Forté Alternative Solution Guidance for Timber Flooring

(E3 AND OTHER COMPLIANCE REQUIREMENTS)



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Forté

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1.0 SCOPE OF USE

Before working through the evidence, confirm your project falls within this Alternative Solution, which sets different limits for single-dwelling and multi-dwelling buildings and excludes bathrooms and all commercial wet areas.

This document summarises the evidence that the Forté Timber Overlay Flooring System meets the relevant clauses of Schedule 1 of the New Zealand Building Code (especially E3 Internal Moisture) when installed in the wet areas listed below. It applies to single-level and multi-level residential buildings.

Relationship to CodeMark

The Forté Timber Overlay Flooring System holds CodeMark Certificate of Conformity CMNZ70143, which covers B2, C3, D1, E3 (E3.3.3, E3.3.5 and E3.3.6) and F2 within the conditions and limitations of the certificate. Where an installation falls within the certificate's scope, the Building Consent Authority must accept the CodeMark as evidence of compliance. This document supports specifiers and Building Consent Authorities by setting out the wet area installation requirements and the evidence behind them, and it can be submitted as a proposed Alternative Solution where an installation sits outside the CodeMark scope.

Where this E3 Alternative Solution applies

BUILDING TYPE	COVERED	NOT COVERED
Single Dwelling	Kitchens, laundries and WCs	Bathrooms (any room with a bath or shower) – wet area membrane to E3/AS2 required. Forté does not recommend timber flooring in these rooms.
Multi-Dwelling	Kitchens, where the sink has an integrated overflow with a flow rate greater than the tap flow rate (see 4.1); laundries	Bathrooms (any room with a bath or shower) – wet area membrane to E3/AS2 required. Forté does not recommend timber flooring in these rooms.
Commercial	—	All commercial wet areas, including commercial kitchens

Where a multi-dwelling kitchen sink does not meet the overflow condition, a wet area membrane to E3/AS2 is required beneath the flooring. Refer to Section 4.2 of the Timber Overlay Flooring System Design Guide for guidance on choosing between this Alternative Solution and E3/AS2.

Permitted Substrates

- Concrete (slab-on-grade or suspended), with a moisture barrier where relative humidity exceeds 70%
- H3-treated plywood
- H1.2-treated solid Pinus species or Douglas fir
- Existing solid NZ native timber, coated with a two-component epoxy moisture barrier before installation

Particleboard and oriented strand board (OSB) are not permitted under this Alternative Solution in wet areas; these substrates must be covered with a wet area membrane to E3/AS2.



2.0 COMPOSITION OF FORTÉ ENGINEERED FLOORING

Every Forté collection shares the same three-part construction: a factory-applied, UV-cured lacquer over a solid European Oak wear layer, bonded to a cross-directional plywood base.

Every Forté collection is a multilayer, prefinished engineered plank with a tongue and groove profile on all four sides.

LAYER	SPECIFICATION
Surface Coating	4–7 Coats of factory roller-applied, UV-cured polyurethane lacquer
Wear Layer	2–6mm Solid European Oak
Backing	Flooring-grade plywood, cross-directional
Overall Thickness	12–21mm, depending on collection

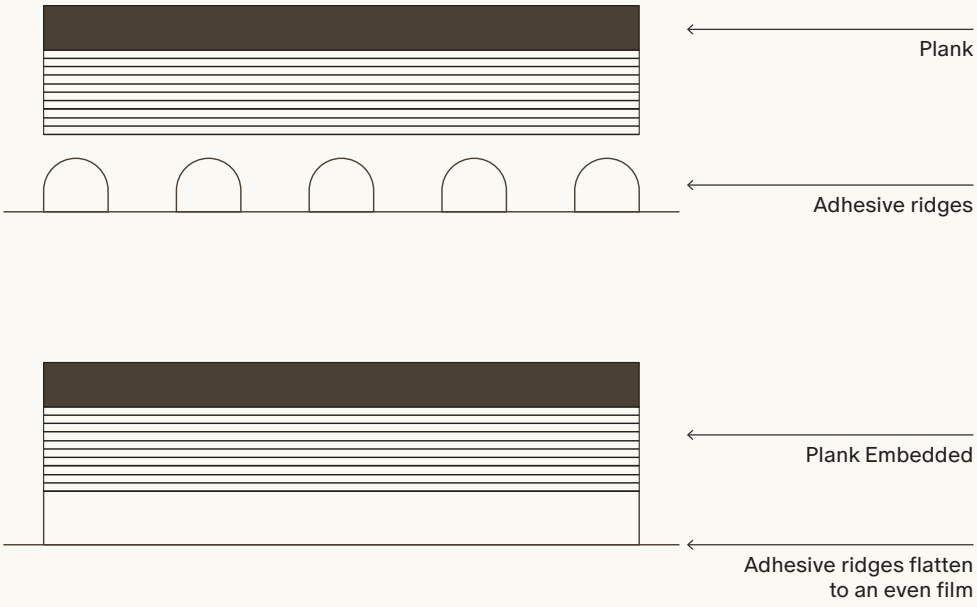
Refer to the relevant product specification sheet for the coating count and dimensions of each collection.



