South Pacific Timber

TRUE OAK · ENGINEERED OAK FLOORING

# Installation Guideline

Recommended practice for the installation of True Oak pre-finished engineered oak flooring

Version 1.0 · June 2026 · South Pacific Timber (1990) Ltd · Applies to all True Oak engineered oak collections

This Guideline sets out South Pacific Timber's recommended practice for the installation of the True Oak engineered oak flooring range. It is written for qualified flooring installers and other competent trade professionals and is to be read in full before work begins. It must be read together with the current New Zealand Building Code (NZBC), the relevant NZS standards, the project drawings and specification, and the written instructions of the adhesive, moisture-barrier, underlay and substrate-system manufacturers used on the job.

> **Read before you start**
>
> Correct installation is a condition of the True Oak Limited Product Warranty. Failure to follow this Guideline, the related documentation, or recognised good trade practice may void warranty cover and can result in personal injury, property damage, or non-compliance with the NZBC.
>
> Where this Guideline differs from the written instructions of a specific adhesive, moisture-barrier or membrane product, follow that manufacturer's instructions for their product and contact South Pacific Timber if the conflict affects the flooring.

## Contents

## 1. Scope and intended use

True Oak engineered oak flooring is a pre-finished, multi-layer engineered timber product intended for **non-structural interior use** in residential and commercial buildings within the scope of the NZBC. A factory-applied oak wear layer (lamella) is bonded to a dimensionally stable plywood or engineered core, with a tongue-and-groove (T&G) profile.

This Guideline covers the two installation methods approved for True Oak engineered flooring:

- **Adhesive-fixed (glue-down)** — boards fully bonded to a prepared substrate with a full bed of approved flooring adhesive.
- **Floating** — boards joined to each other (not to the substrate) over an approved resilient underlay incorporating a moisture-vapour barrier.

It also covers acclimatisation, substrate preparation, underfloor heating, expansion provision, wet-area (NZBC E3) installation, transitions, and post-installation protection and handover.

### Where True Oak engineered flooring must NOT be used

- Designated wet areas containing a bath or shower, exterior applications, garages, and commercial kitchens.
- As a structural, bracing or trafficable-membrane element — the product is an overlay only.

— Over un-approved substrates (see Section 6), or any application outside this Guideline unless confirmed in writing by South Pacific Timber.

> **Confirm before specifying**
> Certain board widths, colours and finishes carry product-specific limitations (for example over underfloor heating, in high-UV glazed spaces, or in single runs exceeding 15 lineal metres). Confirm suitability with South Pacific Timber where the application falls outside ordinary dry interior floor use.

# 2. Installer responsibility and product acceptance

Installation requires skill. South Pacific Timber recommends that True Oak engineered flooring is installed only by experienced flooring specialists, ideally members of the Australasian Timber Flooring Association (ATFA), using the correct tools.

### Acceptance of product

— It is the installer's responsibility to inspect **every board** for grade, colour, finish and any visible defect or damage **before** fixing it. If you are not satisfied with a board, do not lay it.

— Oak is a natural product. Variation in colour, grain, knots, sapwood and feature (including filled features) between planks, packs, batches and samples is expected and is **not a defect**. Showroom samples indicate general colour and character only.

— The installer is responsible for blending boards across the floor to achieve the desired overall appearance. Boards that would look out of place can be used in less visible areas (wardrobes, under cabinetry) or set aside.

— If a board is of concern, stop, do not open further packs, and contact South Pacific Timber before installing. Board replacement does not include installation cost, so do not install boards that are of concern.

> **Installed = accepted**
> Once a board is installed it is deemed accepted. Defects or appearance concerns that were visible or reasonably apparent before installation cannot be claimed after the floor is laid. Confirm layout, direction, colour and finish with the client before starting.

# 3. Health and safety

Cut timber in a well-ventilated area using appropriate dust extraction, and wear a suitable dust mask (P2 or better), eye protection and hearing protection. Fine timber dust is a respiratory hazard and some hardwood dusts are associated with nasal cancer.

— Keep cutting stations away from the finished floor surface; fine dust and metal swarf can stain the timber.

