BRANZ Appraised

Appraisal No. 1102 (2024)

SIKA SIKATITE WPU INTERIOR

Appraisal No. 1102 (2024)

This Appraisal replaces BRANZ Appraisal No. 1102 (2019)

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 Sika Sikatite WPU Membrane is a flexible, single-part, ready-to-use, water-based polyurethane Class III waterproofing membrane for use under ceramic or stone tile finishes in internal wet areas.

Scope

2.1 Sika Sikatite WPU Membrane has been appraised for use as a waterproofing membrane for internal wet areas of buildings, within the following scope:

- on floor substrates of concrete, flooring grade particleboard, plywood, compressed fibre cement sheet and fibre cement sheet tile underlay, and on wall substrates of concrete, concrete masonry, cement render, wet area fibre cement sheet lining systems and wet area plasterboard lining systems; and,
- when protected from physical damage by ceramic or stone tile finishes; and,
- where floors are designed and constructed such that deflections do not exceed 1/360th of the span.

2.2 The use of Sika Sikatite WPU Membrane 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 tile 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.

2.4 The ceramic or stone tile finishes are outside the scope of this Appraisal.

2.5 Installation of the Sika Sikatite WPU Membrane must be carried out by trained installers, approved by Sika Australia Pty Ltd.

Building Regulations

National Construction Code (NCC)

3.1 **In the opinion of BRANZ, Sika Sikatite WPU Interior, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal will meet the following performance requirements of the NCC:**

NCC 2022 Volume One - Building Code of Australia

Part F2 DAMP AND WEATHERPROOFING: Performance F2P2. Sika Sikatite WPU Interior meet this requirement. See Paragraphs 13.1–13.6

NCC 2022 Volume Two - Building Code of Australia

Part H4 HEALTH AND AMENITY: Performance H4P1. Sika Sikatite WPU Interior meet this requirement. See Paragraphs 13.1–13.6

Technical Specifications

4.1 **Sika Sikatite WPU Membrane** - is a flexible, single-part, ready-to-use, water-based polyurethane, Class III Waterproofing membrane. It is supplied as a grey liquid in 15 L containers.

Handling and Storage

5.1 All materials must be stored inside, up off concrete floors, in dry conditions, out of direct sunlight and freezing conditions. The materials in the original unopened packaging have a shelf life of 12 months from date of manufacture. Once opened, the materials must be used within 3 months.

Technical Literature

6.1 This Appraisal must be read in conjunction with:

- Product Data Sheet - Sika Tite WPU, dated November 2019.

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 Sika Sikatite WPU Membrane is for use where an impervious waterproof membrane is required to floors and walls to prevent damage to building elements and adjoining areas.

7.2 The membranes must be protected from physical damage by the application of ceramic or stone tile finishes.

7.3 Movement and control joints may be required depending on the shape and size of the floor and the tiling finish. Design guidance can be found in the BRANZ Good Practice Guide: Tiling.

7.4 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.

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 joists at a maximum spacing as detailed in AS 1684.3, Table 3.2. The plywood must be fixed with either 2.8 mm diameter flat head or bullet head hand driven nails, or 2.5 mm diameter gun-driven nails with a length not less than 2.5 times the thickness of the plywood sheet. The plywood must be fixed at 150 mm centres along the sheet ends and 300 mm centres at intermediate joists and along noggings.

Particleboard Sheet Flooring

8.2 Particleboard flooring shall be selected and installed in accordance with AS 1860.

Fibre Cement Compressed Sheet/Fibre Cement Sheet Tile Underlay

8.3 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 membrane substrate. Installation must be carried out in accordance with the instructions of the manufacturer.

Concrete and Concrete Masonry

8.4 Concrete and concrete masonry substrates must be to a specific engineering design meeting the requirements of the NCC.

Wet Area Wall Linings

8.5 Plasterboard wall linings must be manufactured to comply with AS/NZS 2588 and be suitable for use in internal wet areas.

8.6 Fibre cement sheet must be suitable for use in wet areas and comply with AS/NZS 2908.2.

8.7 Installation of plasterboard or fibre cement wall linings must be carried out in accordance with the instructions of the manufacturer.

Durability

Serviceable Life

9.1 Sika Sikatite WPU Membrane, when subjected to normal conditions of environment and use, are expected to have a serviceable life of at least 15 years and be compatible with ceramic or stone tile finishes with a design serviceable life of 15–25 years.

Maintenance

10.1 No maintenance of the membranes will be required provided significant substrate movement does not occur and the ceramic or stone tile finish remains intact. Regular checks must be made of tiled areas to ensure they are sound and will not allow moisture to penetrate. Any cracks or damage must be repaired immediately by repairing the tiles, grout and sealant.

10.2 In the event of damage to the membranes, the tiles must be removed and the membrane repaired by removing the damaged portion and applying a patch as for new work.

10.3 Drainage outlets must be maintained to operate effectively, and ceramic or stone tile finishes must be kept clean.

Outbreak of Fire

11.1 Sika Sikatite WPU Membrane must be protected or separated from fireplaces, heating appliances, chimneys and flues in accordance with the requirements of NCC Volume One, Performance G2P1, and NCC Volume Two, Deemed-to-Satisfy H7D5 and Performance H7P3.

Spread of Fire

12.1 Sika Sikatite WPU Membrane is considered an exempt building material, as listed in NCC Specification C2D11.

Internal Moisture

13.1 Sika Sikatite WPU can be used to prevent water from penetrating behind fittings and linings or into concealed spaces and therefore meets NCC Volume One, Performance F2P2 and NCC Volume Two, Performance H4P1.

