ENGINEERED HARDWOOD FLOORING - INSTALLATION INSTRUCTIONS

GLUE: All profiles • NAIL: All profiles • STAPLE: All profiles • FLOAT: 3/8" x 5" or Wider, 1/2", 5/8", 9/16"

Engineered Planks can be installed over most subfloors, and are constructed to be dimensionally stable, making them suitable for installation over all grade levels where moisture conditions do not exist. Please carefully review information and installation guidelines below.

ATTN: INSTALLERS - CAUTION: WOOD DUST

Cutting, sanding or machining wood products produces *wood dust*. While wood products are not hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200), the International Agency for Research on Cancer (IARC) and the State of California have classified *wood dust* as a human carcinogen.

PROPOSITION 65 WARNING: This product produces *wood dust* when cut, sanded or machined. Wood dust is considered a carcinogen by the State of California.

Precautionary Measures: Power tools should be equipped with a dust collector. If high dust levels are encountered use an appropriate NIOSH-designated dust mask. Avoid dust contact with skin and eyes.

First Aid Measures in case of irritations: Flush eyes and skin with water. If needed, seek medical attention.

WARNING! DO NOT MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" ADHESIVES OR OTHER ADHESIVES.
These products may contain either asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content and may govern the removal and disposal of material. See current edition of the Resilient Floor Covering Institute (RFCI) publication "Recommended Work Practices for Removal of Resilient Floor Coverings" for detailed information and instructions on removing all resilient covering structures. The products in this carton DO NOT contain asbestos or crystalline silica.

IMPORTANT HEALTH NOTICE

THESE BUILDING MATERIALS EMIT FORMALDEHYDE. EYE, NOSE, AND THROAT IRRITATION, HEADACHE, NAUSEA AND A VARIETY OF ASTHMA-LIKE SYMPTOMS, INCLUDING SHORTNESS OF BREATH, HAVE BEEN REPORTED AS A RESULT OF FORMALDEHYDE EXPOSURE. ELDERLY PERSONS AND YOUNG CHILDREN, AS WELL AS ANYONE WITH A HISTORY OF ASTHMA, ALLERGIES, OR LUNG PROBLEMS, MAY BE AT GREATER RISK. RESEARCH IS CONTINUING ON THE POSSIBLE LONG-TERM EFFECTS OF EXPOSURE TO FORMALDEHYDE.

REDUCED VENTILATION MAY ALLOW FORMALDEHYDE AND OTHER CONTAMINANTS TO ACCUMULATE IN THE INDOOR AIR. HIGH INDOOR TEMPERATURES AND HUMIDITY RAISE FORMALDEHYDE LEVELS. WHEN A HOME IS TO BE LOCATED IN AREAS SUBJECT TO EXTREME SUMMER TEMPERATURES, AN AIR-CONDITIONING SYSTEM CAN BE USED TO CONTROL INDOOR TEMPERATURE LEVELS, OTHER MEANS OF CONTROLLED MECHANICAL VENTILATION CAN BE USED TO REDUCE LEVELS OF FORMALDEHYDE AND OTHER INDOOR AIR CONTAMINANTS. IF YOU HAVE ANY QUESTIONS REGARDING THE HEALTH EFFECTS OF FORMALDEHYDE, CONSULT YOUR DOCTOR OR CALL LOCAL HEALTH DEPARTMENT.

ALL PRODUCTS CONTAINED IN THIS CARTON MEET U.S. EPA TSCA TITLE VI FORMALYHYDE EMISSIONS STANDARDS.

ATTENTION: INSTALLER / OWNER'S RESPONSIBILTY TO INSPECT ALL MATERIALS CAREFULLY BEFORE INSTALLATION

Wood is a natural product which has variations in color, tone and grain. Some variation in color is to be expected in a natural wood floor. Even though our product goes through many inspections before it leaves the factory, it is the customer and installer/owner's responsibility for final inspection prior to installation. The warranty DOES NOT cover materials with visible defects once they are installed.
The manufacturer will not be responsible for claims arising from flooring that has a greater range of grain/color variation than found in the showroom display samples.
The use of stain, filler, or putty stick for the correction of minor defects during installation should be accepted as normal procedure. Depending on layout, a cutting allowance of 5% is recommended, in addition to the actual measured square footage. (Diagonal, herringbone, bordered and multi-width installations may require a higher percentage.)

