized MooseWood Hardwood Dealer.

The MooseWood Commitment Lifetime Structural Warranty

MooseWood Flooring puts every piece of flooring through a strict quality control measure. MooseWood Flooring warrants the MooseWood Engineered Flooring to the original purchaser, in the original manufactured/purchased condition, to be free from milling defects, delamination and grading for the lifetime of the floor. Any damage due to improper transportation, storage, handling, installation, or any other cause, is not covered by this warranty. As per industry standards, MooseWood Flooring reserves the right for a 5% defect allowance; which is not covered under this warranty.

Wear Layer Warranty

MooseWood Series: Subject to the Warranty Exclusions set out below, MooseWood Flooring manufacturer of MooseWood Engineered Flooring warrants to the original purchaser that, under normal residential conditions, the finish wear layer of the MooseWood Series, prefinished flooring in the original manufactured/purchased condition will not wear through or peel from the wood for a period of fifty (50) years from the date of purchase by the original purchaser. Regular maintenance as specified by MooseWood Hardwood must be followed in order to validate the warranty. The sole remedy pursuant to this warranty is available to the original purchaser only and shall be limited to the repair, refinishing or replacement of the defective, MooseWood Series products only. If the product cannot be repaired, refinished or replaces after a reasonable number of attempts, MooseWood Flooring will, upon request, refund the original purchase price of the defective floor on a pro rata basis. Any attempt to repair, refinish or replace the defective product prior to inspection by MooseWood Flooring will invalidate the warranty.

Warranty Exclusion

MooseWood Flooring warranties do not extend or cover scratches, dents or any noticeable markings caused by improper handling, installation, water damage, flooding, fire, furniture, shoes of all types, pets, insects and furthermore MooseWood Flooring will not warranty any product that is faulty from installation, environmental extremes, or improper storage of product. The sub-floor is the responsibility of the installer. Failure of MooseWood Engineered Flooring relating to the sub-floor, in any manner, is not the responsibility of MooseWood Flooring and

is not covered under the warranty. The use of tape on the surface of MooseWood Engineered Flooring will void the warranty (unless specifically specified by MooseWood Flooring). The finishes wear surface must be easily noticeable and cover at least 15% of the total floor area for a claim to be considered. Any variation or reduction in gloss level will not be considered under this warranty. Small cracks that develop from improper moisture control, flooding, excessive drying, will not be covered under this warranty. Hardwood flooring is made from natural products which have cells running parallel with the grain therefore all wood floors will expand and contract with the change of seasons. This CUPPING effect, expanding and contracting, is not covered under this warranty. It is recommended that you maintain a relative humidity of 40%-60% in your home by using a humidifier and/or dehumidifier to minimize movement of your hardwood floor.

Color variations are a natural occurrence in flooring due to age, species and exposure to ultraviolet sunlight. For this reason, you may encounter mild color variation from board to board, or when replacing damaged boards with new product. Also, normal sunlight will cause fading/darkening, depending on the species of your floor. Area rugs should be moved occasionally as the blocked sunlight may give the appearance the floor is discoloring under the rug; this discoloring is not covered under warranty.