

ENGINEERED WOOD FLOORING INSTRUCTIONS

Staple-down, Glue-down, or Edge-glue and float

About Engineered Flooring

Engineered flooring consists of REAL hardwood layers with either plywood, or medium-density fiberboard (MDF) or a lumber core. Engineered flooring is extremely stable, which means it's the perfect floor for any level of the home!

CONSTRUCTION

Plywood core engineered products have real wood veneer layers stacked on one another with the grain of the adjacent layers oriented perpendicular to each other. Because wood expands and contracts in the direction of the grain, one layer stabilizes the next, resulting in a product that has excellent dimensional stability throughout seasonal humidity and temperature fluctuations in the home and is less susceptible to the effects of moisture and temperature change. *#± Install Methods

Lumber core engineered flooring is made of narrow strips of lumber glued together to create a dense, impact-resistant core or slab with a layer of hardwood veneer affixed to the top. This construction also maintains excellent dimensional stability throughout seasonal humidity and temperature fluctuations in the home. *# Install Methods

MDF (medium density fiberboard) engineered flooring is constructed with a real hardwood veneer atop a moisture-resistant core which is made from real wood fibers that are compressed into a dense, impact-resistant format. In addition to providing extra protection against denting, the MDF enables the most precise milling of the locking profile to enhance ease of use and durability. #± Install Methods

*Staple down. #Glue down. ±Floating not attached to the subfloor. See website for product specific application details

APPLICATIONS Staple/Glue/Float

This flooring can be installed on all levels of the home that are climate controlled. Engineered flooring is typically installed using specially designed pneumatic flooring staplers or cleat nailers both types can work well. Ensure the use of correct sized fasteners and adaptors. Engineered Flooring can be fully-glued to wood subfloors and concrete. Follow the glue manufactures labeling instructions regarding correct trowel size, removal of surface sealers or contaminates and use of moisture barriers. Engineered Flooring can also be edge-glued and floated over a dense pad underlayment to meet the needs of customers, building specifiers and condominium associations desiring a quieter and warmer floor (see underlayment section) Engineered flooring is recommended over radiant heat systems, contact customer care for a listing of approved products for this application. Do not install this flooring in full bathrooms, saunas, or in rooms with floor drains. Do not install as a floating floor under fixed cabinetry. Do not install over carpet and existing floating floors. When indoor climate cannot be maintained glue down installation of the flooring is the best method to minimize excessive movement. For best results and performance the homeowner must maintain the recommended climate inside the home.

OWNER/INSTALLER RESPONSIBILITY

Engineered floors are a product of nature, thus there will be some variations in grain, patterns, and shade/color from box to box. When ordering flooring 5% - 7% more flooring must be added to allow for cutting and grading allowances. For diagonal installations add 15% more for waste.

- Before installation inspect the flooring for any manufactured defects. Defects on the face of the planks can be avoided by trimming the plank, and the remainder of the plank used, this is expected to minimize waste. Any board deemed unacceptable should simply not be used. If there are concerns with the quality of the product, please stop installation and contact your local retailer.
- Before installation the installer must determine if the environment and subfloor conditions meet or exceed all applicable standards, and are within the tolerances set in these installation guidelines. The manufacture declines any responsibility for failures caused by improper job site and subfloor conditions.
- Once the boxes are brought into the home check the box labels to verify vender information matches.
- Save a box label which has the product information for future reference.
- It is acceptable to touch up flooring during and after installation with stain, filler, or putty
- After installation it is the homeowner's responsibility to make sure the proper indoor environment is maintained. Failure to do so can result in gapping, squeaking, buckling, or cupping.

GENERAL INFORMATION

- Install flooring in normal proper lighting.
- Save a box of flooring for future repairs.
- Do not install in full bathrooms or areas with steam.
- Do not install as a floating floor under fixed cabinetry.
- Inspect subfloor for flatness, squeaks, and moisture.
- Avoid board grouping, board sizes should be intermingled.
- Inspect flooring during installation, select out boards have milling and finish defects.
- The customer is advised to be home during the installation for consultation/direction.
- An Expansion space must be left around the perimeter and at all vertical obstructions.
- Customer and installer should discuss installation and layout to maximize satisfaction.
- It is helpful to save the item number found on the packaging box ends for future references.
- Cover the flooring with breathable materials like paper when protecting a newly installed floor.
- Jobsite subfloors can be dry today and wet tomorrow the use of moisture barriers is highly recommended.
- Floor should be installed from several cartons at the same time to ensure good color, shade and appearance.