— Off-cuts, shavings and sawdust must not be disposed of by burning. Dispose of timber waste in accordance with local council requirements.

— Observe safe manual-handling practice when lifting and carrying packs, and follow the safety data sheets for all adhesives, primers, sealers and solvents.

# 4. Delivery, storage, handling and acclimatisation

### Storage and handling

— Deliver True Oak flooring only once the building is weather-tight and closed in, and all wet trades (concrete, plaster, render, tiling, painting) are complete and dry.

— Store packs flat and unopened, stacked squarely on level bearers/dunnage, clear of the ground, and on plastic where over a concrete slab.

— Keep boards out of direct sunlight and away from external walls, radiators and heat sources, in a dry, shaded, ventilated space held at roughly 18–25°C. Do not store outside, in lofts or in attics.

— Do not open packs until you are ready to install. Protect the T&G edges and the finished faces from damage.

### Acclimatisation

Timber is hygroscopic — it gains and loses moisture with the surrounding air. Deliver the flooring and leave the **packs in the room(s) of installation, in their original packaging, for a minimum of 48–72 hours** (longer where the in-service climate differs markedly from current site conditions) so the product can equilibrate to in-service conditions. Permanent heating/ventilation should be running and the space held within the conditions in Section 5 before, during and after installation.

# 5. Site and environmental conditions

Conditions during installation should resemble the normal in-service conditions of the completed, occupied building. Installing outside the ranges below promotes movement, gapping, cupping and surface checking.

| Parameter | Acceptable range | Notes |
|---|---|---|
| Ambient temperature | 16–27°C | Avoid heat or cold extremes during and after install. |
| Relative humidity (RH) | 40–60% | Risk of movement rises below 35% or above 70%. |
| Board moisture content | As supplied | Do not install boards exposed to moisture, weather or heat. |
| Subfloor flatness | ≤ 3 mm under a 3 m straightedge | Per NZS 1884; tighter for floating (see Section 6). |

> **North and west glazing**
>
> Consider north- and west-facing glazing and the need for temporary UV protection before awnings, window film or window furnishings are installed. High glazed-area rooms can reach floor surface temperatures well above 45°C, which accelerates colour change and the risk of cupping and checking.

# 6. Approved substrates and subfloor preparation

A problem-free floor depends on a substrate that is **clean, flat, dry, sound and level**. The whole substrate must be checked and brought to no more than **3 mm deviation under a 3 m straightedge** (NZS 1884) for adhesive fixing. Floating floors require flatness to no more than 3 mm under a 1.0–1.2 m straightedge.

## 6.1 General preparation

— **Clean** — remove all dust, debris, curing compounds, paint, plaster, adhesive residue and contaminants that could impair the bond or board fit; vacuum thoroughly.

— **Flat** — grind high spots; fill low spots with a cementitious levelling compound of strength suitable for timber floors, over an approved primer. Do not mix incompatible primer/levelling/adhesive systems — use a single compatible system.

— **Sound** — the surface must be structurally sound; address any weakness, movement, drumminess or squeak before installation.

## 6.2 Concrete slabs (slab-on-grade or suspended)

— New slabs must be a **minimum of 60 days** old and constructed over a ground damp-proof membrane (minimum 0.25 mm polyethylene).

— **Test every slab** for moisture, across all areas to be floored, and record the results. A single surface reading is a snapshot only. Use in-situ relative humidity (RH) probes: proceed only at or below **70% in-slab RH**. (Where impedance metering is used as a guide, readings should be below 4.0%; slabs above 5.0% / 90% RH are not suitable and require specialist advice.)

— Apply an **approved moisture-vapour barrier** to all slab-on-ground installations, and to elevated slabs unless low readings confirm it is not required. The moisture-barrier, levelling compound and adhesive must form a single compatible system from one manufacturer (or an agreed inter-manufacturer system). Re-test after the barrier has cured.

— Lightweight / low-density concretes and magnesite or sand-cement screeds are **not** suitable for direct gluing; treat as floating substrates with an incorporated vapour barrier, or seek advice.

