

Overlay wood flooring system installation guide

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1. About Engineered Wood Flooring

Assuring good stability, engineered flooring remains all the appearance and features of solid timber flooring with a decorative layer of solid timber at first and another timber or other materials beneath, which can differ clearly in their construction, maybe stacked as floating floors, and is glued to a subfloor as an overlay or in some circumstances is fixed as a structural floor.

Constructions Obviously, products that own various board constructions, and different product designs in the present market will be taken into consideration. There are two general product types that have been rolled out for certain years; the first type owns a face lamella, core block layer, and stabilization layer, and the other type restricts a face lamella over a plywood base (typically referred to as 3 layers)

Engineered wood flooring may be installed using either a floating or glue-down method. Glue-down installation is the preferred method for optimum performance and stability. All installation requirements and site conditions must be complied with.

2. Scope & Limitations on the use Overlay Engineered Wood Flooring System

This overlay Engineered Wood Flooring system is for commercial and residential indoor use and is not to be used outdoors. Violation of this will result in the warranty being voided.

This product is suitable for all areas except commercial kitchen and garages.

The Subfloor must be level in accordance with NZS/AS 1884:2013 (3mm variation over a 3m long straight edge)

The product must be installed onto an approved subfloor.

When used in wet areas, the provisions of this installation guide must be followed to ensure the flooring performs properly post-installation.

The products are used with underfloor heating systems, the provisions of this installation guide must be followed to ensure the flooring performs properly post-installation.

During maintenance and clean, the maintenance and care guide provided by FLOORCO must be adhered to.

For installations where both the length and width of the Product will be less than 12 x 8meters. If exceeding this measurement, please choose to use a divider transition trim.

The product needs to comply with the NZBC C AS/1, maintaining a distance from combustion appliances.

3. Environment & Conditions Recommendations

Please store the packets 48 hours prior to installation under the same climatic conditions (temperature and moisture) as the actual installation process.

Important pre-conditions for the proper installation and long-term performance of engineered wood flooring include maintaining an indoor temperature between 18°C and 24°C and a relative humidity between 40% - 65%. Timber sub floors must have a moisture content below 13% prior to installation. Concrete sub-floors must not exceed 70% RH and shall be adequately protected against moisture in accordance with the flooring and moisture barrier manufacturers' requirements..

It is essential to keep the flooring dry and free from moisture. Engineered wood flooring installed over concrete substrates must be protected by a two-component moisture barrier system specifically designed for timber flooring installations. The moisture barrier shall be applied continuously over the entire concrete surface at a minimum coverage rate of 450 g/m² and in accordance with the manufacturer's instructions. Only approved adhesives designed for engineered wood flooring shall be used. Both the adhesive and moisture barrier systems must achieve 100% continuous coverage of the concrete subfloor surface. Moreover, the flooring should never be placed outdoors.

Maintaining a stable indoor temperature and humidity over a certain period of time is crucial. Greater shrinkage would be caused by the lower humidity. and greater expansion would be caused by the higher humidity. Certain issues (such as squeaking in an existing plank or sheet subfloor or the integrity of tile fixation)

Necessary Materials and Tools: Adhesive, moisture barrier, polyethylene foil or moisture barrier underlayment, aluminum jointing tape, separation shims, fit-up aid, and footfall sound insulation.

When there is a swimming pool at home, if the pathway after swimming passes through a floored area, special treatment is required for the flooring. This includes sealing the floor joints (refer to section 5.7.1 for instructions) and applying an additional coating beyond the floor's original finish, such as hardwood wax oil or polyurethane. Failure to implement these treatments may result in discoloration or permanent marks on the flooring.

4. Safety & Health

In every scenario, safety and Health takes precedence

Be it tools, the site, or materials, should they pose a threat to your safety and health, it's imperative to exit the area Immediately.

To further ensure your safety and well-being, please following protective gear:

- ✧ Safety Glasses: To shield your eyes from flying debris.
- ✧ Ear Protection: To safeguard your hearing amidst noisy environments.
- ✧ Masks: To prevent inhalation of harmful dust and particles.
- ✧ Safety Vest: To enhance your visibility on site.
- ✧ Steel Toe Shoes: To protect your feet from heavy falling objects.

