

HARO – E3 Alternative Solution

NZ Building Code of Compliance for Timber Flooring in Wet areas (Kitchens, Laundries, Toilets/Powder Rooms)



HARO

GERMAN QUALITY FLOORING

HARO & E3 Internal Moisture Compliance

Engineered timber, performance-certified for today's New Zealand interiors.

There is increasing regulatory focus on flooring performance in areas exposed to water or high humidity. Clause E3 of the New Zealand Building Code — Internal Moisture — sets out the requirement for floor surfaces in wet areas to be **impervious** and **easily cleaned**, with these surfaces extending at least 1.5 metres from all sanitary fixtures (such as sinks and basins) and wet appliances (such as washing machines and dishwashers).

While solid timber flooring is no longer listed as an Acceptable Solution under E3/AS1, **engineered timber flooring** — such as HARO — can be used in kitchens, laundries, and powder rooms as an **Alternative Solution**, provided it can demonstrate performance that meets or exceeds the requirements of the Code.

The NZBC defines "impervious" as a surface that does not allow the passage of moisture. Although the Verification Method E3/VM1 states that "no specific methods have been adopted for verifying compliance," the Code itself is **performance-based** — meaning that credible, tested evidence is key to demonstrating compliance.

HARO's German-made timber flooring solutions are designed for real-world use — combining **durability**, **sealed surface technology**, and **dimensional stability** to confidently meet the functional and performance intent of Clause E3.

This document outlines how HARO engineered timber flooring meets the New Zealand Building Code as an **Alternative Solution**, addressing not only E3 – Internal Moisture, but also:

Applications & Limitations

Guidance for use under NZBC Clause E3 Internal Moisture

Applications

This document outlines how HARO's engineered timber flooring solutions meet the performance requirements of Clause E3 – Internal Moisture of the New Zealand Building Code when used as an **Alternative Solution**.

HARO flooring may be specified in:

- Habitable spaces including kitchens, laundries, and powder rooms
- Single-level and multi-level residential and commercial projects
- Areas where moisture may be present or generated

Limitations

HARO does **not recommend or warrant** the use of timber flooring in **wet bathrooms or wet rooms** with open showers.

Special Notes & Exclusions

- For projects consented **before 4 November 2021 (E3 Amendment 6)**, timber flooring may still be used as part of the **Acceptable Solution** path and does not require reclassification under Amendment 7.
 - Timber flooring is **still considered an Acceptable Solution** in spaces not near sanitary fixtures or wet appliances — such as living rooms, bedrooms, entrance ways, hallways, and stairs.
 - Replacing existing timber flooring, sarking, or panelling typically **does not require building consent**, unless other consented works are included as part of the project. Refer to the MBIE guidance:
building.govt.nz/projects-and-consents/building-work-consent-not-required-guidance
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Types of HARO Engineered Timber Flooring

All HARO flooring products referenced here are factory finished in Germany, offering consistent surface sealing and dimensional stability critical for Alternative Solution use under E3.

Type 1: *naturaDur* - 5G Fold Down Locking System

Oil & Polyurethane Sealed Engineered Timber Flooring Finish

- **Coating:** 4–7 coats of factory-applied lacquer
- **Top Layer:** 2.5 – 4 mm European Oak
- **Core:** 9.5 – 10 mm Spruce
- **Locking System:** 5G Fold Down Locking System

Type 2: *naturaLin plus* - 5G Fold Down Locking System

Natural Oiled Engineered Timber Flooring Finish

- **Coating:** 4–7 coats of factory-applied premium oil
 - **Top Layer:** 2.5 – 4 mm European Oak
 - **Core:** 9.5 – 10 mm Spruce
 - **Locking System:** 5G Fold Down Locking System
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Installation Methods

HARO flooring can be installed using two primary methods:

Direct Glue Fix or **Floating Installation**, depending on the product type and site conditions.

Direct Fix Method

- Suitable for all HARO flooring formats
- Uses trowel-applied wood floor adhesive
- A DPM (damp proof membrane) is recommended over the subfloor prior to installation

Floating Method

- Suitable for floating-compatible HARO products only
- Planks are not fixed to the subfloor
- Recommended over HARO Silent ECO Underlay
- Ideal for renovation and fast-install projects

Installation for E3 Compliance

To achieve an **impervious surface** under Clause E3, HARO recommends the following:

- Apply a **D3-rated PVA adhesive** at board joints and around the full perimeter extending **1.5 m out** from all sanitary fixtures and appliances.
- Seal the floor edge where it meets cabinetry, skirtings, and vertical surfaces with a **flexible waterproof sealant**, which can be colour-matched for discretion.

Only approved subfloors may be used — ensuring full compatibility with the building code requirements. Installation must be carried out by an industry-qualified flooring installer.