BASIC TOOLS AND ACCESSORIES

Broom or vacuum, chalk line, tapping block, hammer, wood flooring surface cleaner, hand or electric jam saw, power circular or miter saw, moisture meter, safety glasses, straight edge, table saw, tape measure, square, utility knife, pry bar, pull bar, wood spacers, carpenter's square. Use a urethane-based wood flooring adhesive and trowel, if using the glue down method.

CAUTION: Don't use a rubber mallet to engage the tongue and groove system. Use a tapping block instead. A rubber mallet hitting any finished surface will cause abrasive marks (dull spots) and chipped edges.

JOBSITE CONDITIONS

Permanent HVAC should be on and operational for a minimum of 5 days prior to delivery, during and after installation of the flooring. The room temperature must be maintained 60 - 80º F, with relative humidity of 40 - 60%. These environmental conditions are specified as pre-installation requirements and must be maintained for the life of the engineered wood.

Basements and crawl spaces must be dry. Use of a 6mil black polyethylene membrane is required to cover 100% of the crawl space earth. Crawl space clearance from ground to underside of joist should be no less than 18" and perimeter vent spacing should be equal to 1.5% of the total square footage of the crawl space area in order to provide cross ventilation.

For crawl spaces without ventilation openings, vapor retarder joints must overlap a minimum of 6" and be sealed or taped. The vapor retarder should also extend at least 6" up the stem wall and be attached and sealed to the stem wall. Continuously operated mechanical exhaust and perimeter wall insulation or conditioned air supply and insulation must be provided.

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

SUBFLOOR PREPARATION AND RECOMMENDATIONS FOR ALL INSTALLATIONS

CONCRETE SUBFLOORS (GLUE OR FLOAT)

New concrete slabs require a minimum of 60 days drying time before covering them with a wood floor.

Concrete subfloors must be dry, smooth (level within 3/16" in a 10' radius 1/8" in 6') and free of structural defects. Hand scrape or sand with a 20-grit #3 1/2" open face paper to remove loose, flaky concrete. Grind high spots in concrete and fill low spots with a Portland based leveling compound (min. 3,000 psi). Leveling compounds must be allowed to thoroughly cure and dry prior to the installation of wood flooring. Follow instructions from the leveling compound manufacturer to ensure proper drying time. Concrete must be free of paint, oil, existing adhesives, wax, grease, dirt and curing compounds. These may be removed mechanically but **DO NOT** use solvent-based strippers under any circumstances. The use of residual solvents can prohibit the satisfactory bond of flooring adhesives. It is important to ensure a proper bond between the adhesive and the concrete, and planks or strips. Engineered hardwood flooring may be installed on-grade, above grade, as well as below grade where moisture conditions are acceptable. Suspended concrete must be 1 1/2" thick and meet all the other requirements noted above.

LIGHTWEIGHT CONCRETE (FLOATING INSTALLATION ONLY)

Lightweight concrete with a dry density of 100 pounds or less per cubic foot is only suitable for engineered wood floors when using the floating installation method. Many products have been developed as self-leveling toppings or floor underlayments. These include cellular concrete, resin-reinforced cementitious underlayments, and gypsum- based materials. Although some of these products may have the necessary qualifications for underlayment for wood flooring installations, others do not. To test for lightweight concrete, scrape a coin or key across the surface of the subfloor. If the surface powders easily or has a dry density of 100 pounds or less per cubic foot, use only the floating installation method.

To ensure a long-lasting bond, make sure that the perimeter of the foundation has adequate drainage and vapor barrier.

WOOD SUBFLOORS

SOLID WOOD SUBFLOORS (GLUE OR FLOAT)
Must be minimum 3/4" (19mm) thick with a maximum width of 6" installed at 45˚ angle to the floor joists.
For direct glue-down applications add 3/8" (9.5mm) approved floor panel underlayment.

EXISTING WOOD FLOORING (GLUE OR FLOAT)
Existing engineered flooring must be well bonded / fastened. When gluing over existing wood flooring, the surface finish must be abraded or removed to allow adequate adhesive bond.
Existing solid hardwood flooring that exceeds 6" in width must be covered with 3/8" (9.5mm) approved underlayment and fastened as required. Do not install over solid hardwood that has been attached directly to concrete.

Wood subfloors must be well nailed or secured with screws. Nails should be ring shanks and screws need to be counter sunk. The wood subfloor needs to be structurally sound and dry. It should not exceed 12% moisture prior to installation. If the subfloor is single layer, less than 3/4" thick, add a single cross layer for strength and stability (minimum 3/8" thick for a total 1 1/8" thickness). When installing over existing wood flooring, install at right angles to the existing floor.

