Overlay Wood Flooring System

Product Alternative Solution Guidance

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1. Scope & Limitations on the use

Overlay flooring system installation using either FLOATING or GLUE-DOWN methods. However, regardless of the installation method, adherence to installation conditions is necessary.

- This Overlay 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 kitchens 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 cleaning, the maintenance and care guide provided by FLOORCO must be adhered to.
- The product needs to comply with the NZBC C AS/1, maintaining a distance from combustion appliances.
- It's crucial to pay attention to the maximum width and length during flooring installation to ensure adaptability.

2. Environment & Conditions

----------**Recommendations**

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

Important pre-condition for proper fitting and long-term use of the laminated flooring is a room temperature of 18 – 24°C and a relative humidity of around 40 – 70%.

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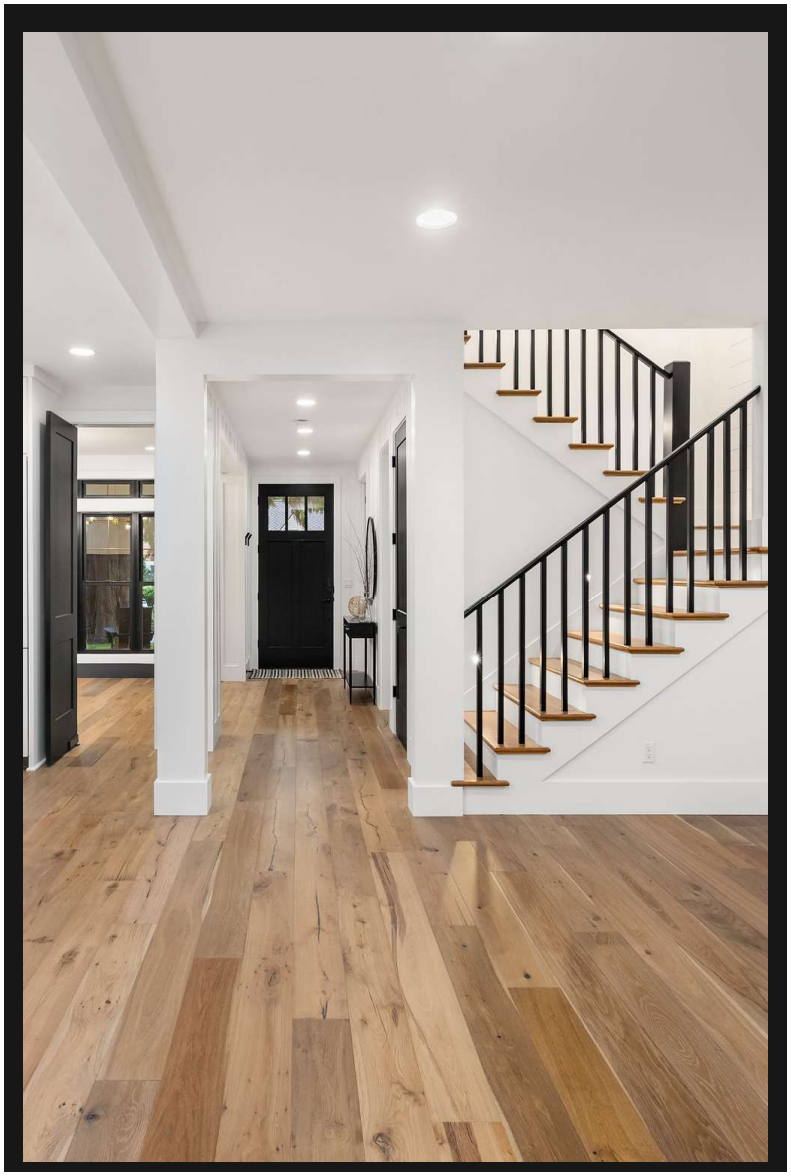
it is essential to keep the flooring dry and free from moisture. Moreover, the flooring should never be placed outdoors.

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.



3. Concrete & Timber Substrate Preparations

3.1 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 16% may indicate a moisture problem beneath the floor. Providing adequate subfloor ventilation and vapor membrane is crucial.

3.2 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.

