BRANZ Appraised

Appraisal No. 1267 (2024)

BOSEN FLOORING

Appraisal No. 1267 (2024)

Amended 11 August 2025

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 Bosen Flooring is a PVC and stone composite floor covering for use as internal flooring where occasional intermittent wetting may occur. The flooring is available as two options - SPC and ABA.

1.2 Bosen Flooring has a rigid core and is connected together using a tongue and groove joint system.

Scope

2.1 Bosen Flooring has been appraised for use as a water-resistant floor finish for internal areas of buildings, within the following scope:

- on floor substrates of concrete, flooring grade particleboard, plywood, fibre cement compressed sheet and fibre cement sheet tile underlay; and,
- where floors are designed and constructed such that deflections do not exceed 1/360th of the span.

2.2 The use of Bosen Flooring on concrete slabs where a hydrostatic or vapour pressure is present is outside the scope of this Appraisal.

2.3 Movement and control joints in the substrate must be carried through to the flooring finish. The design and construction of the movement and control joints is specific to the building and therefore is the responsibility of the building designer and building contractor and is outside the scope of this Appraisal.

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, Bosen Flooring, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:**

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years and B2.3.2. Bosen Flooring meets these requirements. See Paragraphs 9.1 and 9.2.

Clause E3 INTERNAL MOISTURE: Performance E3.3.3, E3.3.5 and E3.3.6. Bosen Flooring meets these requirements. See Paragraphs 11.1-11.4.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Bosen Flooring meets this requirement.

Technical Specification

4.1 Bosen Flooring is comprised of five layers, with two core options. It has a transparent polyurethane overlay, a transparent vinyl wear layer, a printed decorative film, a stone polymer core or ABA co-extruded hybrid core, and a sound mitigating underlayment. Bosen Flooring is a floating floor system and is available in two options - SPC and ABA.

- **Bosen SPC Flooring** has a stone polymer core consisting of closed-cell extruded vinyl. It is 1,213 mm long x 177 mm wide, in thicknesses of 4, 4.5, 5 or 5.5 mm. Bosen SPC Flooring is available in the following colours: White Cherry (GMG007-03), Black Diamond (GMP001-03), Chatelle (GMP001), Cigar (GMW001), Concord (GM0001), Dawn (GMP003), Walnut (GM0003-01), Oak (GMQ004-1), Himalaya (GMP101), Quill (GMP002), Shadow (GMH101) and Teak (GMH001).
- **Bosen ABA Flooring** has an ABA co-extruded hybrid core consisting of extruded SPC-foam-SPC structure. It is 1,213 mm long x 177 mm wide, in thicknesses of 6, 7 or 8 mm. Bosen ABA Flooring is available in the following colours: White Cherry (GMG007-3), Chatelle (GMP001) and Oak (GMQ004-1).

Handling and Storage

5.1 Bosen Flooring must be transported and stored flat, in dry conditions and out of direct sunlight. It must not be stored in areas with extreme temperatures.

5.2 The planks must be stored and installed between 13°C and 29°C and must be acclimated in the installation room before installation.

Technical Literature

6.1 This Appraisal must be read in conjunction with:

- Bosen Floors - Installation instructions, Version 1, dated 26 January 2024.

6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

7.1 Bosen Flooring is for use where an impervious and easily cleaned floor finish is required to prevent damage to building elements and adjoining areas.

7.2 Timber framing systems must comply with NZS 3604, or where specific engineering design is used, the framing shall be of at least equivalent stiffness to the framing provisions of NZS 3604, or comply with the serviceability criteria of AS/NZS 1170. In all cases, framing must be provided so that the maximum span of the substrate as specified by the substrate manufacturer is met and all sheet edges are fully supported. Timber framing systems supporting the substrates must be constructed such that deflections do not exceed 1/360th of the span. Where NZS 3604 is used, the allowable joint spans given in Table 7.1 shall be reduced by 20%.

Joints

7.3 Bosen Flooring incorporates a click-lock technique without the use of adhesives. The edges are joined by inserting the tongue of one plank into the groove of the plank that has been laid down.