APPROVED UNDERLAYMENT FLOOR PANELS (GLUE / FLOAT / STAPLE / NAIL)
PLYWOOD: Must be minimum CDX grade (exposure 1) and meet US Voluntary Product Standard PS1-07, Construction and Industrial Plywood and/or US Voluntary PS 2-04 and/or Canadian performance standard CAN/CSA 0325-0-92 construction sheathing. The preferred thickness is 3/4" (19mm) as a subfloor [minimum 5/8" (16mm)] or 3/8" (9.5mm) as a floor panel underlayment.
ORIENTED STRAND BOARD (OSB): Conforming to US Voluntary Product Standard PS2 or Canadian performance standard CAN/CSA 0325-0-92 construction sheathing. Check underside of panels for codes. When used as a subfloor, the panels must be tongue and groove and installed sealed side down. Minimum thickness to be 23/32" (18 mm) thick when used as a subfloor or 3/8" (9.5mm) as floor panel underlayment.
WAFER BOARD / CHIPBOARD: Conforming to US Voluntary Product Standard PS2 or Canadian performance standard CAN/CSA 0325-0-92. Must be 3/4" (19mm) thick when used as a subfloor and 3/8" (9.5mm) thick when used as floor panel underlayment.
***PARTICLEBOARD* (FLOATING ONLY):** Must be minimum 40-lb. density, stamped underlayment grade 3/4" (19mm) thick.

Wood subfloors must be free of paint, oil, existing adhesives, wax, grease, dirt, urethane, varnish, etc.

SUBFLOORS OTHER THAN WOOD AND CONCRETE

NOTE: Perimeter glued resilient vinyl and rubber tiles are unacceptable underlayments and must be removed.

Terrazzo, Ceramic, Vinyl, Resilient Tile, Cork or other hard surfaces that are dry, structurally sound and level, as described above, are suitable as a subfloor for installation of engineered hardwood flooring. Terrazzo and ceramic tile must be scuffed to assure adhesion. Fill grout lines with a cementitious latex fortified leveling compound.

WARNING! Do not sand, mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic adhesives or other adhesives. These products may contain asbestos fibers or crystalline silica. Inhalation of asbestos or crystalline dust is a cancer and respiratory tract hazard. Check with local state and federal laws for handling hazardous material before attempting the removal of these floors.

SUBFLOOR MOISTURE CHECK

Engineered hardwood flooring may be used for above-, on-, and below- grade applications. On all common substrates, on- and below-grade applications are susceptible to moisture and should be tested for moisture prior to installation in several locations within the installation area. Acceptable conditions for above-, on-, and below- grade applications are:

CONCRETE

- Less than 3 1bs. /1000 SF / 24 hrs. on a calcium chloride test
- No greater than 4% on a Tramex Concrete Moisture Encounter Meter or equivalent electronic concrete moisture meter
- Relative Humidity levels in slab, using In-situ probes (ASTM F2170-11), should not exceed 75%.

WOOD SUBFLOORS

- Wood substrates must have a moisture reading of no more than 12% when using an electronic pin type wood moisture meter. The difference between the moisture content of the wood subfloor and the hardwood flooring must not exceed 4%.

DO NOT INSTALL FLOORING IF MOISTURE TESTS EXCEED LIMITS NOTED ABOVE
Appropriate actions must be taken to reduce subfloor moisture. Steps could include waiting until the subfloor dries to meet specifications or use of an appropriate moisture barrier. Do not use dehumidifiers to lower RH% in concrete or wood subfloors.

RADIANT HEATED (HYDRONIC) SUBFLOORS (FLOATING INSTALLATION RECOMMENDED) SEE APPROVED WOOD SPECIES BELOW

APPROVED WOOD SPECIES: W. OAK / R. OAK / MAPLE / WALNUT

Prior to the installation of engineered hardwood flooring over a radiant heated flooring system the following guidelines must be followed in order to prevent unsatisfactory results for the flooring:

Previously noted concrete subfloor requirements apply.

It is highly recommended that the radiant heat system be designed to accept an engineered wood floor.

The floating installation method is recommended. Glue down is acceptable, if adhesive manufacturer will warranty the installation over hydronic radiant heated subfloor.

Relative humidity of the jobsite must be maintained between 40 - 60%. Use of a humidification system may be required to maintain the proper humidity level. Failure to maintain the humidity range noted can result in excessive drying of the flooring which may lead to surface checking.

