

**NZBC Alternative Solution
FLOORCO Wood Flooring**

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1. Purpose and Scope

This document presents an Alternative Solution to demonstrate compliance of overlay engineered wood flooring systems with the New Zealand Building Code (NZBC). The assessment is based on defined material performance, controlled moisture conditions, prescribed installation detailing, and the system configuration described in this document and the referenced supporting documentation.

This Alternative Solution applies to engineered wood flooring systems installed as an internal overlay floor finish in residential and similar occupancies. Compliance is achieved when the flooring system is installed strictly in accordance with the FLOORCO Overlay Wood Flooring Installation Guide and the associated technical documentation.

2. Product Description

The product is an engineered wood flooring system intended for use as an internal overlay floor finish. The flooring consists of multi-layer engineered timber boards with a factory-applied protective surface finish, designed for installation over existing substrates in accordance with the prescribed installation system.

The flooring system is installed as a floating or bonded overlay floor, depending on the specified installation method, and incorporates defined joint profiles, perimeter detailing, and substrate preparation requirements as described in the FLOORCO Overlay Wood Flooring Installation Guide.

The system may include the use of compatible underlay materials, adhesives, moisture barriers, and wet area membranes, where specified, to achieve the intended performance when installed within the defined scope of use.

3. This Alternative Solution relies on the following provisions of the New Zealand Building Code (NZBC):

- B2.3.1© – Durability
- E3.3.3, E3.3.5, E3.3.6 – Internal Moisture
- C3.4(B) – Fire Affecting Areas Beyond the Fire Source
- D1.3.3(D) – Access Routes (Slip Resistance)
- F2.3.1 – Hazardous Building Materials
- G6.3.1 – Airborne and Impact Sound

Compliance with each of the above NZBC clauses is demonstrated in accordance with the performance-based compliance pathway set out in Section 4 of this document, subject to the conditions and imitations stated herein.

3.1 Compliance with NZBC Clause E3 – Internal Moisture

Compliance with NZBC Clauses E3.3.3, E3.3.5, and E3.3.6 is achieved by demonstrating that the engineered wood flooring system, when installed as an internal overlay floor finish in accordance with the prescribed installation detailing, manages internal moisture in a manner that prevents moisture from penetrating into concealed spaces or causing damage to building elements.

Independent testing demonstrates that the assembled joints of the engineered wood flooring system resist topical moisture exposure without water migration under defined test conditions. This performance, together with the controlled installation system, supports the management of incidental internal moisture exposure consistent with the intent of NZBC Clause E3.

When installed strictly in accordance with the FLOORCO Overlay Wood Flooring Installation Guide, including defined perimeter detailing, substrate preparation, and the use of compatible moisture control measures where specified, the flooring system satisfies the performance requirements of NZBC Clause E3 for internal moisture management within its intended scope of use.

3.2 Compliance with NZBC Clause B2 – Durability

Compliance with NZBC Clause B2.3.1© is achieved by demonstrating that the engineered wood flooring system, when used as an internal overlay floor finish, has a durability that meets or exceeds the minimum service life required for building elements with a durability requirement of not less than 5 years.

The flooring system is manufactured in accordance with recognized product standards for engineered wood flooring and is supplied with a factory-applied surface finish intended to provide durability appropriate for its intended internal use.

When installed and maintained in accordance with the FLOORCO Overlay Wood Flooring Installation Guide and associated product documentation, the flooring system is capable of maintaining its required performance for the duration of the specified minimum service life, consistent with the intent of NZBC Clause B2.

3.3 Compliance with NZBC Clause C3.4(B) – Fire Affecting Areas Beyond the Fire Source

Compliance with NZBC Clause C3.4(B) is achieved by demonstrating that the engineered wood flooring system meets the reaction-to-fire performance criteria specified for floor surface materials in areas beyond the fire source.