Substrates

Plywood

8.1 Structural plywood must be a minimum of 17 mm thick complying with AS/NZS 2269. LOSP treated plywood must not be used. The structural plywood must be supported with framing with a maximum spacing span of 400 mm in each direction, fixed with 10 g x 50 mm stainless steel counter sunk head screws at 150 mm centres on the edges and 200 mm through the body of the sheets.

Fibre Cement Compressed Sheet/Fibre Cement Sheet Tile Underlay

8.2 Fibre cement compressed sheet and tile underlay must be manufactured to comply with the requirements of AS/NZS 2908.2 and must be specified by the manufacturer as being suitable for use as a wet area substrate. Installation must be carried out in accordance with the instructions of the manufacturer.

Concrete and Concrete Masonry

8.3 Concrete and concrete masonry substrates must be to a specific engineering design meeting the requirements of the NZBC, such as concrete construction to NZS 3101 and NZS 3604, and concrete slab-on-ground floors and concrete masonry to NZS 4229 and NZS 4230.

Particleboard

8.4 Particleboard must be specified for the end use in accordance with AS/NZS 1860.

Existing Flooring

8.5 Bosen Flooring can be installed over some existing floor finishes and substrates. The suitability of existing finishes should be checked with Bosen Australasia Trading Ltd. Existing flooring must be clean, dry, level and structurally sound.

Durability

9.1 Bosen Flooring meets the performance requirements of NZBC Clause B2.3.1 (b) 15 years and B2.3.2.

Serviceable Life

9.2 Bosen Flooring, when subjected to normal condition of environment and use, is expected to have a serviceable life of at least 15 years.

Maintenance

10.1 Regular checks must be made of the flooring to ensure it is sound and will not allow moisture to penetrate. Any damage must be repaired immediately by replacing the affected plank. Drainage outlets must be maintained to operate effectively, and the flooring must be kept clean. Spills must be cleaned up immediately.

10.2 Regular cleaning of Bosen Flooring is required. A natural detergent followed by a rinse with a clean mop and fresh water is recommended. Heavy solvents or citrus-based cleaners must not be used.

10.3 Prolonged exposure to direct sunlight must be avoided as this will result in discolouration and/or expansion. The use of curtains, blinds, or protective window films to protect the floor covering is recommended.

10.4 Dragging heavy objects across the Bosen Flooring should be avoided, as this will risk scratching the surface. It is recommended that felt pads are used on furniture feet. Furniture wheels must be approved for use on resilient flooring, and ball type castors should not be used.

Internal Moisture

11.1 Bosen Flooring is suitable for use in spaces containing sanitary fixtures or sanitary appliances such as kitchens, bathrooms, laundries and toilet facilities. The flooring cannot be used as a flooring finish in wet area showers.

11.2 Bosen Flooring is considered impervious and easily cleaned and will therefore meet NZBC Clauses E3.3.3 and E3.3.5.

11.3 Bosen Flooring is impervious to water. When appropriately designed, installed and maintained, the flooring will avoid the likelihood of water penetrating through the joints or entering concealed spaces and will therefore meet NZBC Clause E3.3.6.

Prevention of Fire Occurring

12.1 Separation or protection must be provided to Bosen Flooring from heat sources such as fireplaces, heating appliances and chimneys. Part 7 of NZBC Acceptable Solution C/AS1 and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

Installation Information

Installation Skill Level Requirement

13.1 Installation of Bosen Flooring must be carried out in accordance with the Technical Literature and this Appraisal. Installation must be undertaken by competent and experienced tradespeople or by professional flooring installers.

13.2 Installation of substrates must be completed by tradespeople with an understanding of internal wet area construction, in accordance with instructions given within the Technical Literature and this Appraisal.

General

14.1 General installation of Bosen Flooring must be in accordance with the Technical Literature and the provisions of this Appraisal.

14.2 Inspect all planks prior to installation. Blend and install planks from several cartons. Bosen Flooring is a floating floor system and must not be glued.

Preparation of Substrates

15.1 Concrete slabs and plywood must be dry and sound before installation proceeds. Concrete slabs can be checked for dryness by using a hygrometer as set out in BRANZ Bulletin Number 585 . The relative humidity of the concrete surface must be 75% or less, and the moisture content of plywood must be a maximum of 20% before laying the floor planks.