3.0 INSTALLATION METHOD

This Alternative Solution depends as much on how the floor is installed as on what it's made of: fully glued down, with every joint and exposed perimeter sealed.

Flooring in wet areas is fully glued down to the substrate, with every plank joint sealed with D3 PVA and the perimeter sealed with a flexible timber floor sealant. Floating installation is not permitted. All installations must follow the **Forté Timber Overlay Flooring System Installation Guide** (Issue 2026.Q1 or later).



Installation Steps in Wet Areas

[1] Prepare and test the substrate to the Installation Guide, applying a moisture barrier to concrete above 70% relative humidity, or a two-component epoxy barrier to native timber.

[2] Glue the planks down with a trowel-applied flexible timber flooring adhesive, using the adhesive and moisture barrier from a single manufacturer's system.

[3] Apply D3 PVA to every joint, along the length and at the ends of each plank.

[4] Once installed, seal the perimeter expansion gap and around every fixed item in the floor (cabinet kickers, waste pipes, island bases) with an approved timber floor sealant.

Extent of Joint and Perimeter Sealing

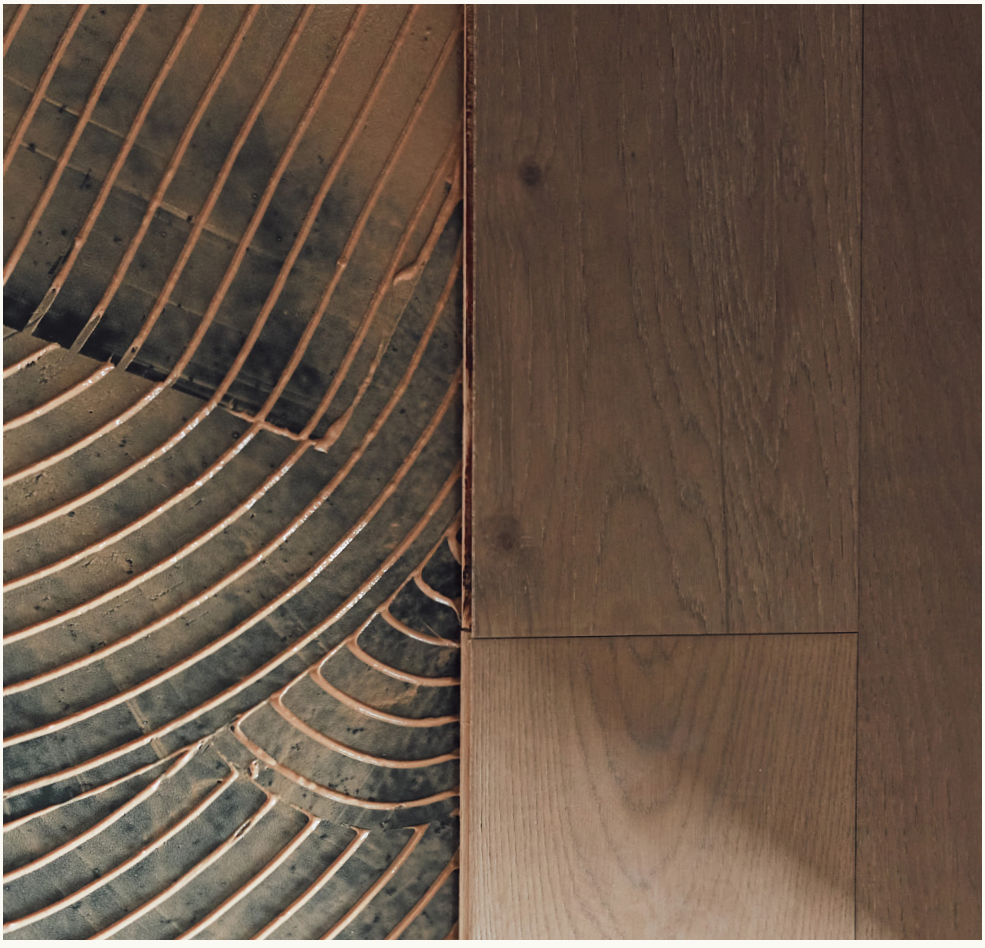
— Enclosed rooms (separate kitchen, laundry or WC): seal all joints and the full perimeter of the room.