JOBSITE CONDITIONS

- The building should be enclosed with all doors and windows in place.
- All wet work which includes painting, drywall, tiling, concrete, and masonry should be completed with ample time to dry before flooring is delivered.
- Crawlspace, basements, and garages should be dry and well ventilated.
- Crawlspace must be a minimum 18" from the bottom of the floor joist to the ground. Crawlspace must have a minimum 6 mil thick polyethylene film covering the entire crawlspace ground. Crawlspace should have proper ventilation as determined by local building codes.
- All gutters should be in place and functioning properly. Yard grading should be sloped to run water away from home foundation.
- HVAC systems should be operational for at least two weeks prior to flooring being delivered.

ACCLIMATION/MOISTURE TESTING

- After purchase / delivery the flooring must be stored inside the home, and allowed to acclimate in the rooms, where it will be installed. Keep flooring away from direct sunlight and vents during the acclimation process.
- Remove all plastic wrapping surrounding the boxes.
- Allow the flooring to acclimate 2 to 5 days inside the room where it will be installed.
- For best results the rooms should be maintained between 60F – 80F, with a humidity range between 30% to 50%.
- Boxes should be laid flat on dry subfloors, and wooden supports should be used to keep boxes elevated off concrete floors.
- Use a reliable species specific moisture meter to verify the moisture of the floors veneer. Follow the moisture meters manufactures guidelines for this step.

MOISTURE TESTING wood subfloor and new floor

[CAUTION] Most wood flooring failures result from jobsite moisture. Do not unpack or deliver flooring to the jobsite until moisture problems are corrected. The **goal** of moisture testing is two-fold. (1) To determine when the installation can begin and (2) to verify that proper moisture balance between the new floor boards and that of the existing subfloor has been achieved. Verify by using a moisture meter that will have individual species settings (pic1). Pin or probe meters that have adjustable species settings are most accurate. Contact the meter manufacturer directly for your alternate or substitute species settings. Meter examples; ([Tramex](#), [Ligno-DX/C](#), or [Delmhorst](#)).



(pic1)

Test the subfloor. Set the meter to the type of subfloor. Obtain an average by meter testing the subfloor (10 locations per every 500sqft). Test around exterior doorways, near plumbing and foundation walls and in the center of the room. On average, the subfloor moisture range must not exceed **12%**.

Test the new flooring. Set the meter to the proper wood species. Obtain an average reading by testing (20 boards out of every 500sqft) of new flooring. The flooring can have acceptable moisture range between 4%-8%, with no more than 5% variance up to 10%. After thoroughly testing both the subfloor and the flooring, be sure that the moisture content of both doesn't differ by more than 4% for strip flooring (boards 2 1/4" or less) and 2% for plank flooring (3" or wider). If high moisture readings are found in either the new floor or subfloor identify the moisture source and correct. Extend acclimation time. Postpone the installation until the proper conditions have been met. It is recommended to document moisture test results with notes should future questions arise; a record of the customer's name, the order number and digital pictures showing the meter actually used, including the time and date.

WOOD/CONCRETE SUBFLOOR REQUIREMENTS

Approved Wood subfloors

Note that joist spacing determines minimum subfloor thickness.