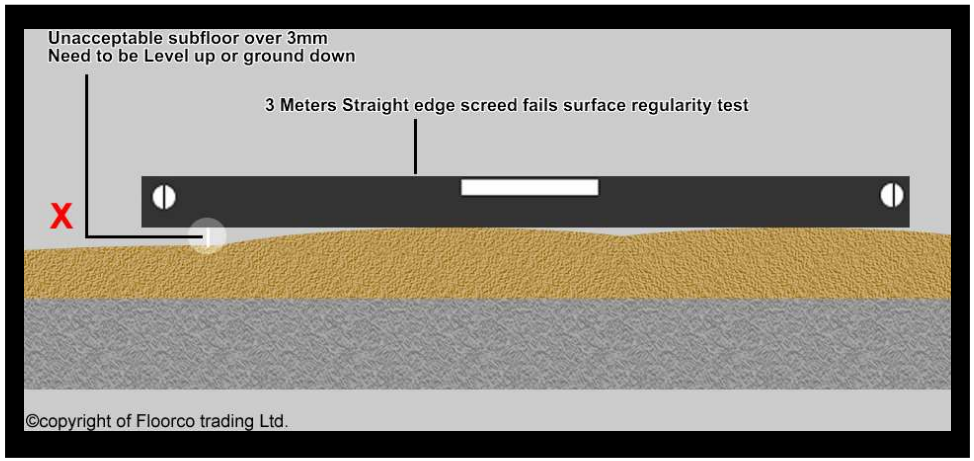
The surface should exhibit smoothness with no detectable ridges when a hand is glided over it.

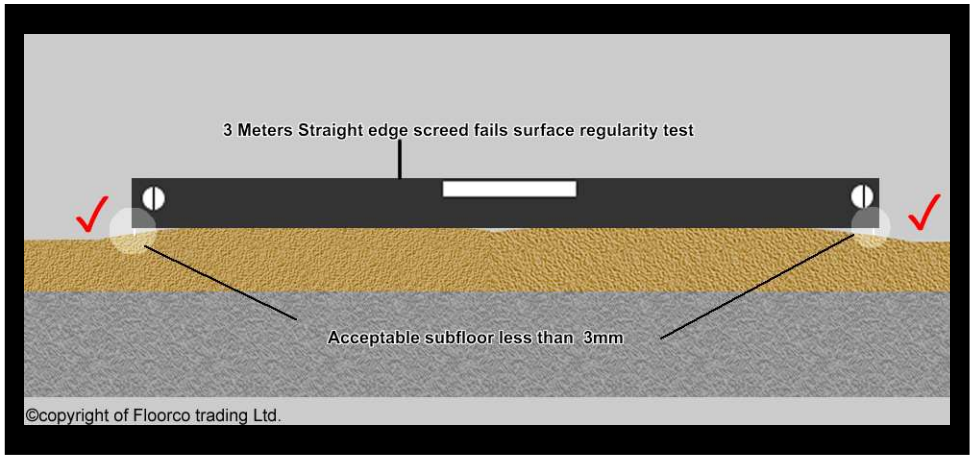
3.3 Flat Planeness

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

3.4 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.





4. Composition of Engineered Wood Flooring Products

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.

- ✓ Top-layer thickness: 2.5mm - 6mm
- ✓ Lacquer Coating: 5 to 7 times Factory Roller-applied with UV cured.
- ✓ Wax Oiled Coating: 3 to 5 times Factory Full hand-applied, with UV cured.

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)