— Open-plan rooms: seal all joints and the perimeter within a minimum of 1.5m of every sanitary fixture and sanitary appliance, as per 3.1.1 of E3/AS1.

Approved Products

PURPOSE	APPROVED PRODUCTS
Flooring Adhesive	Selleys Liquid Nails Timberflex; Mapei Ultrabond Eco S955 1K or Eco 995; Ardex AF 480 MS; Uzin MK 95
Moisture Barrier (concrete above 70% RH)	Selleys Liquid Nails VBS; Mapei Mapeproof 1K Turbo or Planiseal MR; Ardex WPM 300
Joint Sealer	PVA adhesive rated D3 or higher to EN 204
Perimeter Sealant	Bona Gap Master; Berger-Seidle AquaSeal FlexFil; HB Fuller Caulk in Colours; Selleys No More Gaps Timber Floors. See our **Design Guide** for matching caulk colour with your selected Forté product.
Epoxy Barrier (native timber)	Two-component epoxy moisture barrier from the adhesive manufacturer's system

Contact Forté Technical Support on 0508 35 66 77 for approval of any alternative product.



E3 - INTERNAL MOISTURE



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4.1 OVERFLOW (E3.3.2)

The overflow clause doesn't apply to detached dwellings, but in multi-dwelling buildings an overflowing sink or tub can damage a neighbouring unit, so it shapes how kitchens and laundries with timber flooring are specified.

Specify sinks and tubs that qualify for the overflow exemption in E3/AS1 2.0.2, because containment and floor wastes are impractical to detail with timber flooring.

E3/AS1 2.0.1 requires overflow provision where accidental overflow could damage an adjoining household unit or other property, meaning containment (an impervious floor covering continuous to the doorway and walls, coved or sealed at the junction, E3/AS1 2.1.1) and floor wastes complying with G13. The overflow clause does not apply to detached dwellings.

E3/AS1 2.0.2 exempts household kitchen sinks and laundry tubs with an integrated overflow of at least 0.25 l/s. The integrated overflow must be tested and verified to BS EN 274. To rely on this exemption, the specifier must ensure either:

[1] The maximum flow rate of the inlet tap(s) is less than the flow rate of the sink or tub's integrated overflow, or

[2] The water supply to the tap(s) is fitted with proprietary flow restrictors (such as cartridges) that limit the tap flow below the overflow rate.

Where neither can be achieved in a multi-dwelling building, install a wet area membrane to E3/AS2 beneath the flooring.

4.2 IMPERVIOUS SURFACES (E3.3.3 & E3.3.5)

E3 requires impervious surfaces around sanitary fixtures and appliances, but E3/AS1 offers no way to verify them, so we commissioned independent testing to show sealed joints stop water reaching the substrate.

The installed system is impervious and easily cleaned: independent ISO 4760:2022 testing shows sealed joints let no water through to the substrate over 24 hours, and the installation meets each part of the comment under E3/AS1 3.1.1.

E3/AS1 defines impervious as “that which does not allow the passage of moisture”. Clauses E3.3.3 and E3.3.5 require impervious surfaces around sanitary fixtures and appliances, but E3/AS1 adopts no verification method for this performance. The objective (E3.1) and functional requirement (E3.2) are to prevent illness, injury or damage from accumulated moisture or free water.

Laboratory Evidence

SGS New Zealand Ltd tested assembled samples to ISO 4760:2022 (topical moisture resistance, assembled joint). All collections tested achieved a rating of 1 (no change).

TEST METHOD SUMMARY	Three boards are assembled with D3 PVA (EN 204) applied to the joints. A 100mm diameter ring is sealed over the inverted T-joint, filled with 100ml of dyed water and left for 24 hours. The water is then removed and the joint is assessed for penetration and change.

