

## ENGINEERED WOOD FLOORING – GUIDELINES

Beautiful hardwood floors are a product of nature and therefore, not perfect. Engineered wood floors are manufactured in accordance with accepted industry standards which permit a defect tolerance not to exceed 5%. The defects may be of a manufacturing or natural type. Prior to the installation of any engineered wood flooring product, the installer must determine that the job-site environment and the subfloor surfaces involved, meet or exceed all requirements as stipulated in these installation guidelines. We do not accept any responsibility for job failure resulting from or associated with subfloor surface or job-site environment deficiencies. The installer/owner has final inspection responsibility as to grade, manufacture and factory finish. He must use reasonable selectivity and hold out or cut off pieces with glaring defects, whatever the cause.

Use of stain, filler or putty stick for defect correction during installation should be accepted as normal procedure. When engineered wood flooring is ordered, 10% must be added to the actual square metres needed as allowance for cutting waste and/or mis-manufacture. Should an individual piece be doubtful as to grade, manufacture or factory finish, the installer should not use the piece.

Do not install any questionable or defective product.

NOTE: IT IS RECOMMENDED THAT YOU EMPLOY A PROFESSIONAL FLOORING CONTRACTOR WHO OWNS A MOISTURE METER TO LAY YOUR FLOORING. IT IS THE INSTALLER'S RESPONSIBILITY TO CHECK THE MOISTURE OF THE CONCRETE AND OTHER CONDITIONS IN THE HOUSE BEFORE LAYING THE FLOOR.

### **STAGE 1: BEFORE YOU START – JOB SITE INSPECTION**

#### **Acclimatisation & Storage:**

The floor should be stored horizontally in the room that is being fitted for at least 7 days before installation – the longer the better. Failure to acclimatise may cause excessive expansion and contraction. Do not open the packs prior to installation.

The room temperature should be 18°C - 22°C and the relative humidity between 40% – 60% for a minimum of 14 days prior to the installation of the flooring as well as during and after the fitting. The fitter should carry out these tests. Do not install timber flooring in rooms where the heating system has not been commissioned. Never bring flooring into a house which is not to the above conditions. It is vital that the packs are stacked correctly and horizontally.

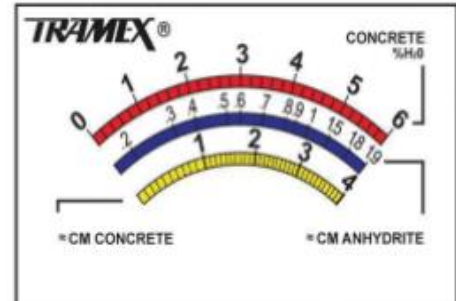
#### **Sub-floor Evenness & Cleanliness:**

It is imperative to ensure that your cement or wood sub-floor is level (to within 3mm over a 1 metre span) and that it is clean, dry and secure. Failure to do this may result in edge damage to the boards or noise related issues e.g. squeaking. It is the fitter's responsibility to ensure that the floor is level and clean. Any remaining residues or dirt should be removed.

## **IMPORTANT: Sub-floor moisture**

### **Cement Screeds (See Scale):**

The moisture of the concrete floor must not be over 3% (2.0% C.M.) based on Tramex Concrete Encounter Red Scale in diagram - this should be tested with an appropriate moisture meter e.g. Tramex Concrete Encounter. If the cement sub-floor moisture level is too high, either wait until it is dry or use a Liquid PU Primer such as Vermeister Primer SF which will seal cement floors up to 6% moisture on the Tramex Concrete Encounter Red Scale (4.0% C.M.).



### **Pump / Anhydrite Screeds:**

For pump/liquid (calcium or anhydrite) screeds, the moisture level should be 0.3% CM for underfloor heating (Use Tramex Concrete Encounter blue scale). Our Vermeister Primer SF can be used for anhydrite liquid screed to max 0.5% CM (One coat only).

### **Timber Subfloor:**

Suitable timber subfloors include PAO Battens (Kiln dried approx. 12%), flooring grade plywood or OSB Grade 3 (Kiln Dried approx. 12%). If using battens, they should not be further than 300mm apart. Construction Plywood or Rough Timber battens are not suitable subfloors due to their high moisture content. Bitumen paper must be used if the timber subfloor has a moisture content higher than 12% or when nailing to joists / vented timber subfloor which helps prevent moisture penetration from the timber subfloor. Bitumen paper is used at installer's/owner's risk.