- ✓ Muit-layer thickness: 11mm - 14mm & 3-Layer thickness: 11mm

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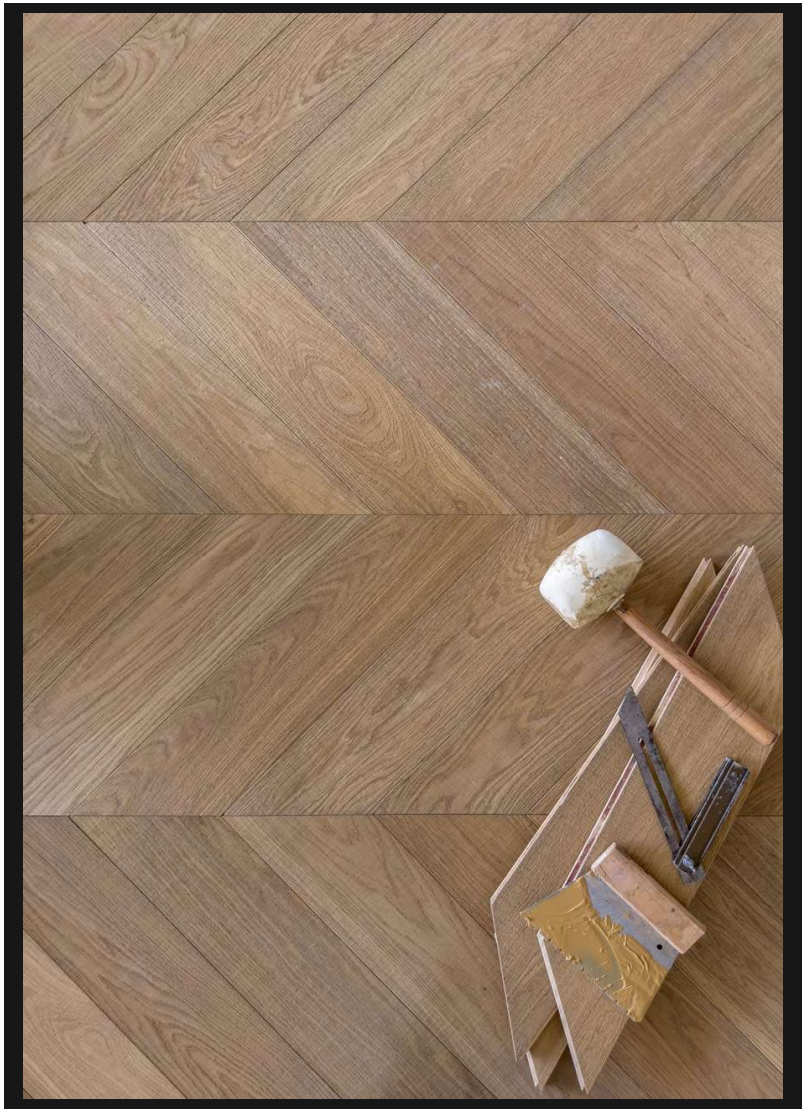


5. Installation Methods with Floating & Glue Down

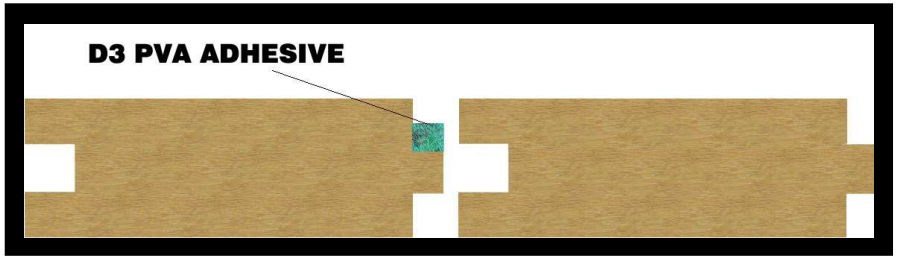
Wood flooring requires installation using either FLOATING or GLUE-DOWN methods. However, regardless of the installation method, adherence to installation conditions is necessary and must be following with Our **Overlay Wood Flooring system Installation Guides.**

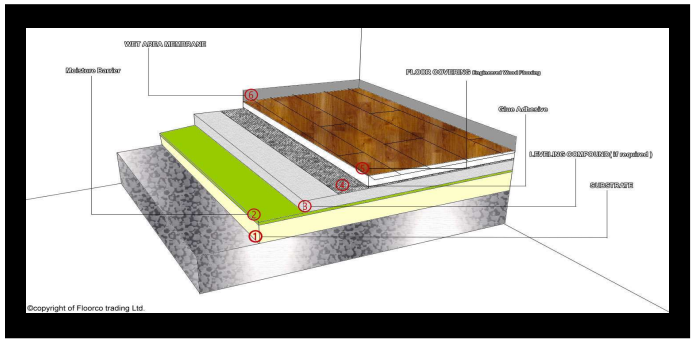
https://floorco.co.nz/wooden-install-instructions/

