

Timber Overlay Flooring System Installation Guide

For use with Glue Down Prefinished Engineered Plank Flooring



Applies to:
Artiste Rustic, Artiste Refined, Moda Altro, Urban, Atelier, Ultra

forté
— Refined Timber

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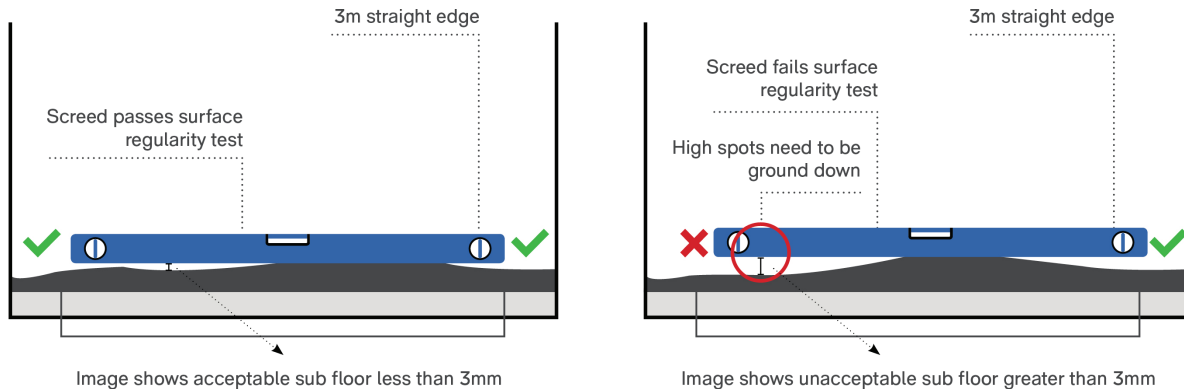
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1. Storage and handling

- 1.1. The timber flooring should be left flat in the original unopened packaging in the areas it is to be installed in for at least 48 hours prior to installation. This allows the product to acclimatise to the room temperature and minimise the likelihood of any shrinkage or swelling. The timber should be stored out of direct sunlight, away from walls and radiators. It is recommended to place stored packs on battens/dunnage to minimise moisture absorption from the ground.
- 1.2. The product should be kept in a shaded and protected dry place (18°C to 25°C). Do not store the timber flooring outside.

2. Substrate preparation guidelines

The entire substrate should always be checked for any unevenness and must also be level in accordance with NZS AS1884:2013 (not exceeding 3mm variation over a 3m long straight edge).



2.1. Concrete floors (slab-on-grade or suspended)

If the concrete substrate is mechanically weak, please contact Forté (if you are unsure) prior to installation to discuss preparation requirements.

2.1.1. Grind

It is necessary to grind all concrete substrates to remove contaminants and prepare the surface for the next stage. Any high spots should be ground down to meet the levelling requirements (3mm variation over a 3m long straight edge). Low spots may have to be built up with an approved levelling compound (this will be covered in step 3).

2.1.2. Moisture Barrier

All concrete substrates must be tested and display a reading of 70% RH or less before installation can begin.

a. Test:

To measure the relative humidity above the slab, the hygrometer is sealed to the concrete and left for at least 16 hours. It measures the relative humidity of the air in the sealed chamber over the slab. If your initial test shows up below 70% then you can proceed without applying moisture barrier (possible where slabs have been installed for several years).

b. Seal:

If the hygrometer reading is above 70% RH (Relative Humidity), then a coat of moisture barrier approved for use with engineered timber flooring (e.g. Mapeproof 1k Turbo) should be applied to the concrete slab before laying. The RH reading of the substrate should be re-checked once the moisture barrier is dry. If the hygrometer reading is still too high, another coat of the moisture barrier should be applied to the concrete

substrate. Ensure all guidelines in the suppliers TDS/Installation sheet are followed when applying the moisture barrier. Continue this process or wait until the hygrometer reading is below 70% RH.

Refer to BRANZ Bulletin Issue 644 "Solid timber strip flooring on a concrete slab – Section 2" for more information.

2.1.3. Priming/levelling

If the substrate unevenness still exceeds 3mm variation over a 3m long straight edge after grinding, it is necessary to fill low spots with levelling compound.

- a. Mark out the areas required to be levelled.
- b. Before applying the levelling compound, prepare the areas marked out with a primer approved for use with engineered timber flooring (e.g. Eco Prim T Plus). Ensure all guidelines in the suppliers TDS/Installation sheet are followed.
- c. Apply a levelling compound approved for use with engineered timber flooring with concrete substrates (e.g. Mapei Ultraplan) to the areas marked out. Ensure all guidelines in the suppliers TDS/Installation sheet are followed.