Equipment safety is paramount. For instance, while using a saw for cutting tasks, never remove the saw's protective covering. This precaution is crucial to prevent accidental injuries.

Note:

Engaging in woodworking may expose individuals to fine wood dust, which has been associated with nasal cancer in some instances. Additionally, specific types of wood such as Spotted Gum might be treated; therefore, it's not recommended to dispose of the resulting sawdust, shavings, or offcuts by burning. It's prudent to consult local Council By-Laws to ascertain the correct disposal procedures for treated wood.

5. Concrete & Timber Substrate Preparations

5.1 Clean & Dry

Remove or clean all surface contaminants- any glue or sticky adhesive residue needs to be mechanically eradicated to avoid any clicking sounds that might be heard when walking across the finished floor.

Concrete and timber while the surface of these substrates may appear dry, it is after the installation of the flooring product that any potential moisture can be drawn to the surface causing bubbling and swelling of the product. This can be caused by the concrete slab blocking off the crossflow ventilation. The result creates moisture build-up beneath the Building.

Both substrates should be moisture tested at the early planning stages of an installation a moisture content reading that is more than 13% may indicate a moisture problem beneath the floor. Providing adequate subfloor ventilation and vapor membrane is crucial.

5.2 Sound & Smooth

Alongside any loose, rotten, or springy boards, inspect for flexing and stability at the joint where timber meets concrete. This joint represents the weakest point susceptible to movement under load, heat, moisture, or seismic activity.

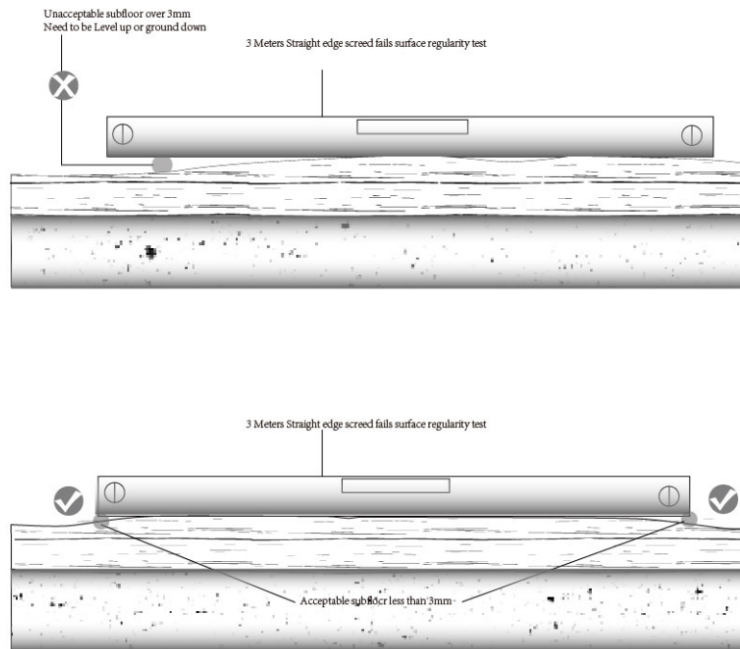
The surface should exhibit smoothness with no detectable ridges when a hand is glided over it

5.3 Flat Planeness

When a 3000mm long straightedge is laid at rest on two points spaced 3000mm apart on the surface, no portion of the surface should be more than 3mm beneath the straightedge. NZS AS1884:2013

5.4 Leveling

In situations where there is a substantial discrepancy in the level of the floor, utilizing Plywood can effectively resolve the unevenness. When the discrepancy is minor, using a screed or leveling compound can smooth out the irregularities, providing a flat and stable surface for further flooring installations



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5.5 Underfloor Heating

Before the installation, please ensure that the timber flooring chosen for installation is compatible. Install underfloor heating, preparation as per this guide is necessary. Additionally, we recommend the flooring installer to liaise with the underfloor heating contractor to ensure correct installation.

If there's a conflict between the guidelines of the underfloor heating manufacturer and this guide, always follow the guidelines of the underfloor heating manufacturer.

