

## GRANDEUR Installation Guide:

### Hardwood

*Please read all information on this page thoroughly for information regarding storage, preparation for and installation of your new hardwood floor.*

### STORAGE & HANDLING

Hardwood is a natural material that can be affected by temperature and humidity levels of its surrounding environment. All wood products will expand when the relative humidity level is high and shrink when the relative humidity level is low. It is important to maintain the relative humidity level where the engineered floor is installed at between 35% and 55%, and room temperature must be consistently kept at 18 C (65 F) to 24 C (75 F). These conditions must be maintained throughout shipping, storage, installation, and thereafter. Failure to do so will void your product warranty.

Do not transport flooring products under raining or damp conditions. Handle and unload flooring products with care, and store in a dry and well-ventilated place. Flooring shall not be delivered until the building has been enclosed with windows, doors are in place, and cement work, plastering, and all other wet work are completed and dry. HVAC systems must be in place and in operation at least 14 days prior to installation of the flooring and must remain operating during and after installation.

In addition, prior to installation of flooring, exterior grading must be completed with surface drainage offering a minimum drop of 3 inches over 10 ft to direct the flow of water away from the building. All gutters and drainage spouts must be in place. The soil around the house must be treated or graded to provide sufficient drainage.

Never install hardwood floors in areas exposed to excessive moisture.

Both before and after installation, your hardwood floors will absorb or release moisture. Hardwood will typically expand in the summer months and contract during the winter. It should be ensured that acceptable humidity levels are maintained prior to and following the installation of wood flooring

*The following considerations are vital for ensuring the functionality and longevity of our products, failure to adhere to them will void your warranty.*

### ACCLIMATION

To achieve the best results, acclimation is recommended for engineered products. It is advised that engineered products be allowed 4-5 days respectively to acclimatize, or until they rest comfortably within the suggested relative humidity levels.

### SUBFLOOR

#### Subfloor Conditions

Ensure that your subfloor is *Structurally Sound*. The subfloor should be adequately nailed, screwed, or glued down prior to the installation of your floor, failure to do so will cause issues such as squeaking and more. It is also important to check that the subfloor is *Level and Flat* prior to installation. If hardwood is installed on uneven subfloors, end joint separations may occur. The subfloor must also be *Clean* and cleared of any debris that may interfere with the floors or the installation. Lastly, the *Moisture* levels of the subfloor should be *DRY* and measured prior to installation using a moisture meter. Moisture levels should not exceed 4 percent for concrete and 12 percent for plywood.

#### Subfloor Types

##### Plywood

Plywood subfloor is suitable for use with any of our engineered products.  $\frac{3}{4}$ " Plywood is ideal for subfloors, however the minimum thickness used should be  $\frac{5}{8}$ ".

##### O.S.B.

Oriented Strand Board (O.S.B.) is an alternative to plywood made up of 3-4-inch strands of wood which are layered and glued together, then pressed. We advise the use of  $\frac{3}{4}$ " or 23/32" stamped exterior grade O.S.B. Building codes in Canada call for a minimum  $\frac{5}{8}$ " O.S.B., and we strongly recommend the use of glue assist for O.S.B. applications.

##### Concrete

For new concrete, allow a minimum of 60 days cure time prior to the use of concrete moisture tests. Various methods and testing devices exist to check the moisture level of a concrete subfloor.

#### Subfloor Testing

##### POLYETHYLENE TEST

Polyethylene test (ASTM D 4263), surface test. Tape a plastic film of 2'x2' (60 x 60 cm) over concrete for 48 hours to see if concrete changes color or condensation occurs. This information will indicate that the concrete floor is wet - and the hardwood floor should not be installed. This method is empirical and is a preliminary test, further analysis will be required.

### RELATIVE MOISTURE TEST

Relative moisture test (ASTM F 2170), thorough test. Using an ultrasonic sensor and a sensor, check the relative humidity of the concrete slab to 40 % of its depth. A reading of 75 % RH or less indicates that the concrete slab is ready to receive the wooden floor; a reading between 75% and 85 % indicates that it is preferable to place a waterproof membrane before installing the wood floor. Never install a hardwood floor when the moisture level is greater than 85%.