The substrate should now be level (not exceeding 3mm variation over a 3m long straight edge).

Conduct a final check to ensure the sub-floor is completely dry, clean, level, free of any cracks, and structurally sound before proceeding with installation.

2.2. Timber flooring (structural or overlay, but not timber joists)

2.2.1. Inspect

- a. Ensure the timber substrate is well-fixed to the joists. If there is any movement/squeaking this needs to be remedied before installation.
- b. The timber substrate should be 18mm minimum when over joists, and 15mm when over concrete.

2.2.2. Sand

A timber substrate should be machine sanded to remove contaminants and prepare the surface for the next stage.

2.2.3. Moisture Test

Use a Resistance (invasive) Moisture Meter to test both the timber substrate and the engineered timber flooring moisture content (MC) levels. The moisture content difference should be no more than 4% between the timber substrate and the engineered timber flooring. **Do not install if the moisture content difference is greater than this.** If the moisture content is too high, you should wait for the timber substrate to dry out to meet the 4% moisture content difference.

2.2.4. Priming/levelling

If the substrate unevenness still exceeds 3mm variation over a 3m long straight edge after sanding, it is necessary to fill low spots with levelling compound.

- a. If the substrate is formed by wooden boards with open joints, these must be sealed with a sealer approved for use with engineered timber flooring (e.g. Mapei Nivorapid + Latex Plus).
- b. Mark out the areas required to be levelled.
- c. Before applying the levelling compound, prepare the areas marked out with a primer approved for use with engineered timber flooring (e.g. Eco Prim T Plus). Ensure all guidelines in the suppliers TDS/Installation sheet are followed.
- d. Apply a levelling compound approved for use with engineered timber flooring with timber substrates (e.g. Mapei Fiberplan) to the areas marked out. Ensure all guidelines in the suppliers TDS/Installation sheet are followed.

The substrate should now be level (not exceeding 3mm variation over a 3m long straight edge).

Conduct a final check to ensure the substrate is completely dry, clean, level, free of any cracks, and structurally sound before proceeding with installation.

2.3. Concrete floor with hydronic underfloor heating system

Prior to installation

- Ensure the timber flooring being installed is suitable for installation over Underfloor Heating
- The spacing (width) between heating tubes should not be more than 150mm.
- The surface of the slab from the heating tubes may not be less than 45mm and the recommended thickness is 60mm.

Refer to the **Forté Timber Overlay Flooring System Design Guide** for more information.

2.3.1. Commission the underfloor heating system

It is required to remove as much moisture as possible from the slab before proceeding to installation. The underfloor heating should be working at least 3 weeks before flooring is to be installed to allow enough time for commissioning and substrate preparation. Always follow the underfloor heating manufacturers guidelines and if these conflict with our guidelines, please contact Forté Customer Care for more information.

- a. Begin commissioning by increasing the system temperature in daily increments of 5°C until the system reaches 27°C (this should take 5-6 days).
- b. The system should be kept at 27°C for at least 48 hours.
- c. The system should then be cooled in daily increments of 5°C until it has reached its lowest level and then turned off.
- d. Keep the system turned off for 48 hours.
- e. If any cracks have appeared after the heating up cycle, they must be carefully glued together with synthetic resin.

2.3.2. Prepare substrate as per 2.1 Concrete floors (slab-on-grade or suspended)

2.3.3. Preparing for/during Installation

- a. Once the slab has been commissioned and is ready for installation, turn on the underfloor heating, and increase in daily increments of 5°C until the installation surface temperature is 15°C.
- b. The installation surface temperature should be maintained at 15°C during installation and kept at this temperature until at least 48 hours after installation has been completed. Allowing changes in temperature (particularly overnight) can cause the wood to lift off the adhesive thus affecting the adhesive bond.

2.4. Electric underfloor heating system set into screed

Prior to installation

- **IMPORTANT:** Prior to installation of the underfloor heating system, the subfloor should be prepared in accordance with the 'Substrate Preparation Guidelines' depending on the type (e.g., for a concrete floor, the sub-floor should be prepared as per guidelines under 2.1 Concrete floors). We recommend the flooring installer to contact the underfloor heating contractor to ensure that the subfloor is prepared correctly.
- Ensure the timber flooring being installed is suitable for installation over underfloor heating
- The spacing (width) between heating tubes should not be more than 150mm.
- The surface of the slab from the heating tubes may not be less than 45mm and the recommended thickness is 60mm.