### **Moisture Barrier:**

Always use builder's polythene or a suitable moisture barrier over cement floors for additional moisture protection. Overlap seams by 30cm and tape with duck-tape (or similar waterproof tape), extend the polythene up the wall behind the skirting.

### **Inspect Flooring:**

Prior to installation, the fitter should inspect each board in daylight for any visible faults or damage and also check the colour, structure and finish. The installer/owner has final inspection responsibility as to grade, manufacture and factory finish. They must use reasonable selectivity and hold out or cut off pieces with glaring defects, whatever the cause, once a board is fitted, it is deemed to be acceptable. It is the responsibility of the fitter and the end user to ensure that the grading of the floor is correct. Always select boards from different bundles to ensure an even appearance.

## **Rustic (or Similar) Grades:**

We do not guarantee Rustic grades as they may contain boards with open knots, cracks or minor defects.

## **Longitudinal Bowing:**

In the case of engineered flooring, it is possible for some boards to be bowed on the length. This is more prone in higher humidity environments. These boards can be installed without any problem as longitudinal bowing is self-correcting. Some boards may need to be cut and used as a starter.

## **STAGE 2: INSTALLATION – ENGINEERED FLOORING**

### **METHODS OF INSTALLATION**

- 1) Glue Down Installation (recommended)
- 2) Nail Down Installation
- 3) Floating Installation
- 4) Installation over Underfloor Heating

### **1) GLUE DOWN INSTALLATION**

#### **Laying Direction:**

The laying direction normally depends on the main sources of light fall in the room e.g. French windows. The boards should run parallel with the entering light for best appearance. Ensure that the boards are always laid lengthways in narrow hallways. In the case of L, T or U-shaped hallways they may require placing an expansion gap and changing the laying direction of the flooring.

#### **Expansion:**

Always remember to leave an expansion gap of 15mm at walls, pillars, doorways or fixed objects etc and around the entire perimeter. For pipes: Drill a hole with a diameter about 15mm larger than that of the pipe. In the case of solid flooring or large areas of engineered flooring, it may be necessary to leave additional expansion through the floor as well as around the perimeter. It is the fitter's responsibility to calculate what additional expansion may be required.

#### **Suitability:**

Suitable subfloors for glue down installation include cement screeds, ceramic tile, flooring grade plywood or OSB Grade 3 (Kiln Dried approx. 12%). Construction Plywood is not a suitable subfloor due to its high moisture content. All cement screeds must be properly cured, clean, dry and free of contaminants such as sealers and old adhesive residue. All subfloors must be structurally flat within industry standards of 3mm variance across 1mt.

All subfloor surfaces must have a sound but still 'rough' or porous surface in order to ensure a good bond with the adhesive. Old adhesive residues should be removed. A slick or sealed surface should be pre-sanded. Glue down installation requires that a quality low water solvent free based adhesive be used, using a trowel and spread rate as specified by the adhesive manufacturer.

The recommended adhesive for most installations is Parquet 50 PRO Adhesive or equivalent. See adhesive manufacturer's installation instructions for specific rules and guidelines regarding installation procedures and acceptable subfloors. Any questions regarding the acceptability of a concrete slab or any other type of subfloor or subfloor coating for application of an adhesive, is the sole responsibility of the adhesive manufacturer and the flooring contractor. Remove wet adhesive immediately as it can be very difficult to remove once cured.

The recommended trowel is a 5.5mm V Notch trowel to ensure maximum coverage and a good bond between the subfloor and wood flooring. Larger notch trowels will result in less m<sup>2</sup> coverage per kg.

Begin installation along the longest wall, or an outside wall, which is most likely to be straight and square with the room. At a minimum of 3-4 points, measure out from the wall 1 board width (including the tongue) and also include the expansion gap of 15mm (For narrow boards, it may be necessary to measure 2 board widths from the wall). Snap a chalk-line connecting these points, parallel to wall and perpendicular to adjacent walls. Since most walls are not square, you may have to trim the edge of some planks along the walls.

Prior to installing flooring, we highly recommend that a straight edge be firmly secured along the chalk line as a guide and to prevent the planks from shifting during installation. Alternatively, the first row can be face nailed with finishing nails into a wood subfloor or spring nailed into a concrete sub-floor (Be careful there are no water pipes running underneath).