The temperature of the underfloor heating system should not exceed 27°C.

turned on prior to installation of the floor covering for a minimum of seven days to assist with the acclimatization of the substrate.

When the underfloor heating system is restarted after being turned off, the temperature should be gradually increased to reach 27°C over a period of 4-5 days.

Do not frequently adjust the temperature of the underfloor heating system, it is permissible to decrease or increase the temperature by a maximum of 2°C per day. NZS AS1884:2013

The temperature should be maintained at 15°C during the flooring installation, and this temperature should be sustained for at least 48 hours post-installation.

the presence of underfloor heating and security systems shall be checked and all preliminary work, such as the fixing of floor sockets for service plugs, shall be completed.

Perform a concluding inspection to ascertain that the substrate is thoroughly dry, clean, level, devoid of any cracks, and structurally robust prior to advancing with the installation.

5.5.1 Hydronic and Electric

Underfloor heating is divided into Hydronic and Electric types. Installers need to confirm with the underfloor heating supplier and Floorco Trading Ltd that it is suitable for Wood flooring before installing the flooring.

Note:

Should any of the aforementioned points be unachievable, please cease installation immediately. Forcing installation implies subsequent unknown risks; please contact us.

5.6 Acoustic Underlay

If there are additional requirements for sound insulation, using an acoustic underlay can enhance the Impact Insulation Class (IIC) for improved soundproofing

5.6.1 Before Installation

Prior to the installation of the acoustic underlay, please prepare according to the " Substrate Preparations " section of this guide.

The flooring installer can carry out the installation of this acoustic underlay and can inspect that the subfloor has been adequately prepared.

5.6.2 During Installation

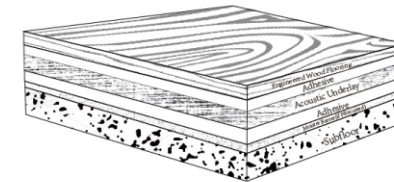
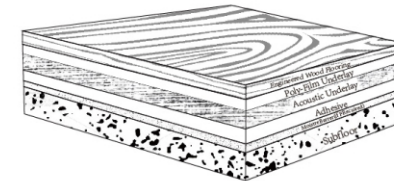
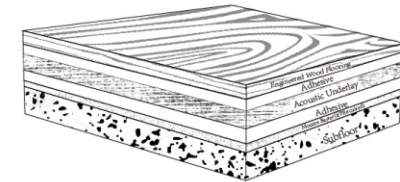
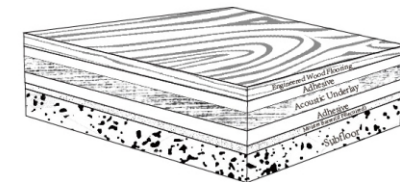
Adhere to the moisture test requirements, no higher than 70% Relative Humidity. and humidity within 15%.

Also, follow the requirements for leveling evenness.

Fully glue use a notched trowel to spread the glue evenly over the subfloor.

Note:

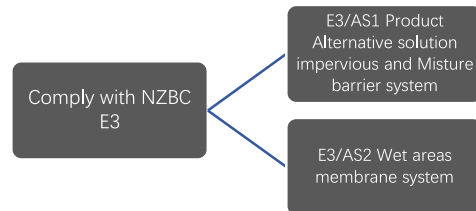
If the above instructions cannot be adhered to due to special circumstances, please refrain from installing the acoustic underlay or flooring. Should any of the aforementioned points be unachievable, please cease installation immediately. Forcing installation implies subsequent unknown risks; please contact us.



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Wet areas comply with NZBC E3

Our flooring product can comply with E3 through two methods: Product Alternative Solution (Impervious & Moisture Barrier system with D3 PVA or higher Joints/Caulk Perimeter) or E3/AS2 (Wet areas membrane system).



5.7 and 5.7,1 describes the installation method for meeting E3 requirements through the E3/AS2 wet areas membrane system. For the E3/AS1 Product Alternative Solution, please refer to: <https://floorco.co.nz/e3-as1-flooring-alternative-solution-for-kitchen-toilet-laundry-bathroom/>

5.7 Wet Areas Membrane System NZBC E3/AS2

A BRANZ appraised wet area membrane system must be used for wet areas such as kitchens, bathrooms, toilets, and laundries. D3 adhesive is also required in all joints. Installation must be in accordance with the relevant BRANZ Appraisal.

