

Engineered Flooring Installation Guidelines

A. INSTALLER/OWNER RESPONSIBILITY – BEFORE YOU START

Inspect all flooring material carefully for correct product and visible defects BEFORE INSTALLATION. Once the floor is installed, it is deemed to have been inspected, approved and accepted. Warranties do not cover visible defects once they are installed. (Based on industry standards a defect/irregular tolerance of up to 5% is allowed).

Hardwoods is natural product and may vary in color and character from display models and literature. As all wood is unique, with no two pieces alike, verify color and character with the "samples" from which the floor was selected to ensure it meets the homeowner's expectations prior to the installation. If product is not acceptable, DO NOT INSTALL IT. Contact your supplier immediately for assistance.

It is the responsibility of the installer/owner to ensure subfloor and jobsite conditions are environmentally and structurally acceptable for wood floor installation. Problems or failures related to deficiencies in subfloor or job site damage after installation are not covered by warranty.

All wood will react to the moisture in the environment and as a result will expand or contract accordingly. All sources of moisture must be rectified prior to the installation of the floor, and moisture levels in rooms fitted with wood flooring should be maintained at a stable level, in line with normal living conditions. Any construction dampness must be completely dry.

Engineered hardwood floors require a Relative Humidity of 35%-50% continuously throughout the entire year. Installation over in floor radiant heat requires a Relative Humidity of 40%-55% continuously

GSF is designed to perform within a typical residential environment. Wood installed in areas where relative humidity is below 35% may cup and shrink. (A humidifier may be necessary to keep the relative humidity within recommended levels of 35% to 50%) Flooring installed on wet subfloors may crown and buckle.

Correct any overly dry or wet conditions before installation

B. PRE INSTALLATION/JOBSITE REQUIREMENTS

ACCLIMATION IS CRITICAL

Acclimatize engineered flooring for a minimum of 48 hours. Proper acclimation is particularly important in extremely dry climates.

We recommend you leave the products in their original packaging until time of installation at a temperature of 17°C to 27°C at 35% to 50% relative humidity in the area in which the flooring will be installed. If it is possible, open boxes at both ends to allow air to circulate through planks. If planks are covered with plastic wrap cut plastic at both ends to allow for proper air circulation. Use a moisture meter to monitor the flooring and job site conditions as they acclimate.

Room temperature and humidity of installation areas should be consistent with normal year round living conditions for at least One Week before installation of wood flooring. Room temperatures of 17°C to 27°C and a humidity range of 35% to 50% should be maintained entire year.

The moisture content (MC) of hardwood should generally be between 6% to 9%. If plywood is used for subfloor the MC should be no more than 2% between the wood flooring and plywood subfloor

HANDLING AND STORAGE

Hardwood flooring should be one of the last items installed on any new construction or remodel project. All work involving water or moisture should be completed before installation of flooring

Do not deliver wood flooring to the job site until the building is entirely closed and until appropriate temperature and humidity conditions have been achieved. Appropriate temperature and humidity conditions are defined as those conditions to be experienced in the building after occupancy

HVAC should be in operation before and during installation. Room temperature and humidity of installation areas should be consistent with normal year round living conditions for at least one week before installation of wood flooring. Room temperatures of 17°C to 27°C and a humidity range of 35% to 50% should be maintained entire year.

Keep Flooring Dry: Protect flooring from moisture during storage and transportation. Store material in a flat dry and totally enclosed area. Garages exterior patios for example are not acceptable areas to store wood flooring.

Types:

- . CD: Exposure 1 plywood, minimum ¾" thick
- . Solid board: 1"x6" wide, square edge, kiln dried
- . OSB: Exposure 1 (minimum ¾" thick)
- . Concrete

The subfloor must be clean dry and flat. If necessary, sand or plane high spots and fill low areas using a cement based patching leveling compound. Secure any loose boards or panels to prevent squeaking. The surface temperature of the subfloor at time of installation should be at least 17°C to 27°C but never exceed 27°C.

Damage due to moisture issues is not a product failure and is not covered by our warranty

C. SUBFLOOR TYPES AND CONDITIONS

BASEMENT AND CRAWL SPACES: Keep dry and ventilated. Crawl spaces must be a minimum of 18" from ground to underside of joists. Exposed earth should be fully covered by a minimum 6 mil black polyethylene vapor barrier with joints overlapped and sealed with a moisture resistant tape.

CONCRETE SUBFLOOR: New concrete should be completely cured for at least 50-60 days. Test for excessive moisture. A reading of over 3lbs/1000sq.ft by Calcium Chloride test requires the application of a vapor retarder

Existing screeds/concrete must be checked for moisture. This can easily be carried out using a moisture meter, or alternatively sheets of polythene approximately the size of 1 meter x 1 meter square can be taped on to the screed and a heavy weight placed on top for 24 hours. Presence of moisture in the screed will be confirmed if the screed is discolored, or if moisture is apparent on the underside of the polythene. If moisture is present, i.e. over 12%, wood floors must not be fitted until the problem has been rectified. Please seek a professional installer's advice for options to resolve.