## **Installation:**

- A)** Spread adhesive from the chalk line/straight edge out to approximately the width of two planks using a trowel size according to the adhesive manufacturer's recommendations. Using the longest and straightest board possible, install your first plank with the tongue facing away from the wall along the chalk line/straight edge and secure into position.

**NOTE: Proper alignment is critical. Misaligned starter rows can cause side and end gaps.**

- B)** When you have the starter row completed, you can start the next row. When the first two rows are straight and secure, spread 700mm to 900mm of adhesive across the length of the room. Never spread more adhesive than can be covered in 30 to 45 minutes (This time may vary depending on quality of adhesive being used). Check for a close fit at all end and side joints. Continue to install planks and tap or pull them into place when necessary.

- C) Any badly bowed or twisted boards should be cut and used as a starter and end piece. Weights may be required to be placed on the floor in certain areas to ensure full contact until the adhesive is set.

**NOTE: It may be necessary to use clamp straps for a period and pull the floor together if some minor gapping develops.**

- D) Remember to leave an expansion gap of 15mm between the flooring and walls. As stated above additional expansion may be required through the floor for solid flooring or large areas of engineered flooring. This is to be determined by the installer.
- E) When you get to the far wall, you will likely be required to cut the final row in width to fit against the wall. Do this by laying a plank in position and scribing a line on the plank. (Don't forget to leave your expansion space of 15mm from the wall). Cut planks for the last row and install. Go back to the beginning of the installation and remove the straight edge. Spread adhesive on to exposed subfloor and position the final 1-2 rows into place. Remove all expansion spacers at wall and any temporary face nails before applying trim mouldings / skirtings.
- F) Allow adhesive to cure for at least 24 hours before permitting foot traffic or moving furniture onto floor. If the floor is being sanded afterwards, the adhesive must be allowed to cure for a minimum of 48 hours prior to sanding.

**Note: It is extremely important to blend planks from several cartons to ensure a good balance of colour and graining.**

**Note: It may be necessary to leave weights on flooring boards which are pushing up to ensure full contact with the subfloor while the glue cures. This is normal practice and these weights can be removed once the glue has fully set.**

## 2) NAIL DOWN INSTALLATION

### Suitability:

Flooring boards wider than 190mm are **not** suitable to be secret nailed. Suitable subfloors for nail down installation include PAO battens (Kiln Dried approx. 12%), flooring grade plywood or OSB Grade 3 (Kiln Dried approx. 12%). If using PAO battens, they should not be further than 300mm apart. Construction Plywood or Rough Timber battens are not suitable subfloors due to their high moisture content. Bitumen paper must be used if the timber subfloor has a moisture content higher than 12% or when nailing to joists / vented timber subfloor which helps prevent moisture penetration from the timber subfloor. This installation option is not warranted and is at installer/owner risk.

### Expansion:

Always remember to leave an expansion gap of 15mm at walls, pillars, doorways etc and around the entire perimeter. For pipes: Drill a hole with a diameter about 15mm larger than that of the pipe.

In the case of solid flooring or large areas of engineered flooring, it may be necessary to leave additional expansion gaps through the floor as well as around the perimeter. It is the fitter's responsibility to calculate what additional expansion may be required.

## Installation:

**A)** Begin installation along the longest wall, or an outside wall, which is most likely to be straight and square with the room. At a minimum of 3-4 points, measure out from the wall 1 board width (including the tongue) and also include the expansion gap of 15mm (For narrow boards, it may be necessary to measure 2 board widths from the wall). Snap a chalk-line connecting these points, parallel to wall and perpendicular to adjacent walls. Since most walls are not square, you may have to trim the edge of some planks along the walls.

**B)** Using the longest and straightest board, install your first plank with the tongue facing away from the wall along the chalk line. Either pre-drill holes on the face of the plank (in dark grain) near the chalk line side and secure planks with finishing nails or fix a straight edge

(e.g. 3 x 1 PAO) to the subfloor off the chalk-line and work off this (Be careful there are no water pipes running underneath).

**NOTE: Proper alignment is critical. Misaligned starter rows can cause side and end gaps. When you have the starter row completed, you can start the next row.**

**C)** Engage the nail gun onto the tongue side of the plank. Nail 25mm from the end of each plank and every 200-300mm along the length of the plank. We recommend additional glueing of the short end (butt) joint with a quality PVA white glue. This helps prevent squeaking. The flooring joints should be staggered so that rows do not appear aligned. If you come across a bowed or twisted board, cut this in half and use this as an end piece and starter piece.

