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## **Installation requirements for Tongue & Groove Engineered hardwood flooring**

Our engineered hardwood floors are environmentally friendly. Our wood is responsibly sourced and certified. It may surprise you to know that we use timber more efficiently, and with less impact on the environment than a traditional solid timber floor.

**\*Please ensure packaging remains sealed until installation.** The installation of Engineered hardwood flooring should be the last work completed in any renovation or build.

All exterior walls, windows, and doors must be installed.

All wet work such as painting, drywall, masonry, and concrete must be completed and allowed ample time to dry.

**\*Do NOT start installing floor until other works are completed,** painting and tiling can affect moisture levels. Freshly plastered rooms will require a dehumidifier to draw excess moisture out prior to storing flooring in the room.

### **Pre-installation**

**Storage and care:** The packs of engineered hardwood flooring must be stored indoors out of direct sunlight in a dry, cool environment at least 8" off the ground.

Packs must be kept completely flat and well supported with an ambient room temperature of 64°-75°F.

**Acclimatization:** the floorboards will need at least 48 hours to acclimatise to the temperature of the room where they will be installed. Do NOT open the packs until the day of installation to avoid moisture affecting the floorboards.

**Subfloor preparation:** Ensure the subfloor is dry, level and clean prior to installation.

Any uneven areas exceeding 1/8" over 3' in any direction needs to be levelled prior to installation.

Self levelling compound can be used but must be allowed to completely dry-out prior to installing the flooring.

The surface temperature of the subfloor, should be a least 59°F but does not exceed 81°F.

Check moisture levels prior to installing floor. Most new builds have high relative humidity. Ideal conditions are between 35-55% relative humidity, but never below 30% or above 60%.

Ensure room temperature is a minimum of 59°F and maximum of 81°F.

**Basements or crawl spaces** must be dry and well ventilated.

Crawl spaces must be a minimum of 18" from the ground to the bottom of the joist. Dirt floors in crawl spaces should be covered with a 6-10mil black plastic lining to reduce moisture migration. Seams should overlap and sealed with waterproof tape.

Perimeter crawl space cross ventilation should equal 1.5% of total area, vents must remain open year-round.

**Underlay:** Age resistant polythene membrane plastic sheets (0.2mm thickness) are vapor barriers and are necessary for a floating floor installation, as well as sound insulation. Ensure vapor barrier has sufficient overlap of at least 8" and use a suitable vapor barrier adhesive tape to seal overlap.

Acoustic underlay such as a natural rubber underlay may also be used if noise from footsteps is an issue (sometimes in high rise buildings) but this should never exceed 4mm in thickness (foam or natural rubber) and should still be applied over a suitable vapour barrier.



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**A moisture barrier** is required on subfloors:

Concrete ground-supported slab.

Subfloors located in areas of humidity i.e. above heating systems or laundry rooms.

Structural floors above ventilated crawl-spaces.

Lightweight subfloor structures of concrete.

Underfloor heating.

**Opening packs:** Open 3 to 5 packs at a time, and loose lay the floorboards to ensure color and wood characteristics are suitably mixed prior to fitting. Each floorboard should be carefully checked prior to installation. Never install a damaged or unsuitable floorboard. **Installation is considered acceptance of each floorboard.**

**N.B.** If floorboards are damaged, please notify your distributor immediately - claims must be raised prior to installation. All claims must be made in writing, and must include evidence of the purchase date, the identity of the original purchaser and the installation location. Without this information, no warranty coverage will apply.

Wood is a natural product with natural variations in color, grains and characteristics, these attributes are NOT defects.

### **Engineered Floor installation with underfloor heating**

Prior to installation, ensure the underfloor heating system has been thoroughly tested. For new heating systems, they should be tested for 2 weeks prior to the floor installation, this allows for any excess moisture to evaporate before installation of engineered floor.

**Engineered flooring** can be used with underfloor heating only under specific and specialised conditions. Both electrical and Hydronic underfloor heating systems can be used. However, certain parameters must be established prior to installation and while running the heating system.

**The floor heating system** must be switched off 48 hours prior to installation and switched on one week after completion, with a gradual increase in temperature.

**The heating system** MUST have the heat evenly distributed throughout the whole floor. Spot heating, or specific area heating within a larger floor is not permitted. Excessive heat concentration in one area may cause deformation or movement in the engineered floor.

