

Installation Manual

Installation for Engineered Flooring:

Prefinished Engineered flooring, when properly installed, is a beautiful durable floor-covering material. Prefinished Engineered flooring is manufactured with a moisture content range of 6 to 12 percent. This range is approximately at the equilibrium moisture content (EMC) for many regions of the United States.

The installer must be careful to protect the flooring material from gaining moisture before, during and after the installation of the product. These installation manual are intended to help the installer produce a trouble-free floor. **Should an individual piece or pieces of hardwood be doubtful as to suitability for the particular job, because of perceived manufacture or factory finish, the installer should not use the piece.**

Before Installation

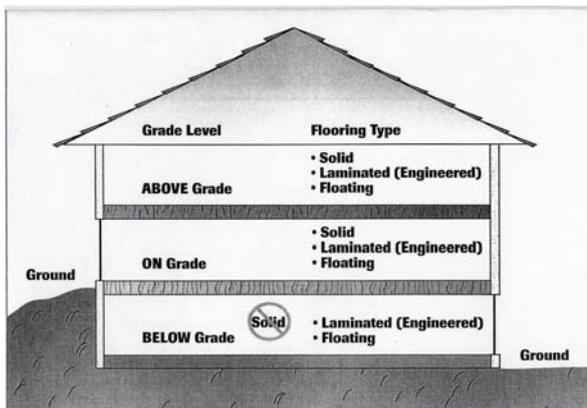
It is the responsibility of the installer/owner to determine if the job site sub-floor and job site conditions are environmentally and structurally acceptable for hardwood floor installation., the manufacturer declines any responsibility for prefinished Flooring failure resulting from or connected with sub-floor, subsurface, job site damage or deficiencies after the flooring has been installed.

The flooring should be delivered to the job-site at least 72 hours before installation. Additional acclimation of 3 to 5 days may be required based upon local climatic conditions. The boxes should be opened and the floor lay out in the room to be installed. The heating or air conditioning must be turned on and operating at normal levels so the boards can acclimate to their environment. Do not unload flooring during wet conditions such as rain, snow, sleet, etc. Moisture absorbed by the flooring boards will cause them to swell. If installed before acclimation, they will subsequently shrink back to their in-service moisture content. This shrinkage may produce gaps, which is a natural occurrence. The building must be enclosed and dried out before the installation of the unfinished flooring.

Pre-installation Procedures

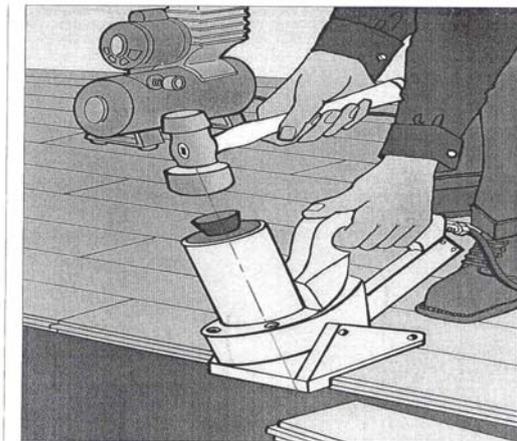
Job-site Inspection

- The flooring should be one of the last items installed. All work involving water or moisture (plumbing, acoustical ceilings, dry wall, taping, etc) should be completed prior to wood flooring being installed.
- Do not install below Grade.(Diagram #1) Flooring should not be delivered until the building has been closed in and cement work, plastering, painting, and other materials are completely dry. Concrete and plaster should be 60-90 days old.
- Relative humidity should be 35-55%



If any part of the soil surrounding a structure is above the floor of any level, consider that level below-grade. This includes walk-out basements. In addition, the surrounding soil should be sloped away from the structure with at least 6 inches of fall over the first 10 feet.

Diagram #1



Pneumatic nailer

Diagram #2

RECOMMENDED NAILING MACHINES

Use only a flooring nailer that engages the top profile over the tongue at the appropriate angle. Make sure that the flooring nailer is flat against the board to prevent top edge damage. Plate in contact with floor must be smooth and free from nicks or scratches. (Diagram #2& #3)