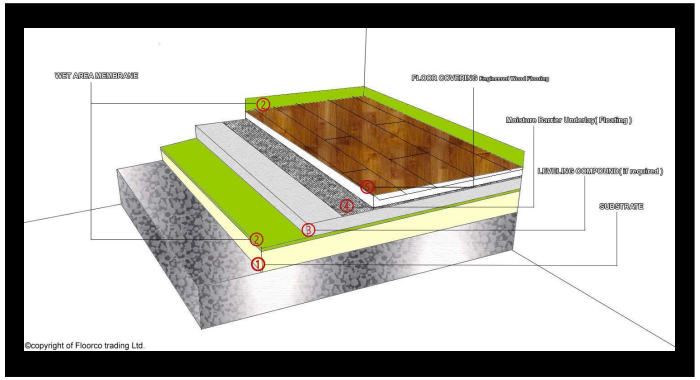
To further protect the perimeters and joints from water ingress, the Installer will seal gaps between planks in the Kitchen, toilet, laundry, and bathroom. In open-plan spaces, the flooring surface shall extend at least 1.5 m from all sanitary fixtures and sanitary appliances. The sealed and transparent silicone 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.

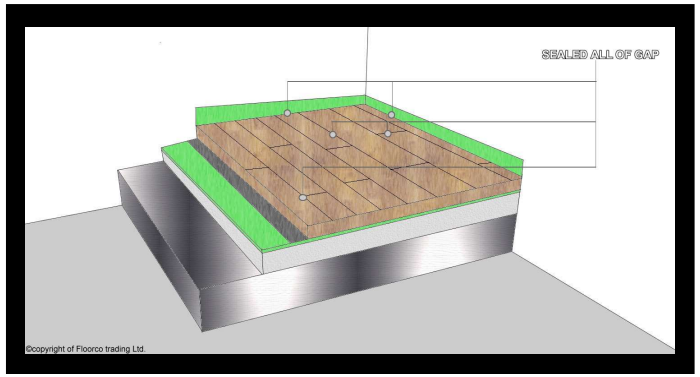
A PVA/silicone adhesive sealer that is water-impervious (with a minimum rating of D3) is necessary for all joints (both along the length and at the ends of the planks) during the installation process.

When installing in wet areas, it's essential to fully apply D3 PVA adhesive at the joints of the floor, whether it is a floating installation or a glue-down method. This is a crucial step to meet the E3 Alternative Solution requirement. Following with Our **Overlay timber Wood Flooring system Installation Guides.**
https://floorco.co.nz/wooden-install-instructions/









6. B2 Durability

The B2 durability performance clauses B2.3.1(C) (i) (ii) Satisfy the performance requirements 5 years. More information please following:

Product	Compliance to B2 Clause	Applications	Intended life
WOOD FLOORING	B2 Durability: Performance Clauses B2.3.1(C) (i) (ii)	Satisfy the performance requirements	5 years (Table 1)

Table 1	Clause B2.3.2 requires that all hidden elements have at least the same durability as that of the element that covers it (i.e. must have the same expected life) which may be more than the requirement in clause B2.3.1.		
Building Element	**Component**	**Not less than 15 years**	**Not Less than 5 years**
Damp-proof membranes	DPMs applied to the top of concrete slabs	Yes	
Fixings	Used to fix non-structural or moderately difficult to replace building elements	Yes	
Floor coverings	Protective or acoustic		Yes

B2/VM 1.1.1 Verification of durability based on in-service history of a building element, including materials, components and systems shall take into account but not be limited to

a) Length of service,

b) Environment of use,

c) Intensity of use,

d) Any reaction with adjacent materials,

e) Limitations in performance,

f) Degree of degradation, and

g) Changes in formulation.