The radiant heat system should be set to run at 2/3 maximum output for a minimum of 2 weeks prior to installation of flooring to further allow moisture dissipation from the concrete slab. This must be done in both warm and cold seasons.
Before installation (5 days) reduce the temperature to 65° F and maintain temperature range of 64 - 68° F during the installation. If gluing down, check adhesive manufacturer guidelines prior to installation.

After completion of the installation, wait 48 hours and then gradually raise the temperature of the heating system 2 - 3° F per day over a five-day period until the preferred setting is reached.

CAUTION: THE FLOOR SURFACE MUST NEVER EXCEED 80° F IN TEMPERATURE.
Use of an in-floor temperature sensor, as well as a separate outdoor thermostat, is recommended.

Room temperature should not vary more than 15° F from season to season. Seasonal gapping should be expected.

PREPARATION

Remove all moldings and wall-base, and undercut all door casings with a hand or power jam saw using a scrap piece of flooring as a guide.

RACKING THE FLOOR
Regardless of the installation method chosen to install the floor, start by using random length planks from the carton or by cutting four to five planks in random lengths. End joints on adjoining rows should be offset by no less than 6" within the first three rows. The remaining rows should be random throughout, while making adjustments for undesirable end joint patterns. Never waste material; use the leftover pieces from the fill cuts to start the next row or to complete a row.

NOTE: When installing a pre-finished wood floor be sure to blend the wood from several cartons to ensure a good grain and shading mixture throughout the installation.

Randomly install different lengths to avoid a patterned appearance. Maintain a 6 – 8" minimum between end joints.

EXPANSION SPACE

Note: Expansion space is required along the perimeter of room(s) of intended installation. Expansion space is dictated by the thickness of the product; for example, 3/8" thick floor requires 3/8" expansion space, 1/2" thick floor requires 1/2" expansion space, etc.

GLUE DOWN INSTALLATION

There are two ways to install when using a wood flooring adhesive (wet lay; meaning to lay directly into wet adhesive and dry-lay method; meaning to allow the adhesive to flash or to tack up.) **Recommend use of urethane-based wood flooring adhesive.**

CAUTION: Whether you choose to install using the dry or wet method, follow all guidelines set by the adhesive manufacturer and the instructions below. By not adhering to the guidelines the warranty on the floor can be voided.

GENERAL GUIDELINES

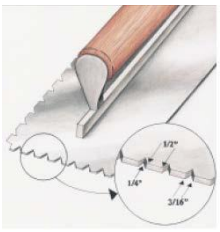
1. Use cement-based patch, skim coat leveling products to correct substrate imperfections.
2. Regulate temperature and humidity 72 hours before, during and after installation.
3. At least 48 hours before installation, place wood flooring in the installation area.
4. Install and secure starter row.
5. Spread adhesive using recommended trowel, ensuring 95 to 100% adhesive contact. **Wet lay method: press flooring firmly into adhesive immediately after troweling.**
6. Inspect the installation and remove any adhesive smudges or drops immediately per adhesive manufacturer's guidelines. **NOTE:** Urethane adhesive is very difficult to remove once dry and cured. Make every effort to prevent adhesive from getting on the flooring surface.
7. Clean tools while adhesive is fresh using a urethane adhesive cleaner or mineral spirits.
8. Avoid walking on the floor for at least 24 hours.
9. See adhesive manufacturer guidelines for OPEN TIME on the adhesive container.
10. Proper ventilation within the room must be provided. Use of an electric fan is recommended.

WET LAY METHOD - STEP 1

Select a starter wall. It is recommended to start the installation along an exterior wall because it's more likely to be straight and square with the room. Measure out from the wall the width of two planks plus expansion and mark each end of the room and snap your chalk line.

WET LAY METHOD - STEP 2

Spread the wood flooring adhesive from the chalk line to the starter wall using the recommended trowel size specified by the glue manufacturer. It is important to use the correct trowel at a 45° angle to get the correct spread of adhesive applied to the subfloor, which will produce a proper and permanent bond. Improper bonding can cause loose or hollow spots.



NOTE: Change the trowel every 2,000 to 3,000 SF due to wear down of the notches. This assures the proper spread of adhesive.

DRY LAY METHOD – STEP 1

Start by selecting your starter wall and measure out from the wall the width of two planks plus expansion space and mark each end of the room and snap your chalk line. This will allow adequate working space. Snap a chalk line.