Meeting the Conditions Under E3/AS1 3.1.1

E3/AS1 notes that other floor finishes may meet the impervious and easily cleaned performance if installed without gaps or cracks within the finish and at any perimeter exposed to water splash, and/or if sealed with a suitable durable coating. Forté meets all three conditions.

CONDITIONS	HOW THE FORTÉ SYSTEM MEETS IT
No gaps or cracks within the finish	D3 PVA (EN 204: interior areas with frequent, long-term exposure to running or condensed water) is applied to every plank joint, along the length and at the ends
No gaps or cracks at any perimeter exposed to water splash	A flexible, acrylic-based timber floor sealant seals the perimeter and every fixed item in the floor, extending at least 1.5m from each sanitary fixture and appliance in open-plan rooms
Surface sealed with a suitable durable coating	Every Forté collection is factory-finished with at least four coats of UV-cured polyurethane lacquer, which we put forward as a suitable durable coating under E3/AS1 3.1.1. It forms a continuous, impervious seal across the timber surface and, when maintained to our care guide, meets Clause B2 durability for an easily accessed and replaced floor finish. Because the lacquer provides the seal, it performs consistently across every collection, whatever the thickness of the wear layer beneath it.

4.2.1 INSTALLING UNDER CABINETRY

In wet areas, running the floor unbroken beneath cabinetry and appliances keeps the whole E3 zone protected by one continuous, impervious surface.

Where Forté timber flooring is specified as an E3 Alternative Solution, we recommend installing the flooring continuously beneath all cabinetry and appliances in wet areas to provide a consistent, impervious floor surface throughout the E3 area.

If it is elected not to install timber flooring under these areas, the concrete or timber substrate must still have an appropriate moisture barrier or epoxy applied.

4.3 WATER SPLASH (E3.3.6)

E3 requires floors near sanitary fixtures to stop splashes getting behind linings or into concealed spaces, and the glue-down installation, sealed joints and sealed perimeter achieve this together.

The system prevents water splash from penetrating behind linings or into concealed spaces because the flooring is glued directly to the substrate rather than floated, which minimises timber movement, and every joint and exposed perimeter is sealed as described in Sections 3 and 4.2.

B2 - DURABILITY



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5.1 DURABILITY REQUIREMENT

Beyond E3, the flooring must meet Clause B2, which sets a five-year minimum durability for floor coverings. That requirement applies to the whole plank assembly, not only its coating.

Forté flooring meets the five-year durability requirement for floor coverings through in-service history, independent laboratory testing and a direct-fix installation that limits timber movement.

Durability Requirement

B2/AS1 Table 1 sets a durability requirement of five years for “Floor coverings — protective or acoustic coverings”. This applies to the flooring plank assembly as a whole, not only its surface coating.

B2/AS1 — TABLE 1	
	The durability requirement for “Floor Coverings – Protective or Acoustic Coverings” is 5 years. — The durability requirement applies to the nominated building element (any structural and non-structural component or assembly incorporated into or associated with a building). In the case of timber flooring, this would mean the flooring plank assembly in its entirety rather than just the topcoat surface of the flooring product. — Wet areas containing Baths/Showers are outside the scope of this Alternative Solution, therefore there is unlikely to be frequent water-splash in the area of installation (Refer to Timber and Timber-Based Flooring in Wet Areas for more information).

5.2 IN-SERVICE HISTORY (B2/VM1 1.1)

Forté engineered flooring has been installed in New Zealand kitchens, laundries and WCs for over 18 years, and that in-service history is one of the ways B2/VM1 allows durability to be shown.

Timber flooring has been used in New Zealand homes for longer than any other floor covering, and Forté prefinished engineered collections have been installed in New Zealand kitchens, laundries and WCs for over 18 years.

COMMERCIAL CASE STUDY



LOCATION	Rodd & Gunn Lodge Store, Westfield Chartwell, Hamilton
PRODUCTS USED	Ultra Champagne Oak by Forté
INSTALLATION DATE	2010

RESIDENTIAL CASE STUDY



LOCATION	McEntyres Fairway, 11 McEntyres Lane, Millbrook, Arrowtown
PRODUCTS USED	Smartfloor Lignite Oak by Forté
INSTALLATION DATE	2012

5.3 BRANZ GUIDANCE

BRANZ has documented solid timber flooring that has withstood splashes and occasional floods in wet areas for over 25 years.

The article is a generic example, not formal guidance.