Ensure concrete has a minimum of 3000 PSI Compression. Over a lightweight concrete less than (less than 3000 PSI) use a floating installation. To check for lightweight concrete draw a nail across the top. If it scratches or indents, it is probably a lightweight concrete

WOOD SUBFLOOR: When floating over a wood subfloor cover wall to wall with an underlayment overlapped 8" at seams (follow underlayment manufacturing instructions). It is recommended to tape overlapped edges with a cellophane tape. To prepare wood subfloor for installation re-nail any loose areas to prevent squeaking. Sand or plane high spots and fill low areas.

The moisture content of a wood subfloor should not exceed 12%. In general the moisture content of hardwood flooring is between 6% and 9% and the difference between the subfloor and flooring should not exceed 2%.

Over Radiant Heated Floor:

Consult with the manufacturer of your radiant heating system to ensure that it is compatible with engineered hardwood flooring. Temperature must never exceed 27°C and changes in temperature settings must be gradual. Rapid temperature changes and/or excessive heat will damage the flooring and/or the finish. Humidity must be maintained between 40% and 55% continuously throughout the entire year. It is the RESPONSIBILITY of installer/owner to confirm the suitability of the radiant heating system for use with this product. Any damage to the floor caused by the radiant heating system will not be covered by the product warranty.

Radiant Heat Subfloors can be concrete, wood or a combination of both.

The type of subfloor determines the subfloor preparation.

If the Radiant Heat subfloor is concrete the system should be fully operating at a normal temperature for a minimum of 21 days prior to floor installation, to dry out residual moisture.

The system MUST then be turned off 24 hours prior to installation and must remain off for 24 hours after installation so that the adhesive does not cure excessively fast. After the 24 hours, the system temperature can be gradually raised again (over a 7 day period) up to the desired level.

The maximum allowable subfloor surface temperature over radiant heat is 27°C.

Radiant heat is a dry heat. A humidification system is recommended to maintain wood flooring in its comfort zone. Surface checking, excessive gapping, etc. can be expected if the proper humidity level is not maintained between 40-55% continuously entire year, or the surface temperature exceeds 27°C.

To minimize the effect that rapid change in temperature will have on the moisture content of the wood floor, an outside thermostat is recommended.

INSTALLATION METHODS:

FLOATING

Install over approved subfloor. A minimum 6 mil poly vapor retarder should be used over a concrete subfloor. In some cases, this may be part of the flooring underlayment. A foam or resilient approved underlayment must be installed prior to installation of wood flooring. Use Tongue & Groove flooring adhesives for Grooves.

GLUE DOWN

Use over an approved subfloor. Use only approved adhesives. For grooves use Tongue & Groove flooring adhesives for groove.

STAPLE / NAIL DOWN

Install over approved subfloor. Be sure fasteners are not so long as to penetrate the heat source.

D. GENERAL INSTALLATION:

Engineered Flooring can be installed above, on-grade or below-grade. Installation methods can be either: Direct Glue, Floating or Nail/Staple.

IMPORTANT

Due to the extra width and length of planks, it is recommended to glue all end joints, regardless of the installation method. This can reduce excessive seasonal gapping.

GLUE DOWN METHOD

Carefully read and follow the instructions provided by the adhesive manufacturers for the use and application of their product.

The recommended trowel size is a V-notch 1/4" x 1/4". Check with your flooring retailer for other adhesives and sealers that are compatible with engineered floors.

CAUTION

Adhesive that is allowed to dry on the plank surface can be difficult to remove and may leave a haze. Be sure to clean any surplus adhesive off surface of plank as you go.

The first step is to find a starting line from the wall the width of 2 or 3 boards plus a 3/8" expansion space. Nail or fasten a holding board, i.e. 1" x 2' (1-inch x 2 feet) or 1" x 4' (1-inch by 4-feet) length of straight wood along the line, this will help keep the first rows straight and firmly in place. Apply the adhesive to the subfloor (including the T&G adhesive in end joints) and place the first plank down up against the holding board with the groove side facing the wall. Continue laying the first row using the tongue and groove method. Tighten all joints by the use of a wooden or plastic tapping block and soft mallet. Gently knock the boards in from the tongue side. Never use a hammer directly on the plank as this can cause damage to the finish. Use a pull-bar to pull the last row into place and tighten joints. **Remember to clean surplus adhesive as you work.** Continue laying the second row, staggering end joints of boards from row-to-row a minimum of 16" apart. If necessary use blue installers tape to maintain a tight floor. Repeat row-by-row using the same method until the entire section is complete. Remove the holding boards and complete the area from the starting boards to the wall.