DRY LAY METHOD - STEP 2

Apply adhesive from the chalk line out 2 1/2 to 3 feet. Allow adhesive to flash as per the instructions affixed to the adhesive container.
Note: Variations in humidity may affect the flash times. Check adhesive specifications for additional information.

Secure your starter rows with a straight edge (2x4's). Install planks and fasten with straps as you continue throughout your installation. Avoid working on top of floor when installing. If you must work on top of the newly laid flooring use a kneeling board.

STEP 3
Install the first row of starter planks with the tongue facing the starter wall (see picture on page four) and secure into position. Alignment is critical and can be achieved by securing a straight edge along the chalk line (2x4's work well), or by top nailing the first row with finishing nails (wood subfloor), or adjustable spacers (concrete subfloor). This prevents slippage of the planks that can cause misalignment.

NOTE: The planks along the wall may have to be scribed and cut to fit in order to maintain a consistent expansion space since most walls are not straight.

STEP 4
Once the starter rows are secure, spread 2 1/2 to 3 feet of adhesive the length of the room. (Never lay more adhesive than can be covered in approximately 2 hrs.) Place tongue into groove of plank and press firmly into adhesive; never slide planks through adhesive. (**NOTE:** Do not use a rubber mallet to butt the ends of the material together as it can burnish the finish and cause marring). Use a tapping block to fit planks snugly together at side and butt ends.

Clean any adhesive off the surface before it cures using clean terry cloth towels, mineral spirits or adhesive manufacturer's glue removal product.

Use straps to hold planks securely in place as you are installing and continue the process throughout the installation.

NOTE: Never work on top of the flooring when installing.

Once the remainder of the floor has been installed, go back to the beginning and remove the straight edges and spread adhesive on the remainder of the open subfloor. Allow to flash for the appropriate time and lay flooring as instructed. Remember that the planks closest to the wall may have to be scribed and cut to fit due to irregularities along the wall. Roll the floor per adhesive manufacturer'srecommendations.

CLEAN UP
Use clean white terry cloth towels to clean as you go along with mineral spirits. Both are easy and convenient to use. Adhesive that has cured on the surface of the flooring can be difficult to remove and will require the use of a urethane remover. Use a product that has been recommended by the adhesive manufacturer and is safe for the finish of your pre-finished engineered hardwood floor.

Light foot traffic is allowed after 12 hours but wait 24 hours after installation to remove straps or edge spacers.

STAPLE OR NAIL-DOWN INSTALLATIONS

Engineered hardwood floors may be installed over wood subfloors using staples or flooring cleats. When installing engineered wood planks or strips by nailing or stapling, it is necessary to use the proper type of flooring stapler or nailer made for the thickness of the engineered wood flooring that is being installed.

NOTE: When nailing down planks wider than 7 1/2" to a wood subfloor, we require both nailing and gluing (See below under *Nail + Glue Installation Instructions* for details.)

RECOMMENDED PNEUMATIC FLOOR STAPLER
When stapling, use a 20-gauge, 1" staple with a 1/8" crown on products up to 3" wide and 1/2" thick. When installing a 5" or wider product, use an 18 gauge 1-1/4" staple or longer with a 1/4" crown. Note: you must use an appropriate adapter for the thickness of the wood on some flooring staplers. Also note: 3/4" thick engineered planks should be nailed or stapled using a 3/4" solid wood flooring nailer or stapler of any brand. You must use the recommended size staple or cleat for 3/4" solid wood installations; you must also use the recommended nailing schedule, which is 2" to 3" from the ends, and 4" to 6" in the field.

STAPLE / NAIL METHOD
You must staple or nail 2" to 3" from the ends and every 4" to 6" along the edges on engineered wood products that are 3" wide or less. This will help insure a satisfactory installation. It is recommended to initially set the compressor at 80 PSI and adjust the pressure as needed in order to properly set the fastener and keep the staples from going through or breaking the tongues. Improper stapling techniques can cause squeaks in the floor.

Adjustments may be necessary to provide adequate penetration of the nail or staple into the nail bed. It must be flush in the nail pocket. Use a scrap piece of flooring material to set tools properly before installation.

NOTE: Before installation of the engineered flooring begins, install a 6-mil polyethylene layer to completely cover the ground. Install approximately 6" up the foundation walls when installing on a wood subfloor with a crawlspace. The seams of the 6-mil poly should overlap 4" to 6" and should be taped to the foundation walls using an aggressive tape such as Duct tape. This will retard moisture from below that is emitted from the soil.