### 6.3 Plywood and particleboard

— Plywood and approved flooring underlay may be installed over slabs (with a 200 µm builder's plastic vapour barrier, lapped 200 mm and taped, brought up at the perimeter) or over joists. Particleboard is suitable on joists.

— Subfloors must be dry (below ~13% moisture content), well fastened and free of movement and squeak. Rough-sand to remove swelling at joints, surface contaminants and any wax layer, then vacuum clean.

### 6.4 Existing timber, strip floors and other hard surfaces

— Existing strip-timber floors that are dry (up to ~13% MC), without seasonal movement and flat to tolerance can be rough-sanded to provide a clean, flat surface. Where movement or surface condition is in doubt, add a glued-and-stapled plywood slip layer.

— Ceramic tiles can be a suitable glue-down substrate after grinding and levelling; hollow-sounding tiles must be removed. Floated hard surfaces (laminate, hybrid) and soft floor coverings (carpet, cork, vinyl) are not suitable substrates for adhesive fixing and must be removed.

### 6.5 Substrates that are not suitable

Do not install True Oak engineered flooring over: carpet or other soft coverings; existing floating floors (laminate/hybrid); magnesite or sand-cement screeds; or mechanically weak, damp or moving substrates. For any substrate not listed in this Section, contact South Pacific Timber for written approval — installing without approval voids warranty.

## 7. Underfloor heating

Confirm the specific True Oak product is approved for use over underfloor heating before specifying. Hydronic (warm-water) and approved in-screed electric systems may be used when correctly commissioned; the preferred method is **full-bed adhesive fixing** onto the prepared, heated slab.

#### Commissioning and operation

— The heating system must run for **at least 3 weeks** before installation to drive off latent moisture and complete commissioning. Heating tubes should be no more than 150 mm apart, with at least 30 mm of slab (60 mm recommended) over hydronic tubes, or 8 mm of screed over electric cables.

— Commission by raising temperature in **daily increments of about 5°C** to a maximum of 27°C, hold for at least 48 hours, then cool in 5°C daily steps and turn off. Seal any cracks that appear with synthetic resin.

— Test slab moisture (≤ 70% RH) and flatness (≤ 3 mm / 3 m) before laying. During installation, hold the surface temperature near 15°C and maintain it for at least 48 hours after laying to protect the adhesive bond.

> **In service over underfloor heating**
>
> Surface temperature must never exceed 27°C; raise and lower the system gradually using the 2°C-per-day rule. Some seasonal gapping and minor surface checking is normal with heated floors and must be accepted. Use only breathable rugs, and do not cover a heated floor with non-breathable coverings.

# 8. Adhesives and moisture-barrier systems

— Use a flooring adhesive **approved for pre-finished engineered timber** and for your substrate. A non-etching (isocyanate-free) polyurethane or modified-polymer (MS) adhesive applied as a **full trowel bed** with the trowel specified by the adhesive manufacturer is required — do not spot- or squiggle-glue, which causes hollow spots, squeaking and movement.

— Water-based flexible adhesives are easier to clean from a pre-finished surface; solvent-based adhesives should be avoided, as any residue on the finished face causes permanent, irreparable damage. Clean any adhesive off the surface immediately per the manufacturer's method.

— The adhesive manufacturer warrants the bond between substrate and flooring, including any required sealer/moisture barrier. Moisture-barrier and acoustic properties are achieved only by the specified application method.

Commonly used systems include premium flexible flooring adhesives such as those supplied by Selleys, Mapei, Ardex, Bostik and Uzin. Always confirm the adhesive, primer and moisture-barrier are a compatible system and follow each product's technical data sheet.

# 9. Expansion allowance and layout

— Provide a **perimeter expansion gap** to all walls and fixed vertical obstructions (jambs, columns, pipework, cabinets fixed to the subfloor): **minimum 5 mm for adhesive-fixed** floors and **minimum 10 mm for floating** floors. Gaps are concealed by skirting or scotia.

— Remove skirtings, or undercut them (and door jambs) to the flooring thickness plus any underlay. Remove any tongue on boards meeting a wall so the expansion gap is maintained.