COMPLETING THE JOB: Roll every 2 to 3 hours and on completion with a 100lb. to 150lb. roller to ensure all planks are flat and in contact with the adhesive. Remove blue installers tape within 3 hours. Remove any spacer wedges. Cover all expansion spaces along walls with moldings. Always nail moldings to the adjacent wall, not the flooring! Clean, sweep, and vacuum installed flooring before use.

FLOATING METHOD

When choosing the floating method for engineered wood, it is critical that the subfloor is flat to within 3/16" per 10' radius. Green touch will not honor warranty claims for products damaged due to plank movement or flexing due to an uneven floor.

For floating installation, a 6 mil., age-resistant polyethylene plastic sheet is required as a moisture barrier. Lap up walls 4". It is also required that a 15lb. asphalt saturated felt (rag paper) be used as an underlayment above the moisture barrier to reduce sound. You can also use a 2 in 1 product that incorporates both a moisture barrier and sound barrier in ONE sheet, e.g. Follow underlayment manufacturer's instructions.

Install cushioning underlayment running same lengthwise direction that you plan to install the flooring. Decide which direction the flooring will run. Starting from left to right across the floor, begin by snapping a chalk line the width of the plank (e.g. 7 1/2") plus the 3/8" expansion space, off the starting wall. Nail a series of holding boards (i.e. 1" x 4" lengths of wood) along the chalk line, this will help keep the first rows straight and firmly in place. Lay the first plank and align with chalk line, up against the holding boards with groove side facing the wall. Take second plank and apply a tongue and groove wood adhesive i.e. (*follow adhesive manufacturer's instructions*) to the groove on boards end, and join to first plank. Continue same steps until first row is completed. When reaching the end of the first row, cut the last board to fit; use spacing wedges to maintain a 3/8" expansion space between wall and end of plank. Make sure all end joints are tight and square. **Remember to clean adhesive as you work.** Begin the second row by cutting board - if necessary - to ensure a staggered end joint of approximately 16" between end joints of adjacent planks. Apply tongue and groove adhesives to end and side grooves; join to first row, repeat until second row is complete. The floor can be installed in successive rows or with a stair-step approach. The stair-step approach ensures a tighter fit for the first few rows and limits board separation during the initial set-up. Always use a random pattern to begin installation. Tighten all joints by the use of a wooden tapping block to gently knock the boards in from the tongue side. Do not use excessive force and never use hammer directly on the plank. Use special pull bar to tighten joints from the sides. Use clamps or blue installers tape to hold joints together (remove blue tape within 3 hours and remove any tape adhesive residue). The last row may need cutting lengthwise to fit (remember to allow expansion space). Use a pull-bar to pull last row in place and tighten joints. Use spacing wedges to maintain the space.

COMPLETING THE JOB: Allow finished floor to be free of traffic for a minimum of 8 hours and before spacing wedges are removed. Be sure all expansion spaces are covered with appropriate moldings. Always nail moldings to the adjacent wall, not the flooring! Never attach any molding to a floating floor. Clean, sweep, and vacuum installed flooring before use.

STAPLE/NAIL DOWN METHOD

Due to extra width and length of planks, it is recommended to glue end joints. Staple/nail-down installation uses supplemental adhesives. All end joints should be glued with Tongue & Groove flooring adhesives.

Carefully remove any baseboard trim around the perimeter of room. Save for replacement after floor is installed. Cover wood subfloor wall to wall with the vapor retarder or 15 lb. asphalt saturated felt. Overlapped 4" at seams. This will not only retard moisture, but may help prevent squeaks. Snap a working line along the longest continuous wall allowing 3/8" expansion space. Direction of the planks should be at right angles to the joists for highest strength of flooring. Lay one row of planks along the entire length with groove facing the wall. If necessary, use spacing wedges to maintain expansion space. Top nail the first row, placing nails perpendicular to the surface as close as possible to the wall so that after completion the head of the nail will be hidden by the base molding. Apply T&G glue to all end joints. **Remember to clean surplus adhesive as you work.** Blind nail the other side of the plank through the tongue (use 1 1/2" length nails with a 3/4" ply subfloor) with the nail slightly inclined and the head driven flush. Staples should be placed 3" to 4" apart and cleats every 4" to 6" apart. All fasteners should be placed 1" to 2" of end joints. Hand nail the first row if necessary, then a nailing machine can be used. Start second row in the same manner. If necessary, cut the first board to stagger end joints of boards a minimum of 16" from row-to-row. From second row onward nailing is done on the tongue side only. Use a tapping block or soft-head mallet to engage tongue & groove. A hard-head mallet can damage the milling of the plank. The last row usually requires cutting the plank lengthwise to fit the space (remember to maintain the expansion gap). Nail the last row in the same manner as the first.