- Joist spacing 16" on center (OC) Plywood: Minimum of (5/8") Oriented Strand Board (OSB): Minimum (3/4", 23/32")
- Joist spacing 16" up to 19.2" (OC) Plywood: Minimum of (3/4", 23/32") Oriented Strand Board (OSB): Minimum of (3/4", 23/32")
- Joist spacing over 19.2" up to maximum 24" (OC) Plywood: Minimum of (7/8") Oriented Strand Board (OSB): Minimum of (1")
- Do not install flooring directly over floor joist without subflooring. All structural panels/underlayment must be installed sealed-side down, and provide minimum 3/4" perimeter spacing. Square-edged or non-tongue and grooved panels used as a subfloor will require a minimum 1/8" (3 mm) expansion space placed between all plywood seams. Panels must meet minimum CDX grade Exposure 1 and US Voluntary Product Standard PS1-95, PS2-04 or Canadian performance standard CAN/CSA 0325-0-92 for construction sheathing. Check panel for codes.
- Pressure-treated plywood may have elevated moisture or latent with rot resistant chemicals, not for interior use.
- Solid-board subflooring should be 3/4" x 5 1/2" (1" x 6" nominal), Group 1 dense softwoods, No. 2 Common, kiln-dried to less than 12% percent moisture content. Add min. 3/8" plywood over solid board subfloors.
- Particleboard, Luan or Masonite is approved for floating installations only and must be covered with a minimum of 3/8" CDX plywood when gluing this product to the subfloor.
 - Do not install over existing plywood subfloors that are directly installed over concrete without proper moisture protection between the plywood and the concrete.
 - Nail wood flooring perpendicular to the floor joist
 - Nailing wood flooring parallel to the floor joist is an option using a combination of plywood, OSB, Advantech or similar approved subfloors.

Floor joist (16" to 19.2 oc) The total subfloor thickness minimum must be 1-1/4"

Floor joist greater than (19.2 up to 24"oc) The total subfloor thickness minimum must be 1-7/16"

CLEAN: All wood and concrete subfloors must be swept clean or vacuumed to remove dust and debris. For glue down installations remove all contaminants like paint, old adhesives, sealers, and dry wall mud that could affect the adhesive bond.

FLAT: All wood and concrete subfloors must be flat within 1/8" over a 6' span, or 3/16" over a 10' span. All areas of the subfloor must be check prior to installation. High spots can be sanded or grinded down and low spots fill with appropriate patching compounds. Never sand and grind materials covered with lead paint, or containing asbestos. Follow local building codes for proper removal practices of asbestos and lead paints.

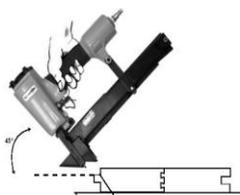
DRY: Wood subfloors should be dry. The moisture in wood subfloors should not exceed 12%. If high moisture is present stop installation until the moisture source has been corrected.

Concrete subfloors must be fully cured for at least 60 days. Concrete subfloors must be tested for moisture by conducting a Calcium Chloride test (ASTM F 1869) or Relative Humidity In-Situ Probe test (ASTM F 2170). Calcium Chloride test results cannot exceed 3lbs per 1000sqft in 24hrs. Relative Humidity In-Situ probe test should not exceed 75%. A moisture barrier is required over all concrete subfloors.

HELPFUL TOOLS

- | | |
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| <ul style="list-style-type: none"> • Pencil • Chalk line • 6' level or 10' level • Miter saw • Table saw • 60 tooth carbide tip saw blades • Broom • Jamb saw • Eye protection • Dust Mask • Gloves • Engineered Floor Stapler • Floor fasteners • Hygrometer (test home temperature and humidity) • Blue painters tape (2080) | <ul style="list-style-type: none"> • PVA wood glue • Air Compressor with regulator • Air hose • Drill bit set • Hammer • Tape measure • Moisture meter (wood) • Calcium chloride moisture test (concrete) • Approved adhesive remover (glue down installs) • Cloth rags • Nail set • Drill • 6d finish nails • Jig saw • Ear protection |
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NAILDOWN OVERVIEW



[NAILING TIPS]:

- Engineered flooring is typically installed using specially designed engineered wood pneumatic flooring staplers or cleat nailers, both types can work.
- Place fasteners on tongue side that runs the length of the planks. Do not place fasteners into the groove.
- If the staples do not go in far enough raise the air pressure on the compressor up slightly and re-test until staples sit flush into the wood above the tongue.
- If the staples go in too deep lower air pressure until staples sit flush above the tongue. Some floor staplers have the ability to adjust the depth of the fastener. This may need to be adjusted for the staples to seat correctly.
- Tongue fractures can be reduced by lowering the compressor's PSI and using the recommended floor stapler.
- Dimples can be reduced by seating the floor staplers correctly on the board or using thinner gauge fasteners like 20 gauge staples. Make sure the staples are sitting flush in the wood or dimples can occur. Adjusting the depth of the stapler to seat fasteners a bit deeper can help minimize dimples.
- Only use pneumatic nail guns designed for engineered wood flooring. Norge 4 n 1 floor stapler, Stanley Bostich, Powernail, and similar engineered flooring staplers are acceptable.
- Check for squeaks after nailing. Squeaks can occur due to tongue fracture, uneven subfloor, improper fasteners, or improper fastener spacing. Squeaks can be corrected or minimized by adding a PVA floating floor wood glue to the tongue and groove of the plank before nailing.
- If stapler will not shoot staples, check for air leaks, jammed staples, staple size, and compressor air pressure.
- Its best to pre-drill and hand nail the first row using a 3/32" drill bit and 6d finish nail. This will help prevent finish chipping due to pneumatic finish or brad nailers.
- If dimpling still occurs switch to a floating or glue down installation. We do not recommend the use of water base adhesives.

ENGINEERED WOOD RECOMMENDED FASTENER SELECTION

Board thickness 1/2" – 9/16"	18 , 19, or 20 gauge engineered flooring staples or cleats	1-1/4" or 1 -1/2" long
Board thickness 3/8"	18 , 19, or 20 gauge engineered flooring staples or cleats	1" or 1-1/4" long

FASTENER SPACING

Place fasteners **3"- 4"** apart (for staples) within 1- 2" from each end with at least two fasteners

Important: Set air compressor to 70-80 PSI. **Test and adjust** air pressure to ensure proper setting of fasteners. Make sure that the fastening machine is fully adjustable, is in good working condition, is at the appropriate angle and seats properly against the tongue of the board to prevent top edge and surface dimple damage.



Note: Only use flooring stapler that are fully adjustable and that engage the top profile over the tongue at the appropriate angle. Make sure that the flooring stapler is in good working condition and seats properly against the board to prevent top edge and surface dimple damage. **Any damage caused by fasteners or nailers is not covered by the warranty.**

NAILDOWN INSTRUCTIONS

[CAUTION]: Nail flooring in good lighting. After nailing 100 sq ft, stop and inspect the installed floor for any defects or damages. Stop at 20 sqft for installation under 100sqft. Make adjustments as needed. If satisfied, continue with the installation. When top nailing pre-finished flooring (the first and last rows, stair treads, and risers) it is recommended to pre-drill and hand nail using a 3/32" drill bit and 6d finish nails. Pneumatic 16ga. finish nail or 18ga. brad nail guns can be used to secure the first and last rows, but improper use can easily damage the board or finishes. When installing over crawl spaces, basements, or garages use 15 lb. black felt paper, Black asphalt saturated Kraft paper, or white Silicon Vapor Shield® as a minimum to provide protection against moisture vapors.

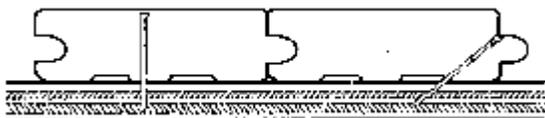
INSTALLATION PREP

Engineered Flooring Installation 7.03.18

Use a manual or electric jamb saw to undercut all door jambs/casing to allow enough clearance for the wood flooring to easily slide underneath. A credit card thick gap between the top of the wood flooring and bottom of the door jamb is acceptable. Sand down high areas of the subfloor. Correct low areas (See subfloor prep). Sweep or vacuum the subfloor clean of dust and debris. Install moisture retardant underlayment, and staple it down to prevent movement/sliding. (See underlayments)