In addition to the ground cover in the crawlspace, a 15 1b felt or rosin paper must be installed over the subfloor prior to the installation of the engineered wood flooring. This reduces squeaks and noises created by the opposing floors.

INSTALLING 6-MIL POLYETHYLENE
Install the polyethylene parallel to the direction of the flooring and allow a 3" overhang at the perimeter. Make sure each run of polyethylene overlaps the previous run by 6" or more.

LAYOUT THE JOB
Measure out from the ends of your starting wall, 2 3/4" when installing 2 1/4" strip flooring or 3 1/2" when installing 3" planks. Mark both ends. Where possible, lay the flooring at 90° angles to the floor joists. Make a chalk line along the starting wall using the marks you made.

BEGINNING INSTALLTION
NOTE: Expansion space is required along the perimeter of room(s) of intended installation. Expansion space is dictated by the thickness of the product; for example, 3/8" thick floor requires 3/8" expansion space, 1/2" thick floor requires 1/2" expansion space, etc.

Place the planks with the tongue facing away from the wall and along your chalk line. Use brads or small finishing nails to secure the first starter row along the wall edge 2" to 3" from the ends and every 4" to 6" along the side. Counter sink the nails and fill with wood filler that blends with the flooring installed. Place the nails in a dark grain spot in the board. The base or shoe molding will cover the nails when installed after completion of the installation.

Blind nail at a 45° angle through the tongues. It will be easier IF YOU PRE-DRILL THE HOLES IN THE TONGUES. Nail 2" to 3" from the ends and every 4" to 6" along the sides. It will be necessary to blind nail the next 2 rows. A brad nailer with 1" to 1 3/8" brads can also be used to blind nail and no pre-drilling is needed.

Continue the installation using an engineered wood flooring stapler, using staples or nails recommended by the nailer or stapler manufacturer. Nail or staple the flooring 1" to 2" from the ends and every 4" to 6" along the edge tongues.

NAIL / STAPLE + GLUE INSTALLATION
1. Measure out from the starting wall the width of one flooring plank plus the appropriate expansion space for that thickness of flooring. Mark two points toward each end of the starting wall and snap a chalk line along the full length of the wall through the marks.
2. Trowel spread the adhesive on the subfloor along the chalk line wide enough to allow the first row of flooring to be installed, being careful not to cover the line. Follow the adhesive manufacturer's recommendations for wet lay times before proceeding to the next step.
3. Lay the tongue side of the first row of flooring along the chalk line. Face nail (top nail) the first row of flooring in place. Place the fasteners approximately 3/4" from the wall side (groove side) of the board every 4" to 6". Once the face nails are set, use 6-d finish nails or the pneumatic finish nailer to blind/edge nail along the tongue of the first row, every 4" to 6" and every 2" to 3" from every end joint. Check to make sure the first row is still straight along the chalk line before proceeding.
4. Trowel spread enough adhesive to install 2-3 more rows.
5. Install the second row by sliding the groove side on to the tongue of the first row. Blind/edge nail it in to place, with fasteners every 4" to 6" and 2" to 3" from each end joint. Stagger end joints by at least 18".
6. Continue nailing and gluing 2-3 rows at a time in this manner across the room. Avoid creating "H" patterns (where an end joint is adjacent to another end joint in the second to last row installed). Use cut ends to start the subsequent row, discarding any pieces shorter than 12".

7. Most adhesives require that the installer clean the adhesive off the flooring boards during the installation. Follow the adhesive manufacturer's recommendations for this procedure. If adhesive remover is needed, use only the recommended remover and use it only as needed to remove localized adhesive spots. Never use any adhesive remover to clean large areas.
8. Trim the last row of flooring to maintain the minimum expansion space at the far wall.
9. At the far (finish) wall, it may be necessary to face-nail the last 2-3 rows due to the angle of the stapler/nailer. The last row or two of flooring may need to be pulled together using a pulling bar.
10. Complete the installation by reinstalling or installing new base moldings.
11. Do not allow foot traffic on the floor for 24 hours after installation is complete.