COMPLETING THE JOB: Once the nailing is complete, remove any spacing wedges and install the base molding. Always nail moldings to the adjacent wall, not the flooring! Clean, sweep and vacuum installed flooring before use.

Stapled or nailed-down products are not warranted against squeaking or popping sounds.

Inspect the completed floor for any scratches, nicks and minor gaps.
Use touch-up kit, filler or wood putty as needed.

TOOLS: Some standard tools you may need include: Tape Measure, Wooden Tapping Block, Rubber Mallet, Power Saw, Blue Painters Tape, Wood or Plastic Spacers, Pry Bar, and Chalk Line.

FOR STAPLE/NAIL DOWN: Air Staple/Nailer with appropriate nail down adapter. Use a prefinished foot to protect finished edges.

NOTES: For areas larger than 20' x 20', more spacing between rows may be needed depending on geographical area, site environment and time of year. (Refer to *NWFA Installation Guidelines, Section III, Chapter 9*).

Seasonal gaps can be expected, especially on wider planks. This is normal and not a defect.

We recommend, if possible the use of a NWFA (National Wood Flooring Association) Certified professional when installing floor.

After Installation it is important to maintain the environmental conditions in the home within the ranges outlined in these instructions (see PRE-INSTALLATION/OBSITE REQUIREMENT, Section B). Failure to keep the humidity and temperature within the recommended ranges can result in damage to the floor.

E. CARE & MAINTENANCE

Green Touch engineered flooring is a high quality, natural wood engineered flooring with a water-based, lacquered surface finish.

NEVER USE a wax or oil based cleaning product on a Lacquer finish

All purposed cleaners are **not** recommended as they can dull your floor's finish or leave a hazy residue.

Today's hardwood floors are quick and easy to maintain; and with a little preventative maintenance, can look beautiful for years to come. All hardwood floors should be cleaned regularly. Simply sweep, dust mop, or vacuum to remove grit and dirt. When necessary, clean floor with hardwood floor cleaning product (carefully follow cleaning instructions). Avoid using a wet mop as over time this can damage the finish. Remember: water and wood do not mix.

DO'S:

- Sweep, vacuum, or dust mop regularly.
- Immediately wipe up liquid spills with cloth or paper towels.
- Maintain with hardwood floor cleaner for un-waxed/un-oiled finishes.
- Use felt protectors or furniture coasters under heavy furniture.
- Close curtains or blinds to limit direct sun exposure.
- Maintain room temperature (17°C to 27°C).
- Maintain relative humidity in room/building between 35-50% year-round.
- Caster wheeled chairs should have wide casters.
- A protective mat should be placed under office chairs.
- In areas with icy or snowy winters, extra protection against salt and grit may be needed.
- Place mats and throw rugs at doorways, exteriors and interiors to help prevent the tracking of grit, dirt and sand.
- Remember that cleats, sports shoes and high heels can dent any floor surface.
- Place an area rug in front of the kitchen sink to catch water.

DON'TS:

- Use oil base soaps.
- Use paste wax based products (NEVER wax a lacquered finished floor).
- Drag sharp wooden legs or metal furniture legs as it can scratch/dent hardwood floors.
- Expose to direct sunlight for extended periods of time as it may dry/fade natural wood.
- Use steam cleaners. They are not recommended for use on natural wood flooring.
- Place porous flower pots or vases on the floor.
- Use steel wool or scourers.
- Move heavy furniture without protecting wood flooring by slipping a piece of cloth or pile under the legs or bottom of items.
- Wet-mop a wood floor. Standing water can dull the finish, damage the wood, and leave a discoloring residue.

COLOR CHANGE: Normal exposure to sunlight, heat, air conditioners, etc. will bring about natural changes in the original color as the floor ages. If possible, use blinds or drapes to protect floor from excessive sunlight. When some areas of the floor are covered, as in large furniture pieces and area rugs, the change under these pieces can be lighter than the surrounding floor, as they are not exposed to the same conditions. This is normal and is not a defect. Rotating the position of area rugs and furniture from time to time will allow the covered areas to slowly adjust in color to the surrounding floor.

SURFACE CHECKS: During the winter months of low humidity, minor surface cracks (checks) may appear in wood flooring, then often close up again in the summer months when the humidity is higher. This is a normal characteristic of natural wood and not a basis of a complaint against the manufacturer especially if there is no structural failure. To minimize checking, follow the guidelines for maintaining the environment in the home on page 1.

SEASONAL GAPS: Seasonal gapping can be expected, especially on wider planks. This is normal and not a defect. Throughout its life, wood will naturally expand and contract in response to the wet and dry seasons and also from the environmental conditions in the home. To keep these dimensional changes to a minimum, maintain the home temperature and relative humidity within the range outlined in *Section B, Pre-installation/Job Site Requirements*.



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