B2/VM 1.2.1 Verification of durability based on successful performance in a laboratory test shall be accompanied by an assessment of the tests performed, their relevance to field and service conditions, and in particular:

a) Types of degradation mechanisms likely to be induced by testing,

b) The degradation mechanisms likely in service,

c) Details of methods of assessment,

d) Variability of results, and

e) The relevance of the test to the building element under study

B2.3.2 Individual building elements which are components of a building system and are difficult to access or replace must either:

a) Types of degradation mechanisms likely to be induced by testing,

b) The degradation mechanisms likely

Compliance with B2

- In-service history
- Laboratory testing

6.1 B2/VM1.1.1 IN-SEVICE HISTORY

Laminate flooring has a long history of installation in residential homes and Commercial, Laminate flooring collections have carried on this tradition in New Zealand, where they have been installed in various buildings for over 5 years. If there are any questions, feel free to contact us, and we will provide the original invoice.

Case Studies

Address	Use in time. (Months)	Areas of Application	Are customers satisfied?
274B Okura river road long bay	58	Kitchen, Living Room, Hallways,	**GOOD**
214 Marsden Point Rd, Ruakaka	54	Kitchen, Living Room, Hallways	**GOOD**
1/159 Carlisle Rd, North Cross	53	Kitchen, Living Room, Hallways,	**GOOD**
3 Moorings Walpahihi, Taupo	52	Kitchen, Living Room, Hallways	**GOOD**
29 Lookout Drive LAINGHOLM	51	Kitchen, bathroom, Living Room	**GOOD**
5 Aaron court, Paraparaumu Beach, Kapiti	57	Kitchen, Living Room, Hallways, bedroom	**GOOD**
26 Pikao Place East Tamak	61	Kitchen, Living Room, bathroom	**GOOD**
4 Priestley Dr Bucklands Beach	50	Kitchen, Living Room, Hallways	**GOOD**
202 Ponsonby Road,Ponsonby,Auckland	62	Kitchen, Living Room, Hallways	**GOOD**
131b Normandale Road Lower Hutt	63	Kitchen, Living Room, Hallways, bathroom	**GOOD**
Lot85 34 lisnoble rd Flat bush	69	Kitchen, Living Room, Hallways, bathroom	**GOOD**
75D Waiatarua RD	61	Kitchen, Living Room, Hallways, bedroom	**GOOD**
5 Aylmer Court, Eastern Beach	61	Kitchen, Living Room, Hallways, bedroom	**GOOD**
4 Stafford Street,Arrowtown	57	Kitchen, Living Room, Hallways	**GOOD**
26/17 Lyon Ave Mount Albert	55	Kitchen, Living Room, Hallways, bathroom	**GOOD**
66 Marine Parade Mellons Bay	60	Kitchen, Living Room, Hallways	**GOOD**
20 Adelphi Place,Albany,Auckland	58	Kitchen	**GOOD**
7a Horotutu road Greenland	54	Kitchen, Living Room	**GOOD**
14 karen rd	68	Kitchen, Living Room, Hallways, bathroom,	**GOOD**

6.2 2/VM1.2.1 IN- LABORATORY-TESTING

Our products have been tested by NZWTA and INTERTEK (IANZ-accredited Laboratory)

Methods	Performance Clause	Result
ISO4760:2022	Response to Moisture	No change – Little to no noticeable change in edge swell or panel surface life.
ISO4760:2022	Impervious	No Migration of water along the upper surface, and No migration of water to the underside.

Regarding the product performance, please refer to the following information:
https://floorco.co.nz/wood-flooring-report/

6.3 Expert literature and Guidance

In 2021, BRANZ released a document titled "E3/AS1 and Wet Area Flooring," which provides evidence of the durability of Matai flooring for over 25 years.

https://www.buildmagazine.org.nz/assets/PDF/Build-186-37-Design-Right-E3-AS1-And-Wet-Area-Flooring.pdf

7. E3 – Internal Moisture Impervious

Our flooring product can achieve compliance with E3 through the following two methods: Product Alternative Solution (D3 PVA Joints/Caulk Perimeter); or E3/AS2 (Wet Area Membrane)

This guide offers an **Product's alternative solution**. To understand E3/AS2**, please refer to the overlay flooring system installation & design guides.**

Product	Compliance to E3 Clause	Applications	Warranty
WOOD FLOORING	Internal moisture: Performance clauses E3.3.3 and E3.3.5, E3.3.6	Wet area floors	15-30years