**D)** You will not be able to use the nail gun for the final 1-2 rows. To fasten final planks into place, either manually nail into the tongue or face nail into the surface. It is necessary to pre-drill holes prior to doing this. Counter sink all face nails and fill the holes with matching wood putty.

**E)** When you get to the far wall, you will likely be required to cut the final row in width to fit against the wall. Do this by laying a plank in position and scribing a line on the plank (Don't forget to leave your expansion space of 15mm from the wall). Cut planks for the last row and face nail them into place. Go back to the beginning of the installation and position the final 1-2 rows into place and face nail as needed. Counter sink all face nails and fill the holes with matching wood putty.

**Note: It is extremely important to blend planks from several cartons to ensure a good balance of colour and graining.**



## 3) FLOATING INSTALLATION

### Suitability:

Suitable subfloors for a floating installation include cement screed, flooring grade Plywood or OSB Grade 3 (Kiln dried 12%). Construction Plywood is not a suitable subfloor due to its high moisture content. The widest floor that can be installed in a floating installation is 220mm. Timber flooring wider than 220mm should be glued down. Please consult page 1 section "Sub-floor Moisture" of these instructions for further information regarding correct job site moisture levels.

**Important: Always use polythene over Cement screeds. A good quality underlay should be used underneath the flooring. The installer will require a heavy tapping block, PVA glue, clamp straps and woodworking tools to complete the installation.**

### Expansion:

Wood is a living material. Always remember to leave an expansion gap of 15mm at walls, pillars, stairs, doorways etc and around any fixed object. Fixed objects also include door stops and heavy items such as island or kitchen units. For any pipes: drill a hole with a diameter about 15mm larger than that of the pipe. It is recommended to place an expansion profile at all doorways.

Do not fix any objects to a floating floor installation e.g. kitchen island unit fixed to subfloor through the flooring as this prevents the floor from expanding / contracting throughout the seasons. If there are very heavy objects on top of the flooring, then a glue-down installation is recommended.

The maximum area in which an engineered floor should be floated is 8 metres in any direction. In larger areas, a suitable profile should be used or alternatively a glue-down/nail down installation should be considered.

### Installation:

- A)** Begin installation along the longest wall, or an outside wall, which is most likely to be straight and square with the room. At a minimum of 3-4 points, measure out from the wall 1 board width (including the tongue) and also include the expansion gap of 15mm. Snap a chalk-line connecting these points, parallel to wall and perpendicular to adjacent walls. Since most walls are not square, you may have to trim the edge of some planks along the walls.
- B)** Fix a straight edge (e.g. 3 x 1 PAO) to the subfloor along the chalk-line and work off this (Be careful there are no water pipes running underneath). Using the longest and straightest board, install your first plank with the tongue facing away from the wall along the chalk line. Use a good quality PVA wood glue compliant with EN204D3 or BS4071. All boards must be glued. Spot gluing is not sufficient; a full glue line must be applied inside the groove on the long side and the short ends.

- C) Remove any excess glue with a damp cloth. It can take over 24 hours for PVA glue to fully harden. **Please wait 24 hours before allowing traffic and furniture back in the room.**

**NOTE: Proper alignment is critical. Misaligned starter rows can cause side and end gaps. When you have the starter row completed, you can start the next row.**

- D) The flooring joints should be staggered so that rows do not appear aligned. If you come across a bowed or twisted board, cut this in half and use this as an end piece and starter piece. After completing 6-8 rows of the room, clamp straps may need to be used to tighten the floor together. This will tighten up any floor joints where minor gaps have opened during the installation. This should be left for 30 minutes for the glue to start working. After this time, continue on as before, again stopping, if necessary, when you have completed another 6-8 rows to apply the clamp straps for 30 minutes.
- E) When you get to the far wall, you will likely be required to cut the final row in width to fit against the wall. Do this by laying a plank in position and scribing a line on the plank (Don't forget to leave your expansion space of 15mm from the wall). Cut planks for the last row and glue them into place. Go back to the beginning of the installation, position the first 1-2 rows and glue them into place. The clamp straps should again be fixed to the flooring to ensure there are no gaps while the glue is setting. Note: It is extremely important to blend planks from several cartons to ensure a good balance of colour and graining.