HARO Engineered Timber Flooring – NZBC E3 Internal Moisture Compliance

The objective of NZBC Clause E3 is to safeguard building occupants from illness, injury, or loss of amenity due to internal moisture accumulation. To satisfy this requirement, buildings must be constructed to prevent fungal growth, excessive moisture, or free water overflow. In particular, floor surfaces in wet areas must be impervious, easily cleaned, and adequately ventilated to maintain a healthy and safe indoor environment.

Definition of Impervious

The E3/AS1 Acceptable Solution defines "impervious" as:

"That which does not allow the passage of moisture."

While performance clauses E3.3.3 and E3.3.5 require impervious and easily cleaned surfaces around sanitary fixtures and appliances, there are no formal verification methods provided in E3/AS1.

Page 11 of the document notes:

"No specific methods have been adopted for verifying compliance with the Performance of NZBC E3."

Independent Testing

To demonstrate compliance, HARO's engineered timber flooring was independently tested by NZWTA (Textiles and Material Testing – Napier, NZ).

See HARO's *Impervious Surface* test results for confirmation of performance.

[NZWTA E3 Moisture Test Results](#)

Page 16 of E3/AS1 further states:

"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 water splash, and/or if the surface is sealed with a suitable durable coating."

Summary of E3 Functional & Performance Requirements Met by HARO

1. E3.3.3

Floor surfaces in any space containing sanitary fixtures or appliances must be impervious and easily cleaned.

2. E3.3.5

Surfaces likely to be splashed or contaminated must be impervious and easily cleaned.

3. E3.2

Buildings must be constructed to avoid the likelihood of:

- (a) Fungal growth or accumulation of contaminants;
- (b) Free water overflow penetrating to adjacent units;
- (c) Moisture-related damage to building elements.

4. E3.1.1 – COMMENT (E3/AS1)

Other floor finishes can satisfy performance requirements if installed to prevent gaps/cracks and sealed appropriately.

Evidence of Compliance – HARO Flooring

Easily Cleaned Surface

HARO engineered timber floors can be vacuumed and mopped using a damp cloth. Detailed care and maintenance guidelines are provided with each HARO floor, along with recommended or supplied cleaning products.

Recommended cleaning procedures are on par with other Acceptable Solutions (e.g., vinyl).

HARO Timber Floor Care Guide – [Care & Cleaning](#)

Recommended Care Products – [Care Products](#)

Durable Surface Coatings

Oil & Polyurethane Sealed Finishes

HARO **Oil & Polyurethane Sealed** timber floors are factory-finished with multiple coats of premium water-based polyurethane. They are manufacturer-tested and warranted for kitchen, laundry and powder room areas, with extensive global and New Zealand use history.

Natural Oiled Finishes

HARO oiled timber flooring is factory-treated with multiple coats of premium oil. They are manufacturer-tested and warranted for use in residential wet areas, including kitchens, laundries and powder rooms.

Preventing Gaps and Cracks – Installation Practices

Internal Joints

To comply with clause 3.1.1 E3/AS1, HARO recommends applying a D3 PVA adhesive to all joints (both length and end) when installing flooring in spaces with sanitary fixtures. D3 adhesives are rated for interior use with high humidity and occasional water exposure.

Perimeter Sealing

To prevent gaps/cracks at perimeters exposed to water splash, follow HARO's installation guidelines. We recommend using a flexible joint filler (e.g., Bona Gap Master or equivalent) to seal floor-to-wall junctions and other perimeter areas—particularly within 1.5m of all sanitary appliances and fixtures (e.g., sinks, toilets, washing machines, waste pipe junctions, etc.).

Independent Laboratory Testing

Test Facility: NZWTA Textiles and Material Testing – Napier, NZ

Test No. 1462167.6

Test Name: ISO 4760:2022(E) – Laminate (Engineered Oak) Flooring: Topical Moisture

Method Summary:

- Planks assembled using standard locking system in a floating “T joint” format.
- 100 ml of dye solution applied centrally in a sealed cylinder setup.
- Testing conducted in triplicate under 20°C, 65% RH for 24 hours.
- Observations made for dye penetration; surface swell and recovery measured at 15 minutes and 24 hours post-exposure.

Purpose:

Confirm HARO flooring meets E3 compliance requirements for impervious surface performance, with resistance to moisture ingress and swelling.

Result: 1

Qualitative Grade:

- 1 = No change - Little to no noticeable change in edge swell or panel surface lift
- 2 = Slight swelling - Slight swelling, small ridge along one or more joints, very little if any panel surface lift
- 3 = Moderate - Noticeable edge swelling and some panel surface lift extending away from joint
- 4 = Objectional - Severely raise edge and swelling extending noticeably under the panel surface
- 5 = Failed test - Water leaked out of the ring, leaving no continuous film of water inside the ring
(this grade is given even if there is no swell of the edge joint)

Test No. 1462167.6

Date Tested: 6/6/2022

Joint System: 5 G Locking system

Product Finish: naturaLin (HARO Aqua Oil applied)

Test Summary: The result of this test verified that this product’s assembled joint over a 24-hour period did not allow water penetration through to the substrate, or if tested at the edges where edge seal has been applied.