### CALCIUM CHLORIDE TEST

Calcium chloride test (ASTM F 1869), thorough test. A calcium chloride test must be conducted to determine whether the moisture content of the concrete exceeds 3 lbs./1000 ft<sup>2</sup> per 24 hours. If so, but less than 7 lbs./1000 ft<sup>2</sup>, one can use an approved waterproof membrane to cover the concrete. Never install a hardwood floor when the calcium chloride test exceeds 7 lbs./1 000 ft<sup>2</sup> per 24 hours. Concrete leveling is a very important point. Concrete must be flat/level within 3/16th over a 10 ft. span (5 mm over 3 m)

### Radiant Heat

Engineered hardwood floors will react differently to the drying effects of radiant heat depending on the type of radiant heat being used.

As the radiant heating market is still relatively new. Different types and models are being released every year; as such, compatibility with engineered flooring cannot be accurately substantiated or safely guaranteed.

Grandeur Flooring does not offer any warranties for engineered flooring installed with radiant heat.

## GENERAL INSTALLATION GUIDELINES

### Important

- Grandeur Flooring requires that hardwood flooring must be installed by an authorized professional. Failure to do so will void the product warranty for your flooring.
- It is the Installer/Homeowner's responsibility to ensure the jobsite, environment, sub-surface conditions and climatization meet all of Grandeur Flooring's requirements.
- Prior to installation, flooring should be inspected, if you feel in anyway the product is not to standard STOP installation and immediately contact your retailer.
- The installer or homeowner is fully responsible for all installed hardwood flooring. A 5%-10% waste allowance should be included with total square footage.
- Crawlspace or basement areas must be cross-ventilated, and covered entirely with proper vapor barriers, in accordance with NWFA Installation Guidelines.

### Preparation

STEP 1: Undercut doorjamb at the base door frames to the thickness of the flooring to allow a strip of hardwood to be inserted under.

STEP 2: Flooring must be installed at a 90 or 45-degree angle relative to the joists.

STEP 3: Installation should begin from the straightest wall in the room.

STEP 4: Expansion space should be allowed for mouldings. This space varies by the installation method.

STEP 5: Mouldings should not be attached directly to the flooring as it should not inhibit the floor's ability to move.

## NAILED DOWN INSTALLATION

### Glue Assist Recommendation (Planks Wider than 5")

- Grandeur recommends that hardwood planks wider than 5" in width be installed using "glue assist + nailed down" method.
- The purpose of glue assisting with a nailed down installation is to prevent squeaking of floorboards. The glue assist installation is a supplementary process, which does not replace or change the normal nailing schedule required for a nailed down installation.

*For T&G Engineered Floors with 3/4" thickness and wider than 5" it is required to glue assist to comply with Grandeur's warranty as well as NWFA Standards.*

STEP 1: Roll out the vapour retarder paper the length of the room. Cut it so it touches the outside walls, and overlap the inside edges 3" to 5" to completely cover the floor space of the room. Vapour retarder paper is the NWFA recommendation as an underlayment for hardwood flooring.

STEP 2: Select an air-assisted or manual nailer. *The use of proper size cleats/staples is imperative.* For 3/4" engineered floors use only 16-gauge cleats or 2inch nails.

STEP 3: It is best to run the hardwood flooring perpendicular to the joist at 90 degrees.

STEP 4: Allowing an expansion gap of plank width + 3/4" around the perimeter of the room, (the thickness of the material) along the wall, snap a chalk line for the width of a plank+3/4".

STEP 5: Place the edge of the boards along the chalk line with the tongue side facing the field area and the groove side facing the wall. Mix in or use boards that range in color, grain, and length.

STEP 6: Secure the first row to the floor. For face nailing, drill pilot holes at least 1" from the grooved side and 3" from the ends of the strip. Face drill into the plank approximately every 8-10". For best visual results, drill into the darker grain of the wood rather than the lighter. Use a nail punch to counter the sink. The use of putty is recommended even if

these nail holes will be covered by shoe moulding or baseboard, this helps to prevent the possibility of cleaning material entering the holes.