**N.B** Hydronic underfloor heating systems offer a more even distribution of heat whereas electrical systems can have "hot spots". The maximum surface temperature of an engineered floor with a Hydronic underfloor heating system is 84°F.

**The heating system** must have sensors with memory capabilities, set in at least 2 locations. An in-floor direct contact temperature sensor and an outside temperature sensor.

**Electric radiant heating system** the surface temperature must NOT exceed 81°F.

**No heavy textile floor covering** should be placed over the heated floor. If light carpets or rugs are used, the temperature under the textile floor covering must not exceed 81°F or 84°F with a Hydronic underfloor heating system.

### **Caution:**

Electric radiant heating system should not exceed 80 watts per 3sq ft.



## Planning installation

All engineered floors expand and contract with humidity. Expansion gaps are required on all sides of the room. **Failure to provide adequate expansion space in any single location can cause damage to the entire floor.**

**Layout of Floorboards** lay your floorboards lengthwise against the longest wall of the room, starting at the furthest corner from the entrance.

Measure and plan the floor prior to installation, calculate the first and last floorboard width.

Plan carefully to allow for expansion gaps of a minimum of 5/8"

To ensure a completely level floor throughout its lifetime, a minimum of 20" distance between one head joint and the head joint of the next row should be allocated when preparing the installation layout.

Always randomly stagger end joints.

The width of the floorboard in the last row should not be less than 2".

Ensure the first row is completely straight using a laser line as most walls rarely run straight.

**Expansion allowance** of 5/64" for every 3' is required with a minimum of 5/8". The floor needs to be able to expand at all thresholds, pillars, door frames and transitions to other tiled or parquet surfaces. For all fixtures and fittings, ensure that they are fitted prior to installing the floor. We recommend movement joints around fixtures e.g. kitchen islands or wall partitions. Use spacing wedges during the installation to assist in maintaining consistent expansion gaps.

**Larger rooms** (e.g. halls, assembly rooms, dance floors) will require greater allowance for expansion, we recommend an expansion joint in the middle of the room. For floating installations, exceeding 30' across the width of the floorboards or 50' along the length of the floorboards, you will need an expansion joint midway through and cover with T-molding.

## Installation of Floorboards with Tongue & Groove profile

Tongue & Groove allows the floorboards to be joined together either as a Floating floor, glue or nailed down to the sub-floor. When installing a floating floor, always apply glue to the upper end of the groove, this includes the groove at the head joint (short end). Apply glue in a continuous line, never dots. Any excess glue which comes to the surface should be immediately wiped off with a damp cloth, to avoid damaging the surface of the floorboard.

**Moisture barrier** and possibly Acoustic sound barrier (if needed) as detailed above.

**Underfloor heating**, the vapor barrier is laid as close as possible to the engineered floor. There should be NO space between the vapor barrier and the flooring to prevent easy exchange of moisture.

**Flooring** must be installed as tightly as possible to the subfloor. There should be NO gaps or separation from the subfloor, air spaces may lead to the floor drying out (see note above re subfloor deviation/tolerance).

**First floorboard**, first row the groove side of the floorboard faces the wall.

**Spacers** are required between the wall and the first row to help achieve the required expansion gap. Use laser or string line level to check the wall for deviations and adjust/trim flooring as required to achieve a perfectly straight first row.

A **wooden tapping block** must be used against the tongue side to knock the floorboards together, do not use force to join the boards or hit directly with a hammer.



Allow a minimum distance of 20" between one head joint and the head joint of the next row .

**After installation** remove spacing-wedges, apply a profile above and secured only to the wall such as quarter round or skirting board. Never fix to the flooring, as the floor must be allowed to move under the profile when expanding or contracting.

Skirting boards must be fixed directly to the wall, and NOT onto the floorboards. The skirting boards should not press down on the flooring as it may impede natural movement. (Climate variations are easily concealed with skirting boards).