The BRANZ Build article “E3/AS1 and wet area flooring” (2021) shows solid mātai flooring that has withstood splashes and occasional floods for over 25 years, as a generic example of timber flooring durability in wet areas.

5.4 LABORATORY TESTING

Independent testing by an IANZ-accredited laboratory shows Forté’s assembled, sealed joints resist topical moisture with no change.

Forté engaged SGS New Zealand Ltd, an IANZ-accredited laboratory, to test the topical moisture resistance of assembled flooring samples to ISO 4760:2022. Every collection tested achieved the highest qualitative rating of 1 (no change). See 4.2 for the test method.

5.5 TIMBER SUBFLOORS AND ASSURED MAINTENANCE

Where ongoing maintenance of the floor's coating can't be assured, B2 calls for a treated timber subfloor beneath it, so choosing the right substrate matters as much as the finish above it.

B2/AS1 3.2.2.3 requires that where maintenance of an impervious coating cannot be assured in wet areas, plywood flooring is treated to a minimum of H3, or solid Pinus or Douglas fir to a minimum of H1.2. Direct-fixed engineered flooring minimises dimensional movement, but these treated substrates must still be used beneath it in wet areas (see 1.0). Where installing over existing solid native timber, such as in a villa renovation, apply a two-component epoxy moisture barrier first.





6.0 C3 – CRITICAL RADIANT FLUX

Clause C3 limits how much floor finishes contribute to fire spread, measured as critical radiant flux.

All Forté collections have a deemed critical radiant flux of 2.2 kW/m^2, as wood products at least 12mm thick with a density of at least 400 kg/m^3 (C/VM2 Appendix B, Table B1). This makes them acceptable in all spaces except unsprinklered buildings in risk group SI (care and detention), which require 4.4 kW/m^2; contact Forté for collection-specific test results.



7.0 D1 — SLIP RESISTANCE

Clause D1 sets minimum slip resistance for level access routes and stairs, and every Forté collection has been tested against it.

Forté collections have been tested to AS 4586 using the wet pendulum method (Slider 96 rubber), and CodeMark CMNZ70143 certifies them for level access routes likely to become wet, with one exception: **Atelier is certified for dry access routes only**.

COLLECTION	SRV RESULT (AS 4586)	P RATING	SLIP RESISTANT NOSINGS
ARTISTE GRANDE	35 SRV / 0.65 COF	P3	Required on all stairs
ATELIER	30 SRV / 0.55 COF	P2	Required on all stairs — dry access routes only
HAVEN	40 SRV / 0.75 COF	P3	Required on all stairs
INDUS	40 SRV / 0.70 COF	P3	Required on all stairs
MODA	49 SRV / 0.70 COF	P4	Not Required
RIDGE	39 SRV / 0.60 COF	P3	Required on all stairs
VILLA	39 SRV / 0.60 COF	P3	Required on all stairs

Moda achieves a P4 rating and can be used on stairs without slip-resistant nosings. For all other collections, specify a slip-resistant nosing at least 50mm wide on every stair, residential and commercial.

8.0 F2 – HAZARDOUS BUILDING MATERIALS (F2.3.1)

Clause F2 limits exposure to hazardous building materials. All Forté collections are low-formaldehyde, and the Installation Guide covers safe handling for installers.

All Forté timber flooring collections are low-formaldehyde, meeting E0 or Super E0 rating when tested to AS/NZS 2098.11. The Installation Guide directs installers to cut timber in a well-ventilated area and to wear a dust mask and eye and ear protection, as some fine wood dust can cause nasal cancer.

9.0 SUPPORTING DOCUMENTS FOR CONSENT

Submit these documents with your consent application to reduce requests for information.

Submit this document with the following, all available from forte.co.nz/downloads, to reduce requests for information from the Building Consent Authority.

DOCUMENT
CodeMark Certificate of Conformity CMNZ70143
Timber Overlay Flooring System Design Guide
Timber Overlay Flooring System Installation Guide
Forté ISO 4760 E3 Moisture Test - 2 Layer T&G
Forté ISO 4760 E3 Moisture Test - 3 Layer Locking
Forté ISO 4760 E3 Moisture Test - 3 Layer T&G
Care and Maintenance Guide (Residential)

Acceptance of an Alternative Solution is at the discretion of the Building Consent Authority. Replacing floor coverings in an existing dwelling does not usually need a building consent; refer to MBIE's guidance on building work that does not require a consent. For help with a consent application or RFI, contact our Specification team through **Building Code Support**.


Forté