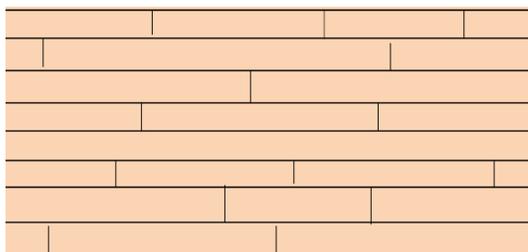
STEP 1: THE FIRST THREE ROWS

- Determine the starting wall, usually the longest or outside foundation wall. At the two opposite ends of this wall, measure out the width of the board including the tongue, plus the expansion space, and place a mark. An expansion gap must be left around the perimeter and at all vertical obstructions. This gap will be the same as the thickness of the new flooring. For example; 1/2" flooring requires 1/2" expansion gap.
- Snap a chalk line connecting the two marks. Align the tongue side of the first row of boards on the chalk line with the groove side towards the starting wall, maintain the expansion space.
- Install the flooring with the tongue side facing away from the starting wall (Use long straight planks for first two rows).
- Pre-drill and top nail the first row of boards using a 3/32" drill bit and 6d finishing nails about an 1" from the back edge. Pneumatic finish nail guns or brad nail guns can also be used. If hand nailing countersink the finish nail using a nail punch and fill with close matching wood filler. Blind nail the 2nd and 3rd rows using the flooring stapler, and seat the staples slightly above the tongue.

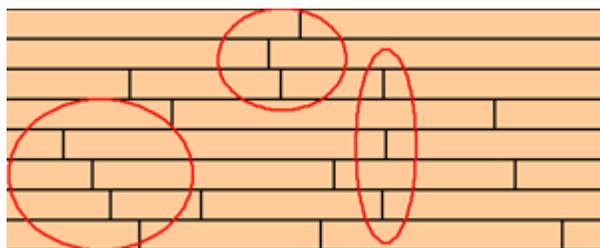


STEP 2: LOOSE LAY (Rack) THE FLOORING

After installation of the first three rows, loose lay about 100sqft of flooring about 4" or 5" away from the last secured row. Pull from several boxes to mix board color and sizes to create a random look. Visually inspect flooring for defects while racking. Stagger boards randomly as possible, avoid creating patterns. See picture for proper layout guidance.



Correct Board Stagger



Incorrect Stagger circled in red

STEP 3: INSTALLATION CONTINUED

- After racking out 100sqft of flooring begin nailing the floor. (See fastener recommendations). Visually inspect boards for defects while nailing. Use proper fastener spacing (See fastener spacing). Continue nailing until you get to the last one or two rows. The last one or two rows will have to be top nailed. Again pre-drill using a 3/32" drill bit and 6d finishing nails.
- The last rows can be pulled tightly together using a floor Jack or pry bar. Protect base boards before using these tools.
- The last row may have to be ripped down in width to fit. If the last row is less than 1" in width use carpenters wood glue to join the last piece to the previous row.

STEP 4: FINISHING UP

- Fill in nail holes and minor gaps with close matching wood filler.
- Install any base board molding and shoe molding
- Install transition moldings
- Sweep the floor
- Clean floor with approved cleaner (contact you're flooring retailer for approved cleaner).
- Use felt pads under furniture legs. Protect floor before moving appliances and heavy furniture.

Glue Down Installation Method

Recommended Adhesives: Use Bostik or Mapei adhesives designed for use with engineered wood floors. Note that flooring adhesives may have special requirements and limitations of use. Follow closely the adhesive labeling instructions and adhesive Technical Data Sheet pertaining to moisture testing procedures, moisture barriers, and trowel size recommendations. Depending on the selection and application of a particular adhesive, you may be required to use moisture barriers. Adhesive Technical Data Sheets can be found on the adhesive manufacturer's website. When in doubt about an adhesive application or requirement call the adhesive manufacturer.



Technical Services (USA) 1-800- 992-6273, 1-800-876-2734, (Canada) 1-800-361- 9309

www.mapei.com



Technical Services 1-800-523-6530 1-800-726-7845 1-888-592-8558

www.bostik-us.com

Cured adhesive may cloud, chemically damage or etch the floor's finish.