Refer to the **Forté Timber Overlay Flooring System Design Guide** for more information.

2.4.1. Commission the underfloor heating system

It is required to remove as much moisture as possible from the screed before proceeding to installation. The underfloor heating should be working at least 3 weeks before flooring is to be installed to allow enough time for commissioning and substrate preparation. Always follow the underfloor heating manufacturers guidelines and if these conflict with our guidelines, please contact Forté Customer Care for more information.

- a. Begin commissioning by increasing the system temperature in daily increments of 5°C until the system reaches 27°C (this should take 5-6 days).
- b. The system should be kept at 27°C for at least 48 hours.
- c. The system should then be cooled in daily increments of 5°C until it has reached its lowest level and then turned off.
- d. Keep the system turned off for 48 hours.
- e. If any cracks have appeared after the heating up cycle, they must be carefully glued together with synthetic resin.

2.4.2. Prepare substrate

When installing over underfloor heating systems, please ensure the below points are adhered to before proceeding with installation.

- a. **Moisture test:** The substrate must be tested and display a reading of 70% RH or less before installation can begin.
- b. **Level substrate:** The substrate must be checked for any unevenness and must not exceed 3mm variation over a 3m long straight edge.
- c. **Adhesion to substrate:** Ensure the substrate is compatible with the adhesive being used. If there are any additional adhesion requirements (e.g., keying the membrane), check if this is possible with the membrane system supplier first.

Where any of the above points cannot be achieved, do not install the flooring, and contact Forté Customer Care to discuss a solution.

Conduct a final check to ensure the substrate is completely dry, clean, level, free of any cracks, and structurally sound before proceeding with installation.

2.4.3. Preparing for/during Installation

- a. Once the slab has been commissioned and is ready for installation, turn on the underfloor heating, and increase in daily increments of 5°C until the installation surface temperature is 15°C.
- b. The installation surface temperature should be maintained at 15°C during installation and kept at this temperature until at least 48 hours after installation has been completed. Allowing changes in temperature (particularly overnight) can cause the wood to lift off the adhesive thus affecting the adhesive bond.

2.5. Wet-area membrane systems

Prior to installation

- **IMPORTANT:** Prior to installation of the Wet-area membrane system, the subfloor should be prepared in accordance with the 'Substrate Preparation Guidelines' depending on the type (e.g., for a concrete floor, the sub-floor should be prepared as per guidelines under **2.1 Concrete floors**). We recommend the flooring installer to contact the Membrane contractor to ensure that the subfloor is prepared correctly.
- Ensure the membrane system supplier states their system is compatible with Glue down Timber Flooring Installation.
- All timber flooring installation components (sealers/primers/levelling/adhesives) used when installing over a wet-area membrane system must come from the same supplier as the wet-area membrane.
- The membrane should be installed in accordance with E3/AS2 requirements

Refer to the **Forté Timber Overlay Flooring System Design Guide** for more information.

When installing over wet-area membrane systems, please ensure the below points are adhered to before proceeding with installation.

- a. **Moisture test:** The substrate must be tested and display a reading of 70% RH or less before installation can begin.
- b. **Level substrate:** The substrate must be checked for any unevenness and must not exceed 3mm variation over a 3m long straight edge.
- c. **Adhesion to substrate:** Ensure the substrate is compatible with the adhesive being used. If there are any additional adhesion requirements (e.g., keying the membrane), check if this is possible with the membrane system supplier first.

Where any of the above points cannot be achieved, do not install the flooring, and contact Forté Customer Care to discuss a solution.

Conduct a final check to ensure the substrate is completely dry, clean, level, free of any cracks, and structurally sound before proceeding with installation.

2.6. Acoustic underlay glued to an approved substrate

Prior to installation

- **IMPORTANT:** Prior to installation of the acoustic underlay, the subfloor should be prepared in accordance with the 'Substrate Preparation Guidelines' depending on the type (e.g., for a concrete floor, the sub-floor should be prepared as per guidelines under 2.1 Concrete floors). We recommend the acoustic underlay to be installed by the flooring installer to ensure that the subfloor has been prepared correctly.

Refer to the **Forté Timber Overlay Flooring System Design Guide** for more information.

When installing over acoustic underlay, please ensure the below points are adhered to before proceeding with installation.