Independent reaction-to-fire testing, conducted in accordance with recognised international test methods, demonstrates that the flooring system achieves a Critical Heat Flux (CHF) value that meets or exceeds the minimum performance requirements applicable under NZBC Clause C3.4(B).

This level of performance indicates that the flooring system does not promote rapid fire spread across the floor surface when exposed to fire conditions beyond the fire source.

On this basis, and when installed and used within the defined scope set out in this document, the engineered wood flooring system satisfies the performance requirements of NZBC Clause C3.4(B).

3.4 Compliance with NZBC Clause D1.3.3(D) – Access Routes (Slip Resistance)

Compliance with NZBC Clause D1.3.3(D) is achieved by demonstrating that the wood flooring system provides adequate slip resistance for access routes under conditions of normal use.

Independent slip resistance testing demonstrates that the wood flooring system achieves slip resistance values consistent with the performance requirements for internal access routes, including areas that may occasionally become wet during normal use.

Where the flooring system is installed on stairs or in areas subject to increased slip risk, additional slip-resistant measures may be required to achieve higher slip resistance ratings, in accordance with applicable design guidance.

On this basis, and when installed and used within the scope defined in this document, this Alternative Solution demonstrates compliance with the performance requirements of NZBC Clause D1.3.3(D).

3.5 Compliance with NZBC Clause F2.3.1 – Hazardous Building Materials

Compliance with NZBC Clause F2.3.1 is achieved by demonstrating that the engineered wood flooring system, when used as an internal floor finish, does not release hazardous substances in quantities that could pose a risk to the health of occupants.

Independent testing confirms that the flooring system meets recognised limits for formaldehyde emissions applicable to engineered wood products intended for internal use. On this basis, the flooring system is considered suitable for use in occupied spaces without presenting a hazard to people.

Accordingly, when installed and used within the defined scope set out in this document, the engineered wood flooring system satisfies the performance requirements of NZBC Clause F2.3.1.

3.6 Compliance with NZBC Clause G6.3.1 – Airborne and Impact Sound (where applicable)

Compliance with NZBC Clause G6.3.1 is achieved by demonstrating that the engineered wood flooring system contributes to adequate control of airborne and impact sound transmission between habitable spaces.

Independent acoustic testing demonstrates that, when installed with the specified underlay system and in accordance with the referenced installation methodology, the engineered wood flooring system achieves airborne and impact sound insulation performance consistent with the requirements of NZBC Clause G6.3.1.

This Alternative Solution relies on the tested flooring and underlay system as a combined assembly. Variations to the specified underlay, substrate construction, or installation methodology may affect acoustic performance and require separate assessment.

On this basis, and when installed within the scope and conditions defined in this document, this Alternative Solution demonstrates compliance with the performance requirements of NZBC Clause G6.3.1.

4. Conditions and Limitations

This Alternative Solution is subject to the following conditions and limitations:

- i. The engineered wood flooring system shall be installed strictly in accordance with the FLOORCO Overlay Wood Flooring Installation Guide referenced in this document.
- ii. Use of the flooring system is limited to internal applications within the scope described in this document, including residential and similar occupancies.
- iii. The flooring system is intended for use as an internal floor finish under controlled environmental and moisture conditions consistent with its intended use.
- iv. Substrate preparation, moisture control measures, and environmental conditions shall comply with the requirements specified in the referenced supporting documentation.
- v. Any deviation from the specified installation methodology, system configuration, or stated scope of use requires separate assessment.

5. Referenced Supporting Documents

The following documents are referenced in support of this Alternative Solution and provide evidential information relevant to the assessment described in this document:

- Product Information Declarations (PIDs)
- Building Product Information Sheets
- FLOORCO Overlay Wood Flooring Installation Guide
- Installation Performance Compliance Design Guide
- Cleaning and Maintenance Guide
- Independent test reports issued by NZWTA
- Independent test reports issued by Intertek
- Independent test reports issued by SGS
- Other independent test reports issued by recognized international testing laboratories