FLOATING INSTALLATION

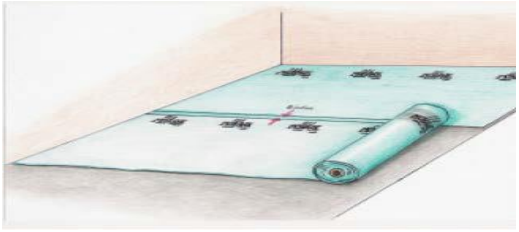
SUBFLOOR PREPARATION

Preparation of a subfloor is more critical for a floating engineered floor than for a glue down application. The floor must be flat to 3/16" in a 10' radius. If the floor requires correction, the high areas can be ground down and the low areas may be filled by floating latex fortified Portland leveling compound. The leveling compound must be allowed to dry according to the manufacturer's instructions before the floor is installed over it. The use of sand or extra padding to fill low areas is not acceptable.

Important: Do not install cabinets or walls on top of the flooring when using the floating installation method.

FLOATING FLOOR UNDERLAYMENT

Floating installation requires the use of a 2 in1 foam underlayment with an attached 6 Mil polyethylene, designed for use with engineered hardwood floating floors. Must have a minimum thickness of 1/8" and a 2.0lb density. Underlayment requirements are very critical in a floating installation. Excessive pad compression or compaction is a common cause of seam failure.



FLOATING FLOOR EXPANSION SPACE

Expansion space is required along the perimeter of room(s) of intended installation and all pipes, counters, cabinets, fireplace hearths, door frames and any other fixed vertical objects. Spacing is dictated by the thickness of the product; for example, 3/8" thick floor requires 3/8" expansion space, 1/2" thick floor requires 1/2" expansion space, 3/4" thick floor requires 3/4" expansion space. Larger rooms require additional expansion space. Add 1/16" to the width of the expansion space for every 3' the room extends beyond 25'. Dimensions exceeding 40' in length or width, it is recommended to use transition molding for proper expansion.

FLOATING FLOOR GLUE AND GLUE PLACEMENT

Use recommended floating floor glue for use with engineered hardwood floors for installation.
Glue placement is very important. The glue must be placed along the topside of the groove the full length of the grooved side and end. This can be accomplished by inverting the plank and applying a bead of glue (3/32") to the topside of the groove (side of the groove nearest the face of the plank). When the plank is turned back over the glue will run down the back of the groove giving total coverage. Apply only a 3/32" bead of glue; if the groove is filled with glue it will be difficult to close the seam will not allowing a tight fit.

GETTING STARTED

Remove all moldings / wall-base and undercut door casings.

After determining the direction to run the planks (should run parallel to the longest wall in the room), measure the width of the room. The last row of flooring should be no less than 1 1/2" wide. If the board measures less, cut the width of the starter row accordingly.

Select a starter wall. Measure out from the wall at each end, the overall width of the plank plus ½" for expansion. If the first row requires cutting, then proceed to measure from the wall the width of the ripped board plus the 1/2" for expansion.

Snap a chalk line from these points.

Install underlayment. Seal seams with a clear plastic tape. Allow the poly to run 2" up the wall and trim back after installation.

Prior to installing the flooring, secure a straight edge (starter board) inside the chalk line to act as a guide and to prevent the row of planks from shifting during installation. Insert spacers at the wall to maintain the 1/2" expansion space between the flooring and the wall.

INSTALLING THE FLOOR

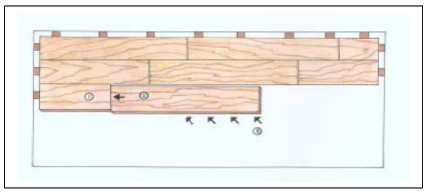
The installation should begin in the left-hand corner of the room, moving to the right. Spacers must be used to establish the minimum 1/2" expansion space from the walls. The planks are laid with the tongue side facing the wall, which allows you to best work with the locking system.

The first row starts with a full-length board; working from left to right will be required when installing glue-less engineered hardwood flooring. Slide the end groove of the board being installed into the end tongue of the board you previously installed. Place each plank firmly against the wall spacers. Once the first row has been set, making sure that the boards are against a firm starting point, lay out three to four rows before starting to install.

The end tongue of the second plank laid, is connected to the end groove of the first plank. Lay the rest of the boards in this manner, plank after plank, until the first row is completed. Cut the last plank accordingly and ensure that the first row is straight, using the spacers, while maintaining the 1/2" expansion space from the wall.

When possible, use leftover plank from the previous row, to begin the next row. This will help to minimize waste throughout the installation. By laying out the material beforehand, as mentioned above, you will be able to check your end seams to ensure planks are properly staggered. End joints on adjoining rows should be offset no less than 6". Proceed to align the first plank of the second row against the first plank in row one and slide into place. The next plank is aligned with the end joint of the first plank in the second row. Proceed to engage the locking groove with the tongue and drop into place as shown below. Continue laying the boards this way across the entire row. The planks will lock into each other.