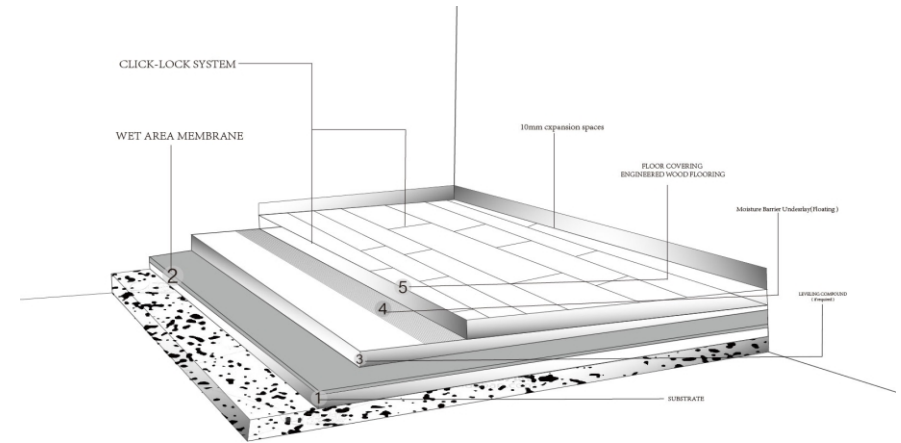
Refer to the Code of Practice for Internal Wet-area Membrane Systems for more information.

[Building.govt.nz/assets/Uploads/building-code-compliance/e-moisture/e3-internal-moisture/code-of-practice-for-internal-wet-area-membrane-systems.pdf](https://building.govt.nz/assets/Uploads/building-code-compliance/e-moisture/e3-internal-moisture/code-of-practice-for-internal-wet-area-membrane-systems.pdf)

The Code of Practice for Internal Wet-area Membrane Systems (IWAMS) provides a method to achieve an impervious substrate, ensuring the protection of the building structure. By following the IWAMS guidelines, the installation creates a barrier that effectively prevents water from penetrating the substrate, thereby maintaining the structural integrity of the building. This system has specific design and installation requirements and cannot be substituted, modified, or incomplete application. by 'waterproofing' or any similar approach. Following this code is the only correct way to meet the NZBC E3/AS2 requirements

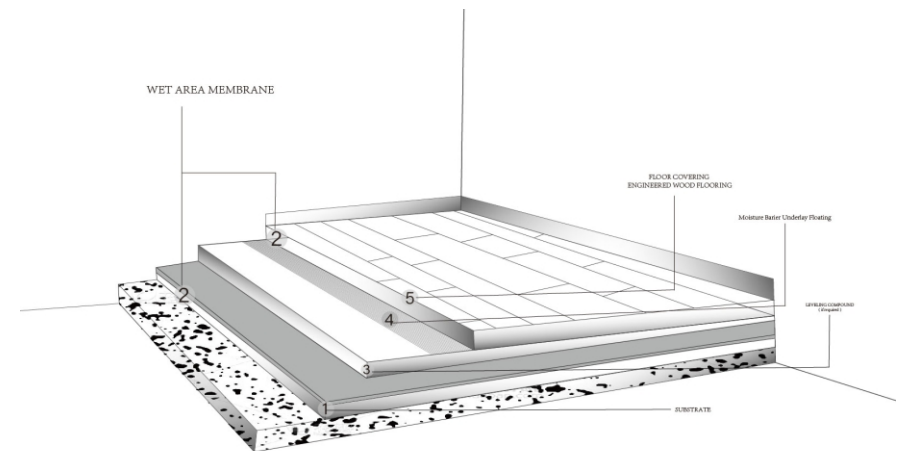
5.7.1 Diagram of Installing Wood flooring in Wet Areas

◆ Areas for Glue down



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◆ Areas for floating



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6. Installation

6.1 Responsibility

The flooring installer should conduct a thorough inspection for defects and damage on the flooring. If a particular board or several boards are found to be unsatisfactory, please do not install them. Upon completion of the installation, it implies that the installer has accepted the materials, and the flooring will not be subject to claim Protection.