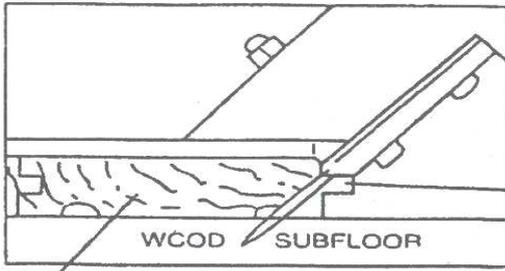


Diagram # 3

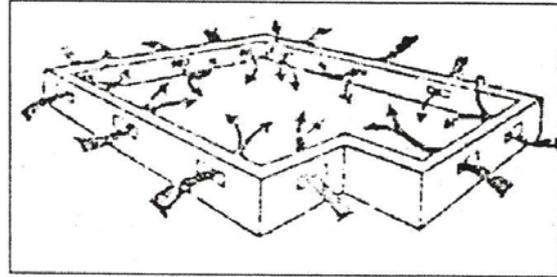


Diagram # 4

Installation

The prefinished flooring should be installed in manner similar to that used to other types of hardwood flooring products. **Make sure you have good lighting when installing the floor.** This will allow any obvious defects in a board or boards to be easily noticed. Before installation, the installer must be sure that the sub-floor is solid, level, clean, and dry. Proper moisture tests should be performed. The difference between the moisture level of the sub floor and the unfinished flooring should be no more than 2 %. The flooring can then be installed. Always allow 3/4" space for expansion around the perimeter of the room. An expansion space is required when a vertical obstruction such as fireplace, posts, etc. are parallel to the direction of the flooring.

Shade Variations:

The prefinished flooring, like any natural product, will show variations between boards and or boxes. **** When laying the floor the installer should account for these variations. It is important to work out of four to five boxes at a time to assure a beautiful blend of shading. The majority of the material should be spread out to compare shads and create a pattern that will enhance these variations in the finished floor. Warranties do not cover color variation, so staggering boards with color differences throughout the floor is important.**

Nailing Methods

The flooring can be installed on wood sub-floors. The moisture content of the wood sub-floor at the time of installation should be in the range of 6 to 10 percent. During building construction, before the building is enclosed, the sub-floor may absorb moisture from direct exposure to rain and weather. Sub-floors, which are built with "performance-rated" 3/4-inch thick oriented strand board (OSB) or CDX plywood, will produce the best performing the floors. Buildings with crawl space foundations should include a vapor barrier installed between the ground and the sub-floor. This barrier will minimize the effect of moisture evaporating into the crawl space environment that can migrate through the sub-floor and into the flooring. The vapor barrier can be 4 to 6 mil polyethylene sheets lay on the crawlspace floor. Proper air circulation is important to prevent moisture build-up. At least two vents should be left open year round. Furthermore, the building should be completely enclosed with windows and doors installed prior to flooring installation. (Diagram # 4)

Nail Down Installation Procedures

STEP 1: ESTABLISHING A STARTING POINT

- Before beginning actual installation, provide proper layout of flooring by distribution short and long lengths equally over the areas to be floored. Flooring should be laid at right angles to the floor joists.
- Floor should be installed from several cartons at the same time to ensure good color and shade mixture

Align the first row of planks to be sure you have a good, straight line from one side of the room to the other. Snap a chalk line at the desired distance from the wall to help align the planks. **IMPORTANT:** Leave at least 1/2' for expansion at all vertical obstructions. This space will be covered by base board and a quarter round. (Diagram # 5)

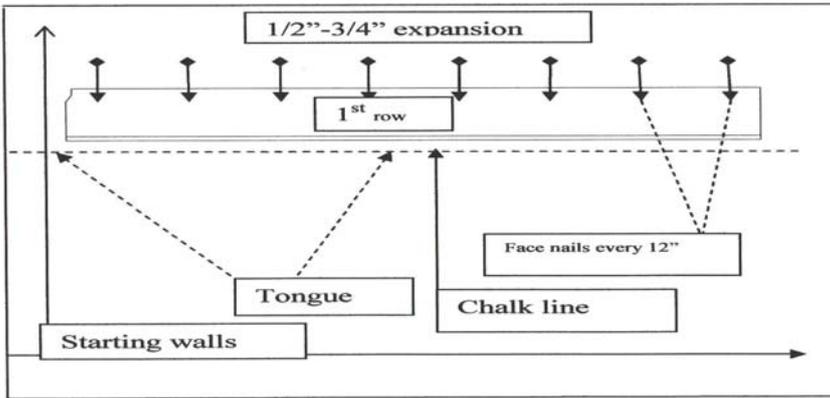


Diagram # 5

RANDOM AND ALTERNATE WIDTH PRODUCTS

- When using multiple-width products and/or pegged products, establish the desired pattern by distributing the face widths. Be certain to use an equal number of rows of each width. Avoid clustering end joints. Cut the first board in each row to avoid unattractive “line-up” or pegs at one wall line.(Diagram # 6)