The planks are now laid row after row in this sequence:



Move rows if necessary, to ensure that you are not showing any undesirable joint patterns. The rest of the row's end joints should be random throughout the floor.

CLEAN AS YOU GO

If any glue squeezes out of the seam between the planks, wipe away with a damp cloth immediately, as dried glue is more difficult to remove. If glue has dried, then lightly scrape it away with a plastic scraper or other method recommended by the glue manufacturer.

FLOATING FLOOR FINAL TOUCHES

Install the proper trim molding at the doorways to achieve the transition and along the walls to cover any gaps from irregularities.

Complete the job by using wood filler that coordinates with the installed engineered flooring to fill any gapping along the joints or areas where brad nails were used in the trim or the flooring. Clean the finished floor with cleaner specifically designed for use with urethane coated wood floors.

COMPLETING THE JOB

- Sweep or vacuum floor
- Clean the floor with proper hardwood floor cleaner
- Install transition pieces -i.e. – Thresholds, T-moldings, Base Boards and Quarter Round. Nail Quarte Round and Base moldings to wall instead of the floor.
- Inspect final floor for nicks and or minor gaps – fill with appropriate color wood putty.
- Unused material should be left with owner and stored in a dry place in case of future repairs areneeded.
- Use dolly and protective sheet of plywood or hardboard when moving heavy appliances or furniture across floor.

MAINTENANCE

Engineered Hardwood Floors are very easily maintained. No wax, no mess. Simply apply a cleaner made for use with urethane coated hardwood floors and a terry cloth flooring mop.

STEP ONE: Sweep or vacuum your floor regularly to remove any particles or grit that could scratch your floor. Vacuum head must be brush or felt type.

WARNING: Do not use vacuums with a beater bar or power rotary brush head, as they can damage a wood floor.

STEP TWO: *Apply hardwood surface cleaner directly to the terry cloth flooring mop.*

STEP THREE: *Use a back and forth motion with the mop. When the terry cloth cover becomes soiled, simply replace it with a clean one. Cleaning the floor with a soiled cover could cause streaking. The covers are re-usable, so wash and dry the covers periodically as you would a normal towel.*

TIPS & WARNINGS

Maintain temperature range between 60 - 80º F and an indoor relative humidity level 40 – 60 % throughout the year to minimize the natural expansion and contraction of the wood.

Heating season – Low Humidity, Dry: All heating methods create dry, low humidity conditions. Humidifiers are recommended to prevent excessive shrinkage or gapping in wood floors due to seasonal periods of low humidity.

Non-Heating Season and Coastal or Waterfront Areas – High Humidity, Wet: During the non-heating season proper humidity levels should be maintained by using an air conditioner, Dehumidifier or by turning on your heating system periodically during the summer months.

- *Sweep or vacuum regularly.*
- *Remove spills promptly using wood flooring cleaner and a clean white cloth.*
- *Never wet or damp mop your wood floors. Water can cause damage to wood flooring.*
- *Do not use hardwood floor cleaning machines or steam cleaners.*
- *Do not use oil soaps, liquid or paste wax products or other household cleaners that contain citrus oils, lemon oil, Tung oil, silicon, or ammonia since these warranties do not cover damage caused by non-recommended products. Use of these and other such products will harm the long-term performance of your floor and may also affect the ability to recoat.*
- *Place protective felt pads beneath furniture legs and feet.*
- *Use protective mats at all exterior entrances.*
- *Spiked heels or shoes in need of repair can severely damage your floor.*
- *Exposure to the sun and its UV rays accelerates the oxidation and aging of wood. This can cause the stain and/or wood to fade and/or to change color. We recommend that you rearrange rugs and furniture periodically so the floor ages evenly. Exotic species are more susceptible to color change during the aging process. Warranty does not cover damage from the sun and its UV rays.*
- *To help preserve the original look of your wood flooring, close window treatments during hours of direct sunlight and minimize excessive lighting wherever possible.*
- Use area rugs in high traffic areas and pivot points.
- *Keep pets nails trimmed and paws clean and free of dirt, gravel, grease, oil and stains.*
- *Protect your floor when using a dolly for moving furniture or appliances.* ***Never slide or roll heavy furniture or appliances across the floor.***