## GLUE & NAIL DOWN INSTALLATIONS - Instructions

GLUING	NAILING
<p><b>Adhesive</b> The adhesive used has to be a urethane or non water-based, such as Bostik Best urethane wood flooring adhesive or equivalent. It is critical that the adhesive has a degree of elasticity to allow the floor to expand and contract during seasonal changes of humidity. Under no circumstances use non flexible adhesives such as liquid nails.</p>	<p><b>Special Tools Needed</b> Nail Set. Tack Stapler for roof felting. Edge or Blind Stapler/Nailer either manual or pneumatic.</p>
<p>Spread the glue according to the manufacturers' instructions using an appropriate glue trowel. Ensure the glue is between the marked chalk lines.</p>	<p>Use 1¼ - 1½" fasteners for floorboards with a thickness of 5/8"</p>
<p>Towards the end of the installation, leave the last 3 boards uninstalled to allow for a walkway out of the room. Most adhesives require 24 hours to cure adequately.</p>	
<p>Dry lay the first row of flooring to replace the backer board including cutting the appropriate length for the starter piece keeping in mind the 20" distance to the next end joint and the last piece of the row.</p>	
<p>Trowel spread the adhesive on the back of the floorboards (not on the subfloor) and install the flooring, sliding the groove onto the tongue of the already installed starter row. Doorways and other openings may require installation of the flooring the same way (glue on the back of board). Slide the floorboards under the previously cut door trims and casings.</p>	<p>The nails should be approximately ¾" from the wall side (Groove side) of the floorboard. Nail every 4"-6". Proceed to blind nail the first row every 4"-6" along the long ends tongue and every 2"-3" along the short end tongue.</p>

**Draw a chalk line** along the full length of the wall to delineate starting installation line.

**Install backer boards** (cut up small pieces of unused flooring) as guides. Align the **guide blocks** along the starting wall of the chalk line, temporarily nail the guide blocks to the subfloor.

Proceed to **measure and mark with chalk** line the width of 2 floorboards. Do this for the full floor surface area. This will act as a guide to the sectionalize glue trowelling and ease of installation.



For the first row, align the tongue side and push the floorboards flush against the guide blocks. Place the first floorboard down, keeping the appropriate expansion gap between the short end of the floorboard against the wall. Place second floorboard by sliding the groove into the tongue, again ensure the short ends are flush against the guide blocks. For the final piece in the row, measure the length taking into account the required expansion gap and trim it. Install the floorboard.

Use the off cut from the previous row, as a starter piece for the second row. Ensure that the short end of the start piece is at least 20" away from short end of the previous row. Continue the installation of the next floorboard by sliding the tongue into the groove of the long side of the floorboard in the previous row. Ensure the floorboards are flush against one another with no gaps in the joints.

Use a tapping block or a pull bar to close the gap. When the row is installed, continue with installation of the next row as above.

The **following day** complete the installation, trimming the width of the last row not forgetting the expansion gap. Once the last row is installed, remove the guide boards at the starter row.

Complete the installation by reinstalling or installing new base moldings thick enough to cover the expansion gaps.

**Do not allow foot traffic on the floor for 24 hours after installation is complete.**

## ADDITIONAL INSTRUCTIONS FOR NAIL DOWN INSTALLATIONS

Align the floorboards in the first row with the groove side towards the starting wall and tongue side is aligned along the chalk line. Face nail the first row and ensure the nail is well hidden. The nails should be approximately 3/4" from the wall side (groove side) of the floorboard.

Proceed to blind nail the first row every 4" to 6" along the long ends tongue and every 2" to 3" along the short end tongue. Repeat until the end. For the final piece in the row, measure the length taking into account the required expansion gap and trim it. Install the floorboard.

Ensure the floorboards are flush against one another with no gaps in the joints. Use a tapping block or a pull bar to close the gap. Use the off cut on the last piece as the starting piece of the next row. Always remember to measure the starting piece to have at least 20" distance from the end joint of the previous piece.

For the last row, trim the floorboards not forgetting to add the expansion joints into the measurement.

At the finishing end wall, it may be necessary to face nail the last 2 or 3 rows.

## Post installation

Should further works continue, a moisture impermeable cover is recommended to protect the floor such as polythene sheeting (do not use waxed products).

Direct sunlight can alter the colour of the wood floor and care should be taken to cover the entire floor. Ensure the room is adequately ventilated to maintain an **ideal humidity which should be between 35% to 55% but never below 30% or exceed 60%**. Humidity levels below 30% or above 60% may cause movement in the floor, gapping between floorboards, cupping or cracking. Use of a humidifier or dehumidifier may be required to maintain constant humidity levels, particularly over radiant heat.