- a. **Moisture test:** The substrate must be tested and display a reading of 70% RH or less before installation can begin.
- b. **Level substrate:** The substrate must be checked for any unevenness and must not exceed 3mm variation over a 3m long straight edge.

Where any of the above points cannot be achieved, do not install the flooring, and contact Forté Customer Care to discuss a solution.

Conduct a final check to ensure the substrate is completely dry, clean, level, and structurally sound before proceeding with installation.

2.6.1. Suitable acoustic underlays

It is important to ensure the underlay is suitable for timber floor installation and you should always consult with the acoustic underlay supplier to ensure compatibility with the **Forté Timber Overlay Flooring System**, and the supplier installation guides must be always adhered to.

- a. Forté Acoustick-Mat Heavy-Duty Rubber/Cork 5mm Acoustic Underlay.
- b. Regupol 4515 Acoustic Underlay.

2.7. Any other substrates (joists/other flooring types)

Please contact Forté Customer Care on 0508 366 77 for advice on substrate suitability. If installed without approval, warranty will be voided.

3. Installation guidelines

3.1. Installers responsibility

The person installing the flooring is solely responsible for thoroughly checking the boards for damage or defects prior to laying. If you are not happy with a board, do not install it. If there are any concerns regarding the material and/or the environment/location it is being installed in, the installer should contact Forté immediately. Once installed, the materials are deemed to have been accepted and if boards with obvious defects are used, the product is not subject to claim.

If you come across boards you don't like the colour or look of, put them aside and use them in an area that is not as prominently visible, such as a wardrobe. If you are unsure, contact Forté customer care on 0508 366 77.

Engineered timber flooring is a natural product that will display natural variations of colour, grain, texture, and other characteristics of European Oak, these are not considered as defects.

3.2. Installation in large areas/long lengths

For installations where a single length/run of the timber flooring will be over 15 meters, please contact Forté on 0508 356 677 to ensure suitability for installation.

3.3. Laying conditions

Conditions within the dwelling should resemble as closely as possible the in-service conditions of the completed building or dwelling.

The surface temperature of the substrate, at the time of installation, should be at least 15°C but never exceed 27°C, with the ideal indoor relative humidity between 45% and 55% but never below 30% or exceed 60%.

Ensure that the substrate is free of cracks, resins and other coatings that could prevent the adhesive and or moisture barrier from bonding or working effectively. The substrate should be levelled, cleaned and dried to meet **Forté Substrate Preparation Guidelines** (see page 1 for more details) for the adhesive and moisture barrier to bond to. Failure to adhere to this process will void the suppliers' warranty.

3.4. Adhesive recommendations

Ensure the adhesive is approved for use with the prefinished timber flooring and the substrate you are installing on (e.g. Mapei Ultrabond ECO® S955 1K for standard applications, and Ultrabond ECO® 995 for challenging applications).

- a. We recommend using a water-based flexible adhesive as these are relatively easy to clean from the surface of a prefinished plank (rigid adhesives be used in more challenging environments).
- b. Solvent based adhesives should be avoided where possible as if any residue touches the surface of the plank it will cause long-term and irreparable damage.
- c. Only water-based flexible adhesives should be used when installing onto wet area membranes under E3/AS2.

- d. We recommend a trowel application for installation. We do not recommend squiggle or spot gluing as this can potentially cause hollow spots, squeaking, and movement.
- e. Always follow the glue manufacturer's instructions and be sure to choose the correct size trowel.

3.5. Preparing to install

3.5.1. Decide direction of flooring installation (if this hasn't already been decided)

Wood flooring generally looks best when running in the same direction as the longest dimension of the room, or in the direction you will be most commonly walking in the space. Refer to our [article Deciding what direction to timber lay timber flooring](#) for more advice.

3.5.2. Allow for expansion

An allowance of 5-10mm should be provided around the perimeter as well as any fixed items in the area where the flooring is to be laid to allow for expansion (including doorways, heating tube outlets, connections with tiles, etc).

Skirting boards should be removed from the walls where the flooring is being installed. If this is not possible, the skirtings will need to be undercut before installation begins to allow for expansion.

Spacing wedges/shims should be used to assist in maintaining the expansion gaps during installation.

3.5.3. Client approval

Where possible, open a pack of the flooring and show the client to confirm they are satisfied, and it meets their expectations.

3.6. Installation method

You should always try to have at least half a board's width at each side of the room as smaller width boards are difficult to fit and do not look good, particularly if the wall is not straight.