STEP 7: Blind nail on a 45-degree angle at least 1-2" from both ends into the plank's tongue approximately every 8-10". Complete the entire first row along the chalk line and check to see if you can start using your nailer without hitting any walls or objects. A second row of blind nailing may be required. Do not face nail on the second row.

STEP 8 Stagger the end joints by at least twice the plank's width. For example: using a 3 1/4" wide plank would put the next row's end joint no closer than 6 1/2". Ensure that there is a nail approximately 1-2" away from both ends of the board.

STEP 9: Start using your nailer or stapler every 4-6" and 1-2" at both ends. Rack out your floor using 3-4 boxes. Again, mix longer and shorter boards, and vary the lights and darks, as well as mixing in the different grain patterns to provide the best possible natural wood look.

STEP 10: Continue each row. When cutting the last board of a row, you can use the remainder of the board for the next starting board, if it is larger than 6".

STEP 11: As you approach the last few rows, the use of the nailer will not be possible. Therefore, you must blind nail as mentioned earlier, every 8-10" and 1-2" from the ends of the boards.

STEP 12: Face nail and putty in the last row. Remember to nail only in the darker grain to help hide these holes. Don't forget to leave a 3/4" expansion gap.

STEP 13: If it is necessary to finish the installation of the last row with a narrow width board, measure the boards and allow a 3/4" expansion area in your calculations and cut the boards on a table saw.

## GLUE DOWN INSTALLATION

*For T&G Engineered Floors with 3/4" thickness, follow the adhesive manufacture's instruction carefully and test a small amount on subfloor for adhesion bonding.*

*Warranty may be voided when there is improper use of adhesive or trowels. Always hold the trowel at a 45° angle, pressing firmly. Replace trowel when teeth are worn*

It is recommended that planks be installed parallel to the outside wall which is usually the longest and straightest. Add the thickness of the boards for your expansion gap. (ie: 7 1/2" board + 3/4" thickness = 8 1/4")

STEP 1: Select an air assisted or manual nailer. Follow subfloor moisture preparations.  
STEP 2: Spread out enough adhesive so you

can work within the available set up or work time. The freshly applied adhesive must leave trowel marks/trowel ridges. Only apply adhesive up to your chalk line and not over it.

STEP 3: Use 3 to 4 cartons at a time. Mix in or use boards that range in color, grain, and length. Place the planks into the wet adhesive with the groove side on the chalk line and facing the outside wall. This is the same direction to that of a nailed/stapled down installation. Ensure that the 1st row is exactly on the chalk line. Use different board lengths, grain, and color tones within each carton to give you a better visual of natural wood.

STEP 4: Cut off the last piece in your starting row, leaving proper expansion space from the wall 12 mm (1/2") from the wall and use it as your 1st piece or starter board for the 2<sup>nd</sup> rows. It is best to not use a piece under 6" as they tend to move out of position. Continue each row, engaging the groove into the tongue along the side 1st, then the end to be engaged 2nd. Avoid, if possible, end joint cluster by staggering ends by twice the plank width.

STEP 5: Complete the project area. For the last board, leave again a proper expansion gap away from wall. If it is necessary to finish the last row with boards less than a full board width wide, then cut or rip along board width using a table saw.

STEP 6: Before installing the last plank, choose the one that matches the moldings.

STEP 7: Avoid any traffic on your new installation for 24 hours. If this is unavoidable, use a kneeler board to help distribute the weight and movement.

## Note:

- For the best performance, we recommend double gluing the planks which involves applying adhesive to both the plank and the subfloor.
- For optimized acoustic and stability, we recommend using membrane with double-glue characteristics.
- Adhesives have a setup time that may vary from brand to brand.
- Never slide or drag a board along the applied adhesive as adhesives have an elastic memory and will move back or away from position.
- It is considered good practice to check occasionally that you have enough adhesive transfer on the back of the hardwood planks.
- Do not install cabinets or walls on top of the flooring