Clean wet adhesive from the surface of the floor frequently using the manufacturers recommended remover. Use clean towels, changing frequently to prevent haze and residue. Contact the adhesive manufacturer for adhesive removal remedies

Expansion Space: A minimum 1/2" expansion space is required around all fixed objects and walls. T-molding expansion breaks are not required with glue down installation methods, but can be helpful in minimizing overall floor movement due to seasonal humidity changes inside the home.

Glue down Install: Start the installation parallel to the longest exterior wall in the room. Spread out only enough adhesive to install the first row of flooring leaving a min. 1/2" expansion gap at all walls. A laser level or string line can be used to make sure the first row is straight. Allow the first row to set up before installing additional rows. This helps prevent the first row from moving as the next rows are installed. Spread out enough adhesive to install 4 rows at a time. Planks must be wet laid into the adhesive. Discard badly bowed or warped planks. Periodically lift up a plank to verify proper adhesive coverage to the subfloor and bottom of the plank. After laying 4 rows clean up any glue that gets on the finish right away using the adhesive manufactures recommended adhesive remover. Use #2080 blue painters tape to hold planks together if needed until the adhesive cures. Don't leave tape on for more than 24hrs. Wait 24hrs before placing furniture back onto the flooring. Glue down tips can be found on the Flooring 101 section of Lumber Liquidators website. www.lumberliquidators.com

DOUBLE STICK INSTALLATION –_Flooring glued over an approved underlayment that is also glued to the subfloor

Approved underlayments – Bellwood Premium, Bellwood Platinum, Eco Silent Sound, Insulayment, Cork

Allow the underlayment to fully cure before gluing wood flooring to the underlayment. Not all adhesives and underlayments are compatible contact Technical dept. for application details

FLOATING FLOOR INSTRUCTIONS

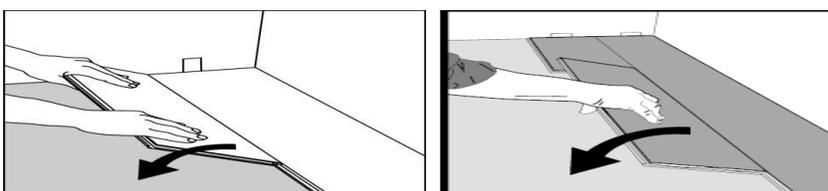
During installation, **Carpenters PVA Floating Floor Wood adhesive** should be applied to each groove on the short and long sides of the planks to ensure bond with the other planks. Two separate continuous beads of glue should be applied: one continuous bead applied inside the groove, and one continuous bead applied to the top part of the tongue at all seams to ensure a secure bond with the top and bottom of the tongue. This double-gluing helps to minimize squeaks, board gaps, or separation. Note that seasonal gapping is normal in wood flooring and does not constitute a product failure. Seasonal gapping can be minimized by keeping the indoor humidity above 30%.

Approved Underlayments: Bellwood Platinum, Bellwood Premium, Eco Silent Sound HD, 3mm or 6mm cork, Quiet Walk, and Insulayment pads are approved for wood and concrete subfloors installations. Caution before installing over concrete a minimum 6 mil polyethylene sheeting moisture barrier **must be installed** prior to installing the underlayment pad to help protect the flooring from excessive moisture.

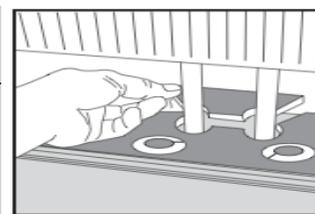
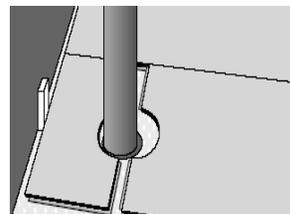
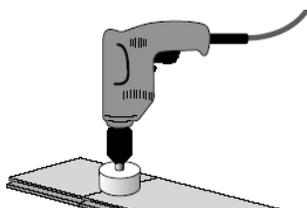
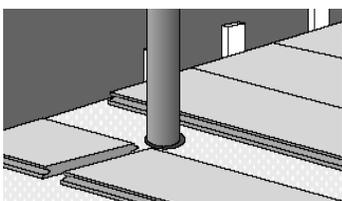
Expansion Space/T-molding Breaks: An expansion break is required to break continuous runs exceeding 40' in width and 40' in length. T-molding transitions are used to filled in the gap required for expansion breaks. A 3/4" gap is required at all walls and fix objects. Installations fewer than 30' in length or width can use a 1/2" gap at all walls and fixed objects. **For room dimensions of greater than 40' in length or width, the flooring should be glued down using an approved adhesive.**