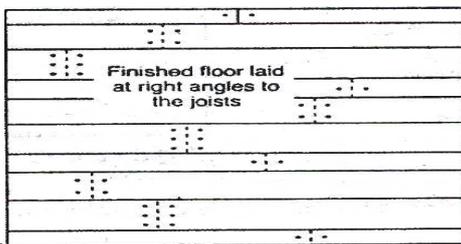


Diagram # 6

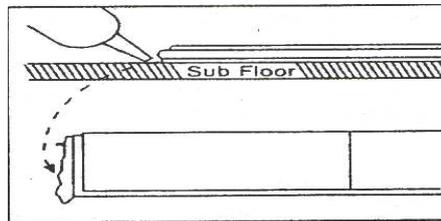


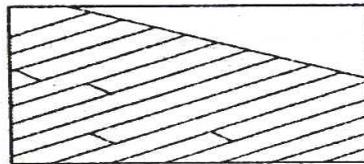
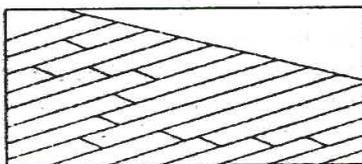
Diagram # 7

- Apply a 1/4”-3/8” wide bead hardwood bond adhesive directly underneath all tongues at the end of the planks on widths 4” and wider (Diagram # 7)
- (NOTE: do not apply adhesive to the tongue along the top edge of the plank). This process should be repeated for each piece in the entire installation.

STEP 2: INSTALLING THE FLOOR

- Align first piece on chalk line. The groove side and end will be facing the starting wall. Be sure to allow 3/4” expansion space (Diagram # 5).
- Predrilled holes and drive 7D or 8D cut steel or screw type flooring nails into the face of the board every 12 approximately 1/2”-3/4” from the edge closest to the starting wall and within 2”-3” from the ends and in the darker grain of the wood (Diagram #5)
- Edge nail the plank by driving the same type nails at a 45 degree angle through the tongue of the plank, spacing the nails ever 8’-10’ and within 2” and 3” from the ends. This process should be repeated for each piece in the entire first row. Upon completion of the first row, go back and sink the face nails with a nail punch. If it appears the holes are not to be covered by the baseboard molding, fill the holes with filler, which blends with your pre-stained floor.
- Begin installing the second row by repeating the edge nailing. (Do not face nail as in the first row). NOTE: Typically, the first few rows must be edge nailed by hand rather than with a nailing machine due to vertical wall obstruction. When clearance allows, an edge nailing machine, which drives 2’ fasteners with an appropriate mallet, can be used to simplify and speed up the nailing process.
- Install each succeeding row of planks by edge nailing the tongue side ever 8”-10” to within 2”-3” from board ends. Be attentive to staggering the ends of boards at least 6” in adjacent rows to avoid clustering end joints. Upon reaching the last row to be installed, the planks should be ripped to allow a 1/4” expansion space. The last rows must be fastened by face nailing approximately 1/2”-3/4” from the back edge of the board every 12”. The same process of counter sinking the face nails and applying filler should be repeated.

CORRECT END JOINT ALIGNMENT



STEP 3: COMPLETE THE JOB

- Refer to the floor care and maintenance section of this sheet for proper procedures for maintaining your beautiful new floor.
- Clean the floors with wood floor cleaner.
- Install any transition pieces that may be needed, such as basic reducer strips, T-moldings, or Baby Threshold. The products are available pre-finished to blend with your flooring.
- Reinstall your base and/or quarter round moldings. Be certain to nail molding into the wall, not the floor.
- Be sure to leave warranty and floor care information with the homeowner. Advise them of the product name and code number of the flooring they purchased.

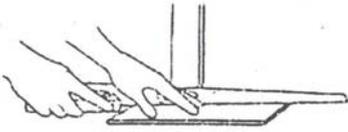


Diagram # 8 *** Undercut door casings. Remove any existing base, shoe mold or doorway

thresholds. These items can be replaced after installation. All door casings (Diagram # 8) should be notched out or undercut to avoid difficult scribe cuts.