— Run boards parallel to the longer walls and down main hallways for the best visual effect and expansion behaviour. Balance board widths either side of hallways and avoid narrow "sliver" cuts at walls (aim for at least half a board width).

— Stagger end joints by **at least 300 mm**, avoid regular/"H" patterns, and keep boards at walls at least 300 mm long. Discard off-cuts shorter than ~300 mm.

### Control joints / intermediate expansion

— **Adhesive-fixed:** in warm humid climates provide intermediate expansion where floors exceed ~10 m wide / 12 m long; in cooler or moderate climates, ~12 m wide / 14 m long. Use 5 mm intermediate gaps, cork-filled or caulked (never silicone).

— **Floating:** break large or complex areas into "rafts" bridged by control joints, with joints at doorways between major rooms. Maximum raft size ~6 m × 10 m in warm humid climates, up to ~10 m × 12 m in cooler/moderate climates. Cover joints with "H" or threshold trims.

— For any single run/length over **15 lineal metres**, contact South Pacific Timber before starting.

# 10. Installation method — adhesive-fixed (glue-down)

Adhesive-fixed floors feel firm underfoot and move less seasonally than floating floors. Work from the corner furthest from the entrance so you are not walking on freshly laid boards.

1. Confirm the jobsite evaluation and substrate preparation (Sections 5–6) are complete — particularly where prepared by others — and that site conditions are within range.
2. Set out: snap a chalk/laser line for the first row, allowing the perimeter gap. Always assume walls are neither straight nor square. Dry-lay the first 2–3 rows, scribing the first row to the wall contour and balancing widths.
3. Trowel-spread adhesive from the line to the starter wall using the manufacturer's specified trowel at ~45°, keeping within the adhesive's open/wet-lay time (typically 35–45 minutes — check the TDS).

4. Lay the first row groove-side to the wall, seated firmly into the adhesive, with spacers maintaining the gap. Never slide boards through the adhesive. Press each subsequent board's groove onto the previous tongue; use a tapping block for tight joints.
5. Work the main field two to three board widths at a time over the full row length. Stagger end joints ≥ 300 mm. Immediately remove any adhesive reaching the board surface using the adhesive manufacturer's recommended method.
6. Weight or temporarily secret-nail areas as needed to ensure full contact and eliminate hollow spots while the adhesive cures — take care not to damage board edges. Assess for hollow spots during laying and lift/re-bed boards where found.
7. Scribe and cut the final row lengthwise to the perimeter gap. Where installation spans more than one day, strap/weight the last rows overnight to stop lifting.
8. Keep foot traffic off the floor for the adhesive's stated cure period (typically 24 hours) and wait 24 hours before placing furniture or heavy items.

# 11. Installation method — floating

Floating floors feel softer underfoot owing to the underlay and are designed as rafts bridged by control joints (Section 9). Use an approved resilient underlay incorporating, or laid over, a polyethylene moisture-vapour barrier.

1. Confirm substrate preparation and flatness (≤ 3 mm under a 1.0–1.2 m straightedge) and site conditions are met.
2. Lay the first run of underlay along the starter wall (usually a longer exterior wall) with the vapour-barrier layer facing up and brought up the wall; lap and tape subsequent runs.
3. Set out and scribe the first row as for glue-down, removing tongues where boards meet a wall, and provide the 10 mm perimeter gap with spacers.
4. Glue the T&G joints with a quality cross-linked PVA (apply a continuous 3 mm bead to the upper groove edge and board ends) — intermittent adhesive causes crackling underfoot. Bring joints tight with a tapping block; remove surface adhesive immediately.
5. Continue across the field, staggering end joints ≥ 300 mm and starting rows with off-cuts of sufficient length. Use a pull bar for the final row after scribing to the wall contour.
6. Fit transition/"H" trims at raft control joints, doorways and changes of surface. Trims are fixed to the substrate, **never to the flooring**, with the correct open gap to allow raft movement. Install the floor around heavy objects (kitchen benches), not beneath them.
7. Do not over-restrain the floor: caulking that reduces free raft movement can contribute to buckling and is not a manufacturing fault.