13.2 Floor surfaces must be finished with ceramic or stone tiles.

13.3 Design guidance on waterproofing membranes can be obtained from AS 3740, the BRANZ Good Practice Guide: Tiling, and flooring and wallboard manufacturers.

13.4 Falls within shower areas must be between 1:60 and 1:80 and other wet areas between 1:80 to 1:100. In unenclosed showers, falls must extend 1,500 mm from the shower rose. Floor wastes and drainage flanges must be provided and must fall to an outlet.

13.5 The Sika Sikatite WPU Membrane must completely cover shower bases and extend 1,500 mm out from the shower rose for unenclosed showers. The membrane must extend a minimum of 150 mm above the shower floor and over any nib. Water-resistant wall finishes must flash over the membrane.

13.6 BRANZ recommends the entire floor be covered by Sika Sikatite WPU Membrane in bath, shower and spa rooms where timber is used. This is also a requirement of particleboard manufacturers.

Installation Information

Installation Skill Level Requirements

14.1 Installation and finishing of materials supplied by Sika Australia Pty Ltd must be completed in accordance with the Technical Literature, by trained applicators, approved by Sika Australia Pty Ltd.

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

Preparation of substrates

15.1 Substrates must be dry and sound before installation proceeds. Concrete slabs can be checked for dryness by using a hygrometer. The relative humidity of the concrete surface must be 75% or less, and the moisture content for plywood must be a maximum of 20% before laying the membrane.

15.2 Surfaces must be smooth and free from sharp edges, dust, dirt or other materials such as oil, grease or concrete formwork release agents. All surface defects must be filled to achieve a smooth and uniform surface.

15.3 Sheet materials must be installed in accordance with the relevant manufacturer's instructions. All sheet edges must be supported by framing.

15.4 Plywood must be installed in accordance with the NCC and the relevant manufacturer's instructions.

15.5 Substrates must be primed with primer and allowed to dry fully before the membrane is installed.

Membrane Installation

16.1 Installation must not be undertaken where the substrate surface temperature is below 10°C or above 35°C.

16.2 The membranes must be applied in a minimum of two coats at the rates set out in the Technical Literature to give a total finished thickness of 0.6 mm for walls and 0.8 mm for floors. Subsequent coats must be applied at an opposite direction to the previous coat.

16.3 Application can be made by roller (medium/long nap), brush (long bristle), or a flat steel trowel.

16.4 Clean up may be undertaken with water.

Tiling

17.1 The membrane must be fully cured before tiling. The cured membrane must be protected at all times to prevent mechanical damage, so may require temporary covers until the finishing is completed.

17.2 Tiling must be undertaken in accordance with AS 3958.1 and the BRANZ Good Practice Guide: Tiling. The compatibility of the tile adhesive must be confirmed with the adhesive manufacturer or Sika Australia Pty Ltd.

Inspections

18.1 Critical areas of inspection are:

- Construction of substrates, including crack control and installation of under flashings and movement control joints.
- Moisture content of the substrate prior to the application of the membrane.
- Acceptance of the substrate by the membrane installer prior to application of the membrane.
- Installation of the membrane to the manufacturer's instructions, particularly installation to the correct thickness and use of reinforcement.
- Membrane curing and integrity prior to the installation of tiles including protection from mechanical damage during curing and prior to tile installation.

Health and Safety

19.1 Safe use and handling procedures for the membranes are provided in the Technical Literature. The materials must be used in conjunction with the relevant Material Safety Data Sheet.

Basis of Appraisal

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

Tests

20.1 The testing on Sika Sikatite WPU Membrane has been undertaken by various organisations:

- Testing to AS/NZS 4858: 2004 Appendix A including effect of heat aging, bleach, detergent and water on tensile and elongation, Water Vapour Transmission to ASTM E96-92 and cyclic movement.
- Adhesion to various substrates and low temperature flexibility.

Test methods and results were reviewed by BRANZ and found to be satisfactory.

Other Investigations

21.1 An assessment was made of the durability of Sika Sikatite WPU Membrane by BRANZ technical experts.

21.2 Site visits have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.

21.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

22.1 The manufacture of the membrane has been examined by BRANZ, details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

22.2 The quality management system of the membrane manufacturer has been assessed by BRANZ and found to be satisfactory.

22.3 The quality of supply of the membrane system materials to the market is the responsibility of Sika Australia Pty Ltd.

22.4 Quality on-site is the responsibility of the Sika Australia Pty Ltd approved and trained applicators.

22.5 Designers are responsible for the substrate design, and building contractors are responsible for the quality of construction of substrate systems in accordance with the instructions of the substrate manufacturer, Sika Australia Pty Ltd and this Appraisal.

22.6 Building owners are responsible for the maintenance of the tiling systems in accordance with the instructions of Sika Australia Pty Ltd.

Sources of Information

- ANSI 118.10: 1999 Load bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone installations.
- AC 115 Interim criteria for waterproof membranes for flooring and shower liners.
- AS 1860:1998 Installation of particle board.
- AS 3740:2004 Waterproofing of wet areas within residential buildings.
- AS 3958.1:2007 Ceramic tiles - Guide to the installation of ceramic tiles.
- AS/NZS 2908.2:2000 Cellulose-cement products - Flat sheet.
- AS/NZS 2269:2012 Plywood – Structural.
- AS/NZS 4858:2004 Wet area membranes.
- BRANZ Good Practice Guide: Tiling (Third Edition), April 2015.
- National Construction Code 2022, Australian Building Codes Board.

BRANZ

In the opinion of BRANZ, Sika Sikatite WPU Interior 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 Sika Australia Pty 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. Sika Australia Pty 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 Sika Australia Pty 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 Sika Australia Pty Ltd or any third party.

For BRANZ

Claire Falck
Chief Executive

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30 August 2024