Prefinished Engineered FLOOR CARE GUIDE

- Never wet mop or clean your unfinished hardwood floor with water. Do not use any wax or cleaner that must be mixed with water such as oil soap, as this may result in a loss of warranty. Water can dull the finish, and permanently damage the floor.
- If your floor abuts exterior doors, put doormats outside at the entrances to keep dirt and moisture from being tracked in. Inside you may want to add an area rug to further prevent dirt and moisture from being tracked onto your hardwood floor. Do not use rubber back or plastic mats as they may discolor the floor. To prevent slippage of area rugs, use an approved vinyl rug underlay from a reputable manufacturer.
- Normal exposure to sunlight will bring about changes in the shading of any hardwood floor as the floor ages. Area rugs should be moved occasionally as they block sunlight and may give the appearance of discoloring the rug. This is not a defect.
- Sweep or vacuum your floor as often as required to remove loose dirt or grit before it can scratch the surface of the floor. Pets' nails can also cause surface scratches and should be kept trimmed.
- Wipe up spills as soon as possible, before they get sticky or dry. Remove dried spills with cloth or scrub pad dampened with "n" strip or professional hardwood floor cleaner.
- Use some floor protectors on the feet of furniture to avoid scratches. When moving heavy furniture or appliances, slip a blanket or scrap of carpet face down underneath each leg and slide the furniture carefully. This will help avoid scratching and gouging of the floor.
- Certain types of casters on furniture may damage hardwood flooring. Barrel-type caster wheels or wide flat glides are best for protecting your hardwood floor. If your furniture does not have the right type of caster, we recommend you change them.
- A humidifier is recommended to prevent excessive shrinkage in wood floors due to low humidity levels. Wood stoves and electric heat tend to create very dry conditions. Excessive humidity can also adversely affect your floor. A humidity level of 35-55% is recommended.
- In damp conditions, proper humidity levels can be maintained with an air conditioner or dehumidifier, or by periodically turning your heating system on during the summer months.
- Spike or stiletto heel shoes, especially those in poor repair, may cause denting and related damage to hardwood floors due to the extremely high compressive force they generate. Such footwear can produce dynamic loads in excess of 1000 pounds per square inch, even when worn by women of slight or average build. The manufacturer will not accept claims for damages that arise from such exposure.

Prefinished Engineered FLOOR WARRANTIES

INSTALLER/DEALER

Proper handling, storage, and installation is Your responsibility. Store in a dry place-flooring must be acclimated to proper conditions before installation. Installer responsibility includes final inspection of flooring prior to installation. Our warranty does not cover flooring with visible defects once it is installed. Installer is also responsible for making sure the flooring is installed over an acceptable, suitable subfloor.

- **INSTALLATION WARRANTY**

The manufacturer will replace any uninstalled board that the installer feels is not suitable for installation. If not 100% satisfied simply return the uninstalled plank to your dealer for full credit. The installer and/or owner has the final inspection responsibility as the factory finish/structure and color/quality whenever a board is nailed or glued, it has been accepted by the installer and/or owner.

Note: The manufacturer does not accept responsibility for any complaints issued as covered under their respective warranties including paying the labor and installation cost. Due to defects, a 5% margin for error and imperfection is an accepted industry standard and shall not be considered a structural defect under the terms of this warranty.

- **RESIDENTIAL FINISHED WARRANTY**

The manufacturer warrants to the original purchaser that the finished on its aluminum oxide factory finished products, from the date of purchase, when used under normal residential traffic conditions, as applicable, will not wear through or separate from the wood floor for the warranty **years**. All residential finish and impregnated wood surface warranties exclude any indentations, scratches or damage caused by lack of proper maintenance, misuse, negligence, spiked heel shoes, pets, insects, water moisture, erosion, pebbles, sand, other abrasives, insufficient protection on furniture, wet mopping or failure to follow all the manufacturer's written maintenance instructions.

- **WARRANTY EXCLUSIONS**

The manufacturer warranties do not cover indentations, scratches, stains or damage caused by negligence, fire, water, moisture, excessive heat or excessive dryness, erosion, pebbles, sand, or other abrasives, pet insects, spiked heel shoes, weather conditions or natural disasters, color variations, naturally occurring wood characteristics, failure to follow all the manufacturer's written installation and/or maintenance instructions, improper maintenance, wet mopping, insufficient protection, misuse, or improper alterations of the original manufactured product. The manufacturer warranties do not cover natural expansion and contraction resulting in separation between boards, or damage caused by low or excessive humidity. No warranties apply to any product or products designated as thrift, antique, tavern, bargain or cabin grades, seconds, economy grade, or not-standard items. This writing is the completed exclusive statement of the express warranties provided herein and is in lieu of all other express and/or statutory warranties by the manufacturer to the extent provided by the law. There are no implied warranties extending beyond the terms of this warranty. The manufacturer assumes not liability for incidental or consequential damages.