15.2 The ambient and substrate temperatures must be between 13°C and 29°C before laying Bosen Flooring.

15.3 The substrate must be clean, dry, level, structurally sound and free from sharp edges, dust, dirt or other materials such as oil, grease or concrete formwork release agent, prior to the installation of flooring. All surface defects must be filled to achieve a level surface.

15.4 Bosen Flooring can be installed over levelled existing flooring substrates.

Bosen Flooring Installation

16.1 The planks should be installed from left to right and in the direction of the longest wall and parallel to the light source. Spacers should be placed where the planks meet the wall.

16.2 Once the planks are laid in the first row, the last plank can be cut to fit. The leftover plank can be the starter for the next row. There must be at least 200 mm between plank end joints. The long edge can be locked in by inserting the tongue at an angle and the dropped in place. The plank can then be slid to the previous plank until the tongue just touches the groove. Ensure the joint is installed tightly by using a hammer and tapping block, and tap along the long joint.

16.3 A scrap piece of plank can be attached to bridge the gap between two plank ends. A hammer and tapping block can then be used to tap the end of the plank to lock the ends of the planks together. The bridge plank is then removed, and the installation continues. For end planks, a hammer and pull bar is used to lock them in place on each row and insert a spacer.

16.4 It is recommended that the door jamb is undercut under door frames so that the flooring can remain floating.

Health and Safety

16.5 There are no special health and safety requirements, although normal care should be taken when cutting the floor planks.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

17.1 Tests have been carried out by BRANZ to determine the change in the physical properties of the Bosen Flooring, such as flexural strength, swelling, abrasion resistance, resistance to impact, stain resistance, locking strength, residual indentation, heat ageing and dimensional stability, accelerated UV exposure (UV resistance), joint sealing and water penetration and tensile testing of the foam underlay.

Other Investigations

18.1 An assessment of the durability of Bosen Flooring was made by BRANZ technical experts.

18.2 Site inspections have been carried out by BRANZ to assess the practicability of installation and to examine completed installations.

18.3 The Technical Literature for Bosen Flooring has been examined by BRANZ and found to be satisfactory.

Quality

19.1 The manufacture of Bosen Flooring has not been examined by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

19.2 The quality of manufacture of Bosen Flooring is the responsibility of Bosen Australasia Trading Ltd.

19.3 Bosen Australasia Trading Ltd is responsible for the quality of the product supplied.

19.4 The quality of installation of the product on-site is the responsibility of the flooring installer.

19.5 Building owners are responsible for the maintenance of Bosen Flooring in accordance with the instructions of Bosen Australasia Trading Ltd.

Sources of Information

- AS/NZS 1170:2002 Structural design actions.
- AS/NZS 1860.1:2017 Particleboard flooring - Part 1: Specifications.
- AS/NZS 2269:2012 Plywood - Structural.
- AS/NZS 2908.2:2000 Cellulose-cement products - Flat sheet.
- BRANZ Bulletin No 585 - Measuring moisture in timber and concrete.
- NZS 3101:2006 Concrete structures standard.
- NZS 3604:2011 Timber-framed buildings.
- NZS 4229:2013 Concrete masonry buildings not requiring specific engineering design.
- NZS 4230:2004 Design of reinforced concrete masonry structures.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

Amendments

Amendment No. 1, dated 11 August 2025

This Appraisal has been amended to update the particleboard flooring requirements and the wording in Paragraphs 11.1-11.3.

BRANZ

In the opinion of BRANZ, Bosen Flooring is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to Bosen Australasia Trading Ltd, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
   a) relates only to the product as described herein;
   b) must be read, considered and used in full together with the Technical Literature;
   c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d) is copyright of BRANZ.
2. Bosen Australasia Trading Ltd:
   a) continues to have the product reviewed by BRANZ;
   b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c) abides by the BRANZ Appraisals Services Terms and Conditions;
   d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
   a) the nature of individual examples of, batches of, or individual installations of the product, including methods and quality of work;
   b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c) any guarantee or warranty offered by Bosen Australasia Trading Ltd.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to Bosen Australasia Trading Ltd or any third party.

For BRANZ

Claire Falck
Chief Executive

Date of Issue:
12 March 2024