NZBC E3/AS1 (Acceptable Solution)

- E3.3.3 Floor surfaces of any space containing sanitary fixtures or sanitary appliances must be impervious and easily cleaned.
- E3.3.2 Frewater from accidental overflow from sanitary fixtures or sanitary appliances must be disposed of in a way that avoids loss of amenity or damage to household units or other property.
- E3.3.5: Surfaces of building elements likely to be splashed or become contaminated in the course of the intended use of the building, must be impervious and easily cleaned.
- E3.3.6 Surfaces of building elements likely to be splashed must be constructed in a way that prevents water splash from penetrating behind linings or into concealed spaces.

Compliance with

- E3.3.3 and E3.3.5 Laboratory testing & D3 PVA & E3.1.1 – impervious
- E3,3,2 Exemption under E3/AS1 2.0.2
- E3.3.6 Integrated Solution

7.1 Impervious – E3.3.3 and E3.3.5

Impervious is defined in the E3/AS1 Acceptable solution as "Impervious – that which does not allow the passage of moisture". While performance clauses E3.3.3 and E3.3.5 require impervious surfaces around sanitary fixtures/appliances, there are no verification methods provided.

Refer to page 11 of E3/AS1 which states "No specific methods have been adopted for verifying compliance with the Performance of NZBC E3."

The Objective (E3.1) and Functional (E3.2) requirement of E3 is to prevent illness/injury or damage through accumulation of moisture, or damage caused by free water penetration.

Compliance

As there are no verification methods provided to test for an impervious surface, Our product was tested using the ISO 4760 testing method by NZWTA LTD. (IANZ accredited laboratory), and the results showed no migration of water to the underside. This implies that the product is impervious.

https://floorco.co.nz/category/report/

Test Method

Four boards are assembled with D3 PVA applied to the joints.

Cutting the 4 pieces of samples assembling them into a "T joint" configuration, and conducting the test thrice.100ml of dye solution was applied at the "T Joint" of the sample, with a sealant used to prevent leakage. The sample was placed on white paper towels to detect any dye penetration and left at 20°C, 65% Relative Humidity conditions for 24 hours for examination of dye penetration through the backing.

More proof

E3.1.1 Other floor finishes may also be capable of satisfying the performance for impervious and easily cleaned, if installed in a manner that prevents gaps or cracks within the finish and at any parts of its perimeter that are exposed to watersplash, and/or if the surface is sealed with a suitable durable coating.

- ✓ Use D3 PVA to adhesive the flooring joint that prevents the occurrence of gaps or cracks within the finish., adhering to the requirements of the Overly Flooring System Installation Guide.

- ✓ To prevent gaps or cracks at any part of the flooring perimeter exposed to water splash, specific installation guidelines should be followed. A particular filler is to be used to seal any parts of the perimeter and fixed items in the area (e.g., floor-to-wall junction, kitchen waste pipes) exposed to water splash, extending to a minimum of 1.5m from all sanitary fixtures and appliances in open-plan rooms as per 3.1.1 of E3/AS1.

7.2 Overflow - E3.3.2

E3/AS1 2.0.1 If a sanitary fixture is located where an accidental overflow could damage an adjoining household unit or other property, then Containment and floor wastes that meet the requirements of Paragraphs 2.1.1 and shall be provided, or the exemption for household kitchen sinks and laundry tubs with integrated overflows that meet Paragraph 2.0.2 shall apply.

When in effect, the overflow clause in E3/AS1 requires, Floor Coverings 75mm at Wall Junctions and Floor wastes provided to satisfy Paragraph 2.0.1 b) shall comply with NZBC Clause G13. A graded floor is not essential in this situation.

Compliance:
We recommend that the comply with the exemption provided under E3/AS1 2.0.2.

Household kitchen sinks and laundry tubs that have an integrated overflow with a minimum flow rate of 0.25 l/s do not require additional overflow provisions such as containment and a floor waste where:

a) The maximum flow rate from the inlet tap(s) is less than the flow rate of the integrated overflow for that sink or tub, or

b) The water supplies to the inlet tap(s) for that sink or tub are fitted with proprietary flow restrictors (such as cartridges) to limit the tap flow rate to less than the flow rate of the integrated overflow for the sink or tub.