Installation:

- Determine the starting wall, usually the longest or outside foundation wall. At the two opposite ends of this wall, measure out the width of the board, and place a mark. (Do not include the tongue of the board when measuring). An Expansion gap or space must be left around the perimeter and at all vertical obstructions.
- Snap a chalk line connecting the two marks. Tack down fern strips or carpet tack strips along the chalk line.
- Install the first row of flooring against the tacked wood strips.
- The flooring should be installed from left to right, tongue side towards the wall, with the groove side facing out from the wall.
- Install the first row end to end until the entire row is complete. Be sure to use PVA carpenters wood glue on all plank butt ends
- When edge-gluing, ensure that the glue is still wet when the planks are joined. Special attention should be paid to ensure that there is no excess glue dripping to the subfloor as this could bond the plank to the underlayment and hamper floor movement. A lightly water dampened rag can also be used to remove any PVA glue.
- Next, install the second row of planks, installing left to right. Each plank should be installed long side first into the previous row. Make sure carpenters PVA wood glue is applied to all tongue and groove seams. Insert a spacer at the wall, then install the long side of the plank into the previous row. Once the tongue is inserted into the groove fold the plank down onto the subfloor. The butt ends will be lightly tapped over from right to left to close the end seams. Be sure to keep a minimum stagger of 6" between end seams from row to row. Use a pry bar to close the end seam of the last plank installed in each row.



- After installing 4 or 5 rows apply #2080 blue painters tape to the plank surface perpendicular to the installed floor. This is used to hold the planks together until the glue cures. (incorrect tape can damage the finish)
- Continue installing the flooring until you reach the opposite wall in the room. The last row of flooring by the wall may need to be ripped down to fit. Make sure you have proper expansion space between the last installed row and the wall.
- Go back to the first row of flooring, remove the fern strip or tack strip and insert the final row of flooring to complete the room installation. Make sure proper expansion is left between the floor and wall.
- Remove the blue painters tape after 8 to 10hrs.
- To pass obstacles through the floor covering (pipes, radiator mounts), use a pencil to trace the center position for drilling. Use a big enough drill bit to leave a 1/2" expansion around the pipe. A jig saw may be needed for bigger rounded cuts. Next, cut the strip in two so that the saw mark goes through the center of the drilled hole, so that the strip can be glued and reassembled around the pipe.

**Post-installation**

- After installation, allow glue to fully cure for 24 hrs before replacing furniture and heavy foot traffic.
- Protect flooring before moving any heavy furniture or appliances. (damages from furniture and appliances are not covered)
- Fill in minor gaps with close matching wood filler
- Check for adhesive on floor finish and remove with appropriate adhesive manufacture remover.
- For best matching of sheen or milling save a box of flooring for future repairs.
- Clean floor with Bellwood Floor Cleaner

Radiant Heat Systems

Engineered flooring is recommended over radiant heat systems, contact customer care for a listing of approved products for this application. Follow the manufacturer's installation and operational instructions for electric, film or underlayment mat radiant heat. Hydronic radiant heating systems must have been tested and in operation for a few weeks prior to floor installation to dissipate moisture. Follow the manufacturer's installation and operational instructions for electric, film or underlayment mat radiant heat. Hydronic radiant heating systems must have been tested and in operation for a few weeks prior to floor installation to dissipate moisture. The radiant heating system needs to be turned off prior to installation and the floor needs to be close to room temperature

65 to 75 degrees. After the flooring is installed, slowly raise the temperature to the preferred comfort level (over at least a 5 day time frame) beginning two days after installation or at the onset of colder weather conditions.

The radiant heat system must be controlled and the surface temperature of the flooring must never exceed 85°F.