Some aesthetically displeasing boards are not unusable. They can still be placed in less conspicuous areas like storage rooms, closets, or corners of rooms. The Engineered wood flooring products are natural wood grain, appearance is not considered a defect

And the installer has the responsibility to follow this guide for installation, violating this guide will render the flooring ineligible for claim protection. If there are any questions, feel free to contact us.

The builder, owner, or end-user must provide temperature control devices. If it's colder than specified, don't install flooring until devices run for 48 hours to condition the material. these devices shall remain on during the installation and for a minimum of 48 hours thereafter. NZS AS1884:2013

6.2 Notice

The maximum dimensions for the flooring are 8m x 8m, and a minimum expansion gap of 10 mm should be left every 8 meters.

Please ensure that the base material is level, solid, clean, and dry, as detailed in "Substrate Preparations" of this guide. Failure to adhere to this guide will result in warranty voidance.

Avoid direct sunlight 24 hours before, during, and 24 hours after installation to prevent heat-caused size changes.

6.3 Install Methods

Engineered Wood Flooring has two installation methods, one method is GLUE DOWN, and FLOATING. Careful consideration should be given when choosing the floating installation method, as it has stringent environmental requirements and can lead to several issues caused by expansion. These issues include noise during foot traffic, warping, and other related problems. Additionally, the floating installation method is only recommended for products with a thickness of less than 14mm or a width of less than 220mm. Solid wood flooring is only suitable for glue-down installation.

6.3.1 Floating Methods

Floating Method installation refers to a method of installing Engineered wood flooring without the need for nails, or staples. The engineered wood flooring is designed to lock together or glue along the edges, creating a floating floor over the subfloor.

6.3.1.1 Preparation

Remove existing molding and clean sub-floors. Level uneven sub-floors if necessary. Please ensure to follow the content of "Concrete & Timber Substrate Preparations." in this guide.

Roll out 2mm - 5mm moisture barrier underlay to cover the subfloor, especially if the installation is above or at ground level. Run the underlayment 20mm to 30mm up the walls and secure it in place with tape. 100% fully coverage sub-floor and sealed.

Identify the longest, straightest wall to begin the installation.

Measure and mark the flooring width plus 10mm for expansion from the starting wall, snapping a chalk line for guidance.

Take into account extra expansion gaps for strong sunlight exposure, and when installing. On plywood or particle board sub-floors. Please ensure to follow the content of " Substrate Preparations" in this guide.

6.3.1.2 Preparing the starter row

Select the longest and straightest boards for the first rows.

Align and install the boards, ensuring a 10mm expansion gap from the end wall, and stagger the joints with a minimum end stagger of 152mm.

Measure the total width of the flooring (including the tongue), plus 10mm for expansion. Measure out this distance in at least 2 places from the starting wall and 30cm from the corners. Then, snap a chalk line parallel to the starting wall.

6.3.1.3 Subsequent Rows

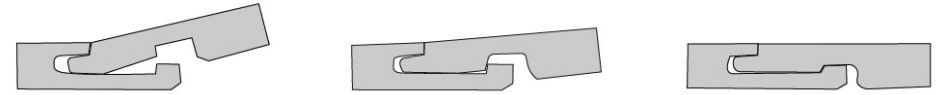
Continue laying out the planks, working from at least four open cartons to blend the planks and stagger the end joints for a pleasing appearance.

6.3.1.4 Click-Lock Install [1]

Attach the next board to the shorter edge and lower down. Press the shorter edge of the board with a hand, and the lock will close. The board, cut as described above, is placed with the front lock towards the preceding board. Use the cut portion of the board to start the second strip of the floor. Insert it into the lock at an angle of 20°-30°.

Then interlock the longitudinal side by pulling the elements together. As long as there is no visible gap between the elements, the connection has been sealed correctly and the element can be fully laid out flat on the floor. If a gap exists, repeat the previous process but with more pressure and check the row beforehand.