## Limitations of Engineered Flooring:

A floating engineered floor, despite its laminated construction, can expand and contract significantly, depending on how much the indoor climate changes during the year. In doorways and large areas over 8m in length and/or width, an expansion joint must be used.

When installing in T, L or U-shaped areas, separate the flooring area according to the room layout by using a proper profile system. You may need to change the direction the floor is running when doing this.

## 4) UNDERFLOOR HEATING

### Suitability:

Our engineered floors are suitable for use over underfloor heating however we do not recommend or guarantee solid flooring over underfloor heating. Please follow below guidelines and information. It is very important that the moisture content of the subfloor which your floor will be laid onto is at the correct moisture level. To avoid cracks in new subfloors, you need a natural drying time of approx. one week per cm thickness of the screed. You can turn on the heat after the above has been achieved. Raise the temperature by 5 degrees per day till you reach maximum capacity and leave the heating on for 14 days. This is important as a relatively small moisture percentage can cause movement issues with your floor.



After these 14 days, switch the heating off for at least 1 week. If necessary, the floor can be levelled and primed at this stage. A floor should be levelled with a high-quality latex levelling compound if outside tolerances of 3mm over 1 metre. A moisture check must also be done on the screed prior to any installation. The surface temperature below the floor must never exceed 27 degrees and the maximum difference of temperature per 24h is 5 degrees Celsius. There are 2 types of installation:

## **Glue Down Installation Recommendations:**

Please follow below guidelines and refer to previous glue down installation instructions.

- Liquid PU primer – Vermeister Primer SF (see below guidelines for use)
- Parquet 50 PRO Flexible Adhesive Glue

**Note: For a glue-down installation, please turn heat off / to minimum 2 days before installation. You can turn on the heating system again two days after installation - again with maximum increments of 5°C per day. We recommend that a high-quality flexible glue (suitable for U/F Heating) such as Parquet 50 PRO Adhesive is used for glue down installations.**

## **Floating Installation Recommendations:**

- 500 Gauge Polythene – over cement or Anhydrite screeds
- 2mm Cork Underlay or 2mm Heatmaster – lowest heat transfer resistance.

## **Guidelines:**

- Moisture of cement must not be higher than 3% (2.0% C.M.) based on Tramex Concrete Encounter Red Scale in diagram - this should be tested with an appropriate moisture meter e.g. Tramex Concrete Encounter.
- If the cement sub-floor moisture level is too high, either wait until it is dry or use a Liquid PU Primer such as Vermeister Primer SF, which will seal cement floors up to 6% moisture on the Tramex Concrete Encounter Red Scale (4.0% C.M.).
- For anhydrite or calcium screeds (pump screeds), the moisture level must be 0.3% CM or below based on Tramex Concrete Encounter Blue Scale). Our Vermeister SF Primer can be used for anhydrite liquid screed to max 0.5% CM (One coat only).
- 500 Gauge Polythene (If floating installation over screed, extend up walls behind skirting - tape all joints with waterproof tape)
- The floor needs to be level – (Max 3mm deviation over 1mt)
- Bring Flooring into house in normal living conditions i.e. Temp >18°, Humidity 40-60%
- Surface temperature of screed not to exceed 27° degrees Celsius
- Flooring should be separated at doorways with an expansion trim (unless glue down)

**IMPORTANT: WE RECOMMEND RETAINING SEVERAL LEFTOVER PLANKS FOR POSSIBLE FUTURE REPAIRS.**

## **STAGE 3: CARE OF YOUR FLOOR**

### **Room Conditions:**

Timber likes pleasant room conditions similar to humans; a room temperature of 20°C and humidity of about 50%. A humidity controller may be required. All rooms, which have timber flooring, should ideally be maintained at the above.

### **Protecting your Floor:**

- To preserve quality and beauty of your floor it is always beneficial to use protective pads and castor cups under chairs and furniture legs.
- We recommend that good quality entrance barrier mats are used at all external entrances to the wood flooring to collect grit and moisture from the underside of footwear. Never use a rubber mat, with Styrofoam or plastic backing.
- If you must move heavy pieces of furniture (e.g. refrigerator, piano etc.), never slide or drag them directly over the flooring. Instead, make sure the item(s) are lifted clear of the flooring completely.
- We would advise that during installation / other building works that the timber floor is covered with a heavy-duty floor protection roll / sheets to protect the finish.
- Do not apply adhesive / decorators' tape or any adhesive protective covers directly to the floor finish.