For best floor performance, proper relative humidity must be maintained within your home at all times during the year. To minimize seasonal gaps keep the indoor humidity between 30% to 50% RH. In arid parts of the country it is especially imperative to use a humidification system to maintain indoor moisture. Wood, oil or forced air heating systems can produce over-dry heat so use of a Relative Humidity meter (Hygrometer) is recommended and can assist at maintaining the indoor relative humidity above 30%. Even when these guidelines are followed wood flooring can experience some squeaks, surface cracks, seasonal movement or gapping between planks due to slight shrinkage. Problems arising from radiant heat installations or operations are site related and therefore not covered under product warranty.

MOLDINGS & TRANSITIONS

Install transition moldings directly to the subflooring. Pre-drill and hand nail transitions moldings to wood subfloors using 6d finishing nails, pneumatic finish nailers, or pneumatic brad nailers. Use a wood urethane tube adhesive to bond wood transitions to concrete. Cut moldings using an electric miter saw using a 60 tooth or 80 tooth fine finish carbide tipped blade makes the best cuts. Attach base or quarter round moldings to the wall, never into the floor. Mitered cuts hide better when joining moldings.

- Base Board - for hiding imperfections and adding a custom finish along any wall.
- Quarter-Round - for covering the expansion left at walls and other fixed surfaces.
- Reducer Moldings - used to transition to lower floors.
- Stair Nosing - for finishing the exposed edges of stairs and landings.
- T-Expansion - for joining two areas of flooring of similar heights.
- End Cap - for finishing the space at sliding glass doors, at bath tubs or transitioning to carpet.

Routine Care/Protection

Care

- Use the Bellawood Cleaner or Dream Home cleaner to keep the floor clean. We do not endorse any other cleaners.
- Apply mineral spirits on a cloth to help remove oil, paint, markers, lipstick, ink, or tar. Then buff with dry cloth.
- Only use vacuums designed for hard surface floors.
- Do not use wet mops, steam cleaners, oils, polishes, waxes on the floor.
- Do not use buffing or polishing machines.
- Remove hardened candle wax and chewing gum with ice, then gently scrape with a plastic scraper, such as a credit card.
- Repair white scratches with stain markers. Dents and chips can be concealed with wood putty, wax crayons, or wood epoxy sticks.
- Maintain home climate between 60F and 80F with humidity between 30% to 50% year round.
- UV light can cause wood and bamboo to lighten or darken overtime. Periodically rearranging your area rugs and furniture will allow the floor to antique or age evenly.

Protection

- Use mats at entrance doors to collect dirt, grit, and wet shoes
- Only use breathable rugs and rug pads that are safe for hardwood floors. Verify with rug manufacture. Do not use PVC, petroleum or solvent based backings.
- Use floor protectors and wide-load bearing leg bases for heavy object like fish tanks, pool tables, and pianos.
- Do not walk on your floor with stiletto heels, shoes with sports cleats or exposed metal parts.
- Keep pet nails trimmed to prevent scratching the floor.
- Use protection when moving heavy furniture or appliances. Never try to slide or roll heavy objects across the floor.
- Felt pads should be used under chair legs. Use soft rubber castors or felt castors on office chairs.



CAUTION: WOOD DUST Cut flooring outside

Sawing, sanding and machining wood products can produce dust. Airborne wood dust can cause respiratory, eye and skin irritation. The International Agency for Research on Cancer (IARC) has classified wood dust as a nasal carcinogen in humans.

Precautionary Measures: Cut flooring outside. Equip power tools with a dust collector. If high dust levels are encountered; use an appropriate NIOSH-designated dust mask. Avoid dust contact with eye and skin, USE EYE AND EAR PROTECTION. First Aid Measures in case of irritation: flush/rinse eyes or skin with water for at least 15 minutes.

TO OBTAIN ASSISTANCE WITH PRODUCT INFORMATION, PLEASE CONTACT THE STORE OF ORIGINAL PURCHASE OR CONTACT CUSTOMER CARE AT 800-366-4204. VISIT THE "FLOORING 101" or www.lumberliquidators.com FOR INSTALLATION TIPS AND ADDITIONAL WARRANTY INFORMATION.