It may be necessary to rip the last row to allow for the 10mm expansion. If the last row is 3cm or less click the pieces to the last full uninstalled row and install them together. If needed use a light rubber mallet to make the remaining rows tight to the installed planks.



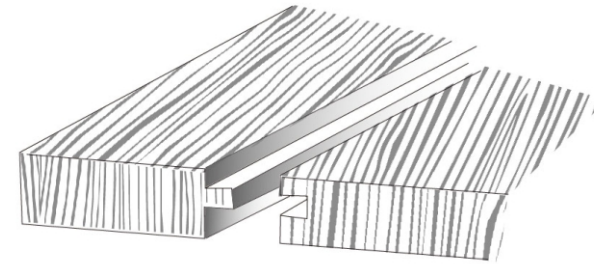
Click-lock system [1]

6.3.1.5 Gluing T&G [2]

In a floating floor installation, the flooring is not glued or nailed to the underlayment but is glued in the board's side and end grooves. This is achieved by applying a bead of glue on the upper side of the groove along the entire length and on the end of each plank with silicone-based T & G glue. If click-lock system please see [1]

Turn the board upside down when applying the adhesive to achieve proper application, when the board is turned again for installation with the finish side up, this will allow the adhesive to flow down and give better coverage. Do not apply adhesive on the top of the tongue. If click-lock system please see [1]

Do not apply adhesive on the top of the tongue. If click-lock system, please see [1]



T&G system [2]

Note:

It's crucial to note whether the product is T&G (Tongue and Groove) or CLICK-LOCK before installation.

6.3.2 Glue Down Methods

The glue-down Method involves fixing your floor directly to the substrate using an adhesive. This is Engineered wood Flooring's preferred method of installation for most circumstances as it provides a floor that is firmer and quieter to walk on and eliminates the risk of squeaking joints.

6.3.2.1 Preparation

Remove existing molding and clean sub-floors. Level uneven sub-floors if necessary. Please ensure to follow the content of "Concrete & Timber Substrate Preparations." in this guide.

Identify the longest, straightest wall to begin the installation.

Measure and mark the flooring width plus 10mm for expansion from the starting wall, snapping a chalk line for guidance.

Take into account extra expansion gaps for strong sunlight exposure, and when installing, on plywood or particle board sub-floors. Please ensure to follow the content of " Substrate Preparations" in this guide

6.3.2.2 Preparing the starter row

Select the longest and straightest boards for the first rows.

Align and install the boards, ensuring a 10mm expansion gap from the end wall, and stagger the joints with a minimum end stagger of 152mm.

Measure the total width of the flooring (including the tongue), plus 10mm for expansion. Measure out this distance in at least 2 places from the starting wall and 30cm from the corners. Then, snap a chalk line parallel to the starting wall.

6.3.2.3 Subsequent Rows

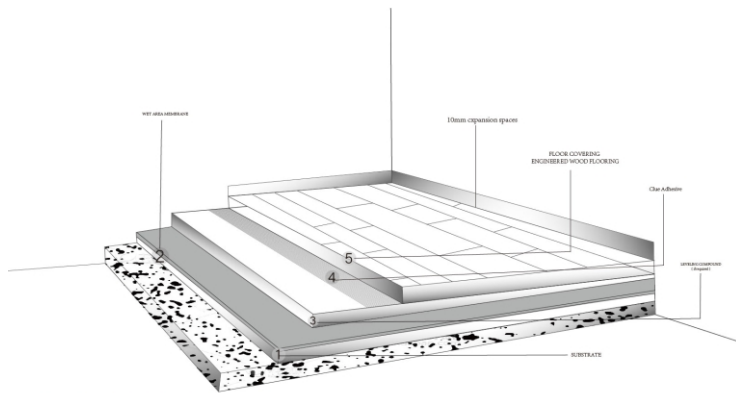
Continue laying out the planks, working from at least four open cartons to blend the planks and stagger the end joints for a pleasing appearance.