# 12. Wet areas and water splash (NZBC E3)

In kitchens, laundries and similar areas subject to water splash, True Oak engineered flooring must be installed as a **glued, sealed system** to satisfy NZBC clause E3. (Timber flooring is not recommended in bathrooms containing baths or showers, which fall outside this guidance.) The following form part of the E3 Alternative Solution:

— Install **glued to the substrate** (not floated). Seal all joints — along board lengths and at ends — with a **water-resistant PVA of minimum D3 durability** (EN 204). Apply a consistent bead to the groove edge and tongue, fit tightly, and wipe excess immediately.

— Where required by the project, install over an **approved wet-area membrane system** (E3/AS2), using sealers, primers, levelling and adhesives all from the membrane supplier's compatible system.

— After laying, seal the perimeter and all penetrations exposed to splash — floor-to-wall junctions, waste pipes and fixed items — with a flexible, water-resistant flooring joint filler, extending **at least 1.5 m from every sanitary fixture/appliance** (do not use silicone, which impairs future refinishing).

— Maintain the continuous surface coating and seals in service. Document the sealing of joints and perimeter with photographs as a record for council verification.

> **E3 compliance basis**
> Refer to South Pacific Timber's Timber Flooring — Internal Moisture (E3) Solution Guidance for the full compliance basis, including overflow provisions, before relying on True Oak flooring in a water-splash area.

# 13. Transition bars and trims

1. Clean both the timber edge and the bar; lightly abrade heavier bars (brass/aluminium) for adhesion — always abrade away from the floor, as metal residue stains timber permanently.
2. Pre-drill 1.5 mm pilot holes at ~400 mm centres. Position the bar flush, packing underneath as needed so it is level and supported.
3. Apply a continuous bead of recommended adhesive to the lower half of the bar, set it in place and press firmly, then fix with fine wire nails through the pilot holes.
4. Hold with low-tack tape while curing and remove within 2 hours to protect the coating. Wipe excess adhesive immediately for a clean finish.

# 14. Post-installation checklist and surface protection

- ☐ Touch up minor marks and remove all adhesive spillages; fill small gaps with a matching filler.
- ☐ Remove expansion spacers; fit trims, bars, skirtings and toe-kicks — always fixed to the wall, never to the flooring.
- ☐ Complete wet-area perimeter caulking/sealing where required (Section 12).
- ☐ Vacuum/sweep and clean the floor with fresh water and a clean, well-wrung microfibre cloth — it should air-dry within 2–3 minutes — ready for client inspection.

### Protecting the floor while other trades finish

— Cover with a **breathable** floor-protection product that lets the timber breathe; never use polyethylene or other non-breathable sheeting, which traps moisture. Even covered floors can be damaged or discolour — this is not the manufacturer's responsibility.

— Avoid tape on the floor; if unavoidable, use delicate masking tape, never in direct sunlight, and remove within 2 days.

— Keep dust (especially plasterboard dust) out of the grain; ensure cutting tools have dust extraction.

# 15. Handover

On completion, provide the client (and those who will care for the floor) with the **True Oak Care & Maintenance Guide** and the **True Oak Limited Product Warranty**, and explain the in-service conditions the floor relies on. Leave the site clean and tidy; repair or replace any damaged items and remove all rubbish and unused materials, disposing of treated or coated off-cuts per local council requirements.

# Disclaimer

While South Pacific Timber (1990) Ltd uses its best endeavours to ensure the accuracy of the information in this Guideline, it does not warrant that accuracy and gives no warranty of any kind other than as expressly provided in writing accompanying the supply of its products. This Guideline reflects general recommended practice and is provided as guidance only; it does not replace the New Zealand Building Code, the relevant NZS standards, BRANZ guidance, or the written instructions of coating, adhesive, membrane and underlay manufacturers. Any person using

this information does so on the basis that they will rely on their own judgement and assessment (including any third-party or professional advice they require) to reach their own independent conclusions for their intended purpose.

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