7.3 water splash from penetrating behind linings or into concealed spaces – E3.3.6

Surfaces of building elements likely to be splashed must be constructed in a way that prevents water splash from penetrating behind linings or into concealed spaces.

Compliance:
Gap sealing and the use of D3 PVA adhesive for joints, along with the procedures outlined in the "Overlay Flooring Installation Guide's Wet Areas Membrane System" section, can prevent water splash from penetrating behind linings or into concealed spaces. Overlay Flooring Installation Guide refer: https://floorco.co.nz/flooring-instruction-centre/

8. C1 Critical Radiant Flux

Product	Compliance to C3 Clause
WOOD FLOORING	C3 : Performance Clauses C3.4(B) the floor surface materials in the following areas of buildings must meet the performance criteria specified

Area of building	Buildings not protected with an automatic fire sprinkler system	Buildings protected with an automatic fire sprinkler system
Sleeping areas and exit ways in buildings where care or detention is provided	4.5kW/m2	2.2kW/m2
Exitways in all other buildings	2.2kW/m2	2.2kW/m2
Firecells accommodating more than 50 persons	2.2kW/m2	1.2kW/m2
All other occupied spaces except household unites	1.2kW/m2	1.2kW/m2

Compliance

Our flooring is Acceptable in all areas, with the sole exception of the building that Sleeping areas and exit ways in buildings where care or detention is provided and the Buildings not protected with an automatic fire sprinkler system, which necessitates a rating of ≥ 4.5 kW/m².

Refer testing report:
https://floorco.co.nz/category/report/

9. D1 Access Routes – Slip Resistant Stair Nosing

Compliance

According to Section D1/AS1, HANDBOOK 197 can be consulted for guidance on minimum slip resistance values in different areas, based on the Wet Pendulum test carried out in accordance with AS 4586.

handrails are present in classification X grade. Our flooring product is Classification Y or X. For design information, please refer to our "**Overlay Flooring Install System Product Performance Compliance Design Guide**."
https://floorco.co.nz/product-performance-compliance-design-guide/

10. F2 Hazardous Building Materials

Compliance

Our product are Low-formaldehyde and E1 rating when tested.
Refer testing report: https://floorco.co.nz/category/report/

Installers should strictly adhere to the health and safety requirements outlined in the **"Overlay Flooring System Installation Guide**." https://floorco.co.nz/flooring-instruction-centre/

11. G6 Airborne and impact sound

According to sections G6.3.1 & 6.3.2, materials in the following areas of buildings must meet the specified performance criteria: The Sound Transmission Class (STC) of walls, floors, and ceilings shall be no less than 55, and the Impact Insulation Class (IIC) of floors shall be no less than 55, determined in accordance with ASTM 492.

Our products have been tested to have an IIC (Impact Insulation Class) of 53 and an STC (Sound Transmission Class) of 53. Although these values do not meet the standard, by adhering to the requirements outlined in Chapter 8 of the "**Overlay Flooring Install System Product Performance Compliance Design Guide,**" utilizing Acoustic Underlay, it is easy to satisfy the criteria set forth in G6 for IIC & STC greater than 55.

Compliance

The test reports for the Acoustic Underlay can be reviewed https://floorco.co.nz/underlay-report/

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. Timber Flooring industry standard, By Australasian Timber Flooring Association
4. FLOORCO Engineered wood flooring installation Instructions 2rd Edition –By FLOORCO trading Ltd.
5. Resilient floor coverings planning and installation 1first Edition 2019 – By The Flooring Association for the flooring industry.
6. Vinyl & Hybrid Flooring industry standard, By Australasian Timber Flooring Association
7. Product Technical Data Sheet https://floorco.co.nz/technical-data-sheet-tds/
8. Product testing Report https://floorco.co.nz/category/report/
9. Flooring Install Instruction Guide https://floorco.co.nz/flooring-instruction-centre/
10. Overlay Flooring System Product Performance Compliance Design Guide.https://floorco.co.nz/product-performance-compliance-design-guide/
11. Overlay Laminate Flooring system installation Guide https://floorco.co.nz/wooden-install-instructions/

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