6.3.2.4 Fully Glue-Dwon Install

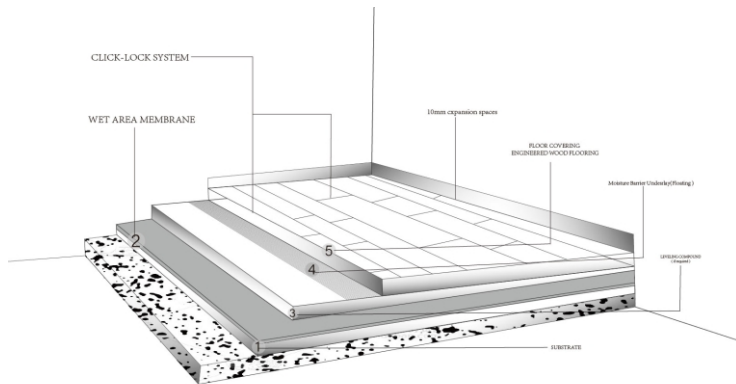
Apply the specified adhesive with a trowel according to the instructions on the adhesive container. For plywood or particle board subfloors, a vapor barrier is not required. When installing over concrete, include a vapor barrier and ensure the adhesive fully covers the subfloor for optimal adhesion.

Always select your strips The more deeply colored strips should be installed where they are less visible. Pieces with flaws should be recut.

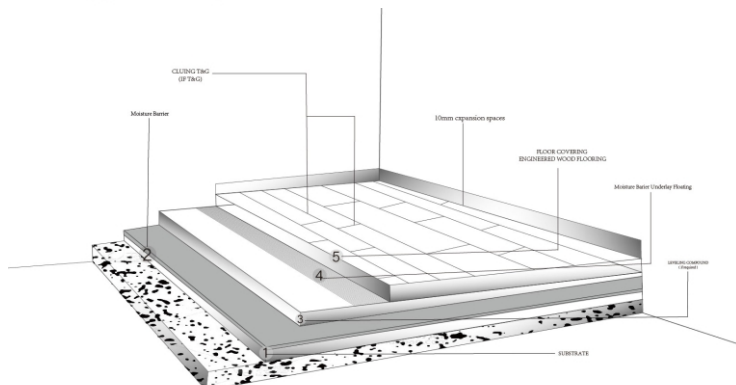
Using the working area to install your flooring, line up the first strip with the tongue facing the wall, then press the strip into the adhesive and against the holding block. When you get to the final row you will likely find it necessary to rip-saw the strips to fit against the wall. Install using the pry bar and leave 10mm minimum expansion spaces.



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6.4 Impervious & Moisture Barrier System E3/AS1

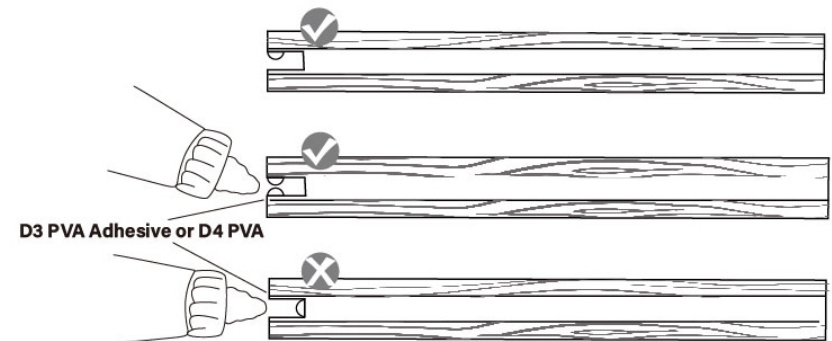
Our flooring product can comply with E3 through two methods: Product Alternative Solution (Impervious & Moisture Barrier system with D3 PVA Joints/Caulk Perimeter) or E3/AS2 (Wet areas membrane system). This section explains how to meet E3 requirements through the E3/AS1 Product Alternative Solution.

6.4.1 NZBC E3 Wet areas – D3 PVA or Higher adhesive at the Joints

When installing in wet areas, it's essential to fully apply D3 PVA adhesive at the joints of the floor. This is a crucial step to meet the E3 Alternative Solution requirement.

In wet areas, creating an impermeable surface is essential to comply with NZBC E3. Make sure to use a D3 PVA or higher joint sealer adhesive for sealing all plank joints, both along their length and at the ends.