Always work out of 2-3 different packs concurrently to ensure consistency throughout the area. Engineered timber flooring is a natural product and will showcase colour variation, every plank will be slightly different.

3.6.1. Setup/Layout

- a. Choose the most suitable wall to begin installation from (starting at the corner furthest from the entrance will enable proper workspace practice by not walking unnecessarily on the newly laid floor).
- b. Start by running a string line or chalk line along the length of the room and using this as a guide to ensure the first row is straight. **Always assume the walls are not straight and room is not square.**
- c. We recommend dry laying the first 2 or 3 rows, adjusting the first row to the wall contours, and adjusting for the width you have planned.

Sealing gaps between planks in kitchens, bathrooms, toilets, and laundries

A waterproof PVA joint sealer adhesive must be used in all joints (both along the length of the plank, and at the ends of planks) during installation. Ensure all guidelines in the suppliers TDS/Installation sheet are followed.

This is to be done to achieve an impervious surface, which is required by Clause E3 of the New Zealand Building Code.

We recommend using a **D3 PVA Adhesive** which can be supplied by Forté.

3.6.2. Gluing to substrate

When installing on a concrete substrate, ensure the flooring is weighted down while the adhesive is curing. This will help prevent hollow spots where the glue is not fully bonded.

Immediately clean up any adhesive spilt on the surface of the wood flooring during installation. Follow manufacturer's recommendations.

If the installation is over more than one day, strap or wedge the last row to prevent movement overnight. Weigh (you will have packs of boards at this stage) down the last few rows to prevent them from lifting off the adhesive.

- a. Install the first row following the chalk line made during setup, with the groove side facing the wall.
- b. Following the spread rate and curing time, spread the glue evenly on the substrate ensuring the installer can lay the planks in time for best result of the glue.
- c. Immediately place the boards into the adhesive, prior to the adhesive skinning over. Place spacers between the boards and the wall to keep the expansion gap whilst the adhesive is curing.
- d. Add each additional row of flooring, offsetting or staggering the end joints at least 30cm apart.
- e. Once the installation is finished, ensure spacers are positioned around the perimeter of the room to keep the expansion gap whilst the adhesive is curing.

3.7. Post-installation checklist

- a. Perform touch-ups and clean up marks/glue spillages as required.
- b. Remove expansion shims and install any trims/bars/skirting boards/toe kicks as required. Always fix the mouldings to the wall, never to the flooring.
- c. Fill any gaps around planks with a matching filler.
- d. Caulking/silicone where required. (This is required in wet areas – refer to note below)
- e. Vacuum/sweep and mop the floor, ready for client inspection.

Sealing around perimeter and any fixed items in kitchens, bathrooms, toilets, and laundries

After installation has been completed, use a flexible waterproof filler specialized for use with timber flooring (such as Bona Gap Master or Berger-Seidle AquaSeal FlexFill) to seal around the perimeter as well as any fixed items in the room/area.

In open-plan spaces, this should extend 1.5m from each sanitary fixture/sanitary appliance.

This is to be done to achieve an impervious surface, which is required by Clause E3 of the New Zealand Building Code.

Note: We recommend using **AquaSeal FlexFill** in the colour closest to your flooring/joinery colour.

4. Post-Installation surface protection

- a. Avoid using tape on the floor (if required, use delicate masking tape and do not leave on the surface for longer than 7 days).
- b. Keep foot traffic to a minimum for first 24 hours to allow the glue to set. Wait 24 hours before placing furniture or heavy objects into the room.
- c. In high-traffic areas, it is important that the flooring is protected with a breathable floor protection product. Forté recommend and stock a breathable product called **Protecta Board**. Contact Forté for more information if this is required.
- d. To minimize the possibility of fine dust (usually from plasterboard/drywall products) getting into the grain of the flooring, ensure all cutting machines have dust collection bags. If fine dust has been generated in the surrounding area during installation, ensure the floor is vacuumed after installation and immediately covered with a breathable floor protection product after vacuuming.



Auckland Showroom
Unit 2, 299 Great
North Road, Grey Lynn

Queenstown Showroom
313 Hawthorne Drive,
Frankton

Wellington Showroom
262 Thorndon Quay,
Pipitea

Pukekohe Showroom (Head Office)
3 Keith Place,
Pukekohe, Auckland

forte.co.nz
info@forte.co.nz
0508 35 66 77

Find us on social media:
 Forte Flooring
 @forteflooring

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