If dust is present, vacuum immediately, do not mop. Moisture can set plaster dust into the low grain of



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the wood making it very difficult to remove.

The floor needs to acclimatize for one week prior to switching on the underfloor heating or air conditioner, with a gradual increase or decrease in temperature.

To assist in maintaining even heating throughout the room, draught proofing around windows and entrances is recommended.

Floorboards which crack or cup due to excessive or rapid heating, or failure to maintain the recommended humidity levels will NOT be covered by warranty.

### **Care and maintenance**

Your premium quality flooring has been coated with a **formaldehyde-free, UV Urethane finish**, which is ready for installation and does not require any special treatment directly after installation. However, you should be aware that engineered hardwood flooring will naturally get worn; therefore some regular maintenance is recommended to protect and to preserve your floor's beautiful surface.

Please ensure that a healthy **room climate with 35%-55%** air humidity and 68°-77°F in temperature. These attributes in a climate is good for both your health as well as for the well being of the engineered hardwood flooring.

Ensure that any **moisture spillage is immediately cleaned** and dried up. Do not allow any moisture to pool on the surface, as this will cause damage to the floor.

**Regular cleaning** should be done with a gentle vacuum cleaner (with felt pads fitted to avoid scratching as well as NO rotating brushes), a static mop or a smooth floor-broom. Any sand or dirt should be immediately removed as it may scratch and damage the floor surface.

Any **cleaning** should be done using only a well wrung mop. Never use an overly wet cloth. When mopping with a damp mop, ensure that the residual water evaporates within one minute. If it takes longer, then there is too much moisture on the mop.

If required, the floor surface can also be cleaned with a damp mop or a special liquid soap to remove stains, grease, shoe tracks etc. Never use traditional wax or steel-wool on your lacquer-finished engineered hardwood floor.

**TIP: Always test a small hidden area when using a new cleaning product prior to committing to the whole floor.**

Wood is also affected by UV light and will change color when exposed for long durations. Floor coverings such as rugs and mats should not be placed immediately after installation. The floor should be allowed to stabilise for a few weeks. It is a good practice to remove floor coverings at regular intervals to avoid contrasting color changes over time.

It is highly recommended that you place felt pieces under any furniture bases or chair legs etc. to protect the floor surface. For high traffic entrance areas of halls or corridors a good floor mat is also recommended and will help preserve your floor.



## **Additional lacquering is not recommended.**

In case of any damage to the topcoat-surface (e.g. by furniture movement), seek the advice and assistance of a qualified installer or tradesman who is knowledgeable about engineered hardwood flooring.

TIP: Always test a small hidden area when using a new refinishing product prior to committing to the whole floor. Wood is a natural material, which swells when moisture or humidity levels rise and shrinks when moisture or humidity levels fall. These not only show that your floor is a natural product but can also lead to some irreversible deformation of the floor if the room climate and humidity is left too high or too low for an extended period of time. This can particularly happen if, for example during winter, the relative humidity in a heated room falls below the specified 35%. In this case you should install an air humidifier in order to prevent damage to your floor. The same may also be necessary with an air conditioned room.

## **APPENDIX – Types of Subfloors**

### **Plywood and composite subfloors**

Use a moisture metre to check the moisture content, of a specific wood types. Moisture readings should not exceed 10%.

CDX plywood should be at least 5/8" thick for joist spacing up to 16" on center, minimum 3/4" thick for joist spacing greater than 16" on center (19" maximum).

Oriented Strand Board - OSB at least 3/4" thick, PS 2-92 rated or PS 1-95 rated.

Grade particleboard with a minimum density of 40lbs can be used for Floating Floors.

### **Concrete subfloors**

Must be fully cured, poured at least 2 months prior to installation, and should have minimum 6-10mil poly-film between the concrete and ground.

Lightweight concrete can hold more moisture and may take longer to dry out to an acceptable moisture content.

### **Wood, ceramic, vinyl or tile subfloors**

Should be well installed. Failure of the subfloor is not warrantied. Wooden subfloors should be fixed using screws every 6" - replace subfloor panels/floorboards as necessary to eliminate movement and squeaking.

Ceramic tile must be well-adhered with a tolerance less than 3/16" over 10sq ft.

Vinyl and tile must be non-urethane-coated, and well-adhered to the subfloor.