1. Apply a thick, uniform bead of adhesive to the edge of the groove/click mechanism, then to the top of the groove/click.
2. Fit the planks tightly together and promptly remove any excess adhesive with a damp cloth or wipe.



6.4.2 Sealed Kitchen, Laundries, toilet and bathroom

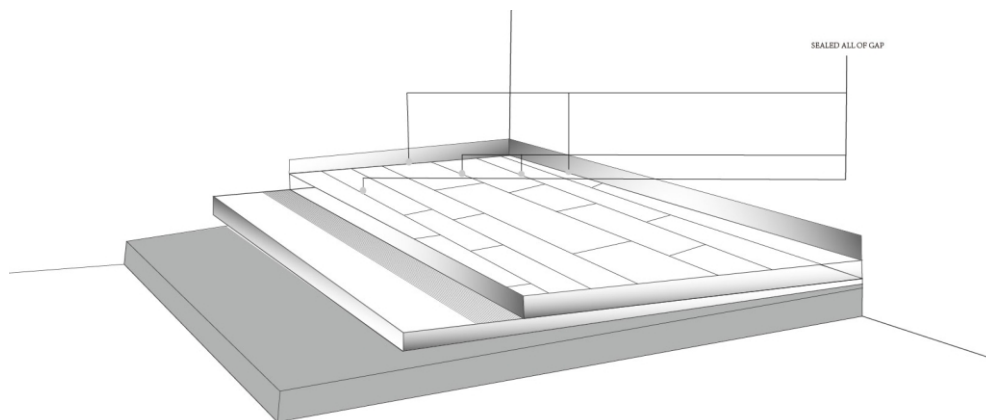
To further protect the perimeters and joints from water ingress, the Installer will seal gaps between planks in the Kitchen, toilet, laundry, and bathroom. In open-plan spaces, the flooring surface shall extend at least 1.5 m from all sanitary fixtures and sanitary appliances. The sealed and transparent D3 PVA or higher adhesive should be used at the ends of planks and the long edge of the plank, this must also include perimeter protection from water ingress.

A D3 PVA or higher adhesive that is water-impervious is necessary for all joints (both along the length and at the ends of the planks) during the installation process.

In the first, a thick and even layer of the adhesive should be applied to the groove edge, followed by an application to the top of the tongue. The planks should then be brought together and secured tightly. Any excess adhesive should be promptly wiped off with a wet rag or wipe.

It's crucial to adhere to all the guidelines specified in the D3 PVA or higher supplier's Installation sheet and this Installation Guideline.

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



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7. Post-Installation Work

Clean the floor with any high-quality, wood lacquer cleaner.

Install transition pieces -i.e. – thresholds, t-moldings, base shoe. Always secure moldings to the wall, not the Floor.

Any unused material should be stored in a dry place in case future repairs are needed. We recommend saving at least 2 boxes.

To reduce the risk of fine dust particles, typically originating from plasterboard or drywall products, infiltrating the grain of the flooring, make certain that all cutting machinery is equipped with dust collection bags.

In cases where fine dust has been produced in the vicinity during installation, it's essential to vacuum the floor post-installation and promptly shield it with a breathable floor protection product after the vacuuming process.

To avoid shifting or gapping of the flooring during installation, lay perpendicular strips of 3M tape to hold the strips together.

Remove the tape within 24 hours. Avoid the use of masking tape, which leaves an adhesive residue and may cause damage to the flooring.

Please refrain from placing mats or rugs on the installed flooring for the first six months. This can cause color discrepancies between the area under the mats or rugs and the uncovered sections of the flooring.

References

1. Code of Practice for Wet Area Membrane Systems page45 – page52, 4th Edition published August, 2020 – By the Waterproofing Membrane Association Incorporated (previously the Membrane Group of New Zealand)
2. Floor coverings resilient sheet and tiles installation practices. By NZS/AS1884:2013 – New Zealand Standard.
3. Resilient floor coverings planning and installation 1first Edition 2019 – By The Flooring Association for the flooring industry.
4. Timber Flooring industry standard, By Australasian Timber Flooring Association
5. FLOORCO Engineered wood flooring installation Instructions 2rd Edition –By FLOORCO trading Ltd.



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