



BRANZ Appraised

Appraisal No. 866 [2019]

LATICRETE HYDRO BAN® INTERIOR WATERPROOFING MEMBRANE

Appraisal No. 866[2019]

This Appraisal replaces BRANZ Appraisal No. 866 [2014]



BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

- 1.1 Laticrete Hydro Ban® is a liquid-applied waterproofing membrane for use under ceramic or stone tile finishes in internal wet areas.

Scope

- 2.1 Laticrete Hydro Ban® has been appraised for use as a waterproofing membrane for internal wet areas of buildings within the following scope:
 - on floor substrates of concrete, plywood, compressed fibre cement sheet and fibre cement sheet tile underlay, and on wall substrates of concrete, concrete masonry, 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 Laticrete Hydro Ban® on concrete slabs where hydrostatic or vapour pressure is present has not been assessed by BRANZ and 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 substrate and movement and control joints is specific to each building, and therefore the responsibility of the building designer and building contractor. These joints have not been assessed by BRANZ and are outside the scope of this Appraisal.
- 2.4 Ceramic or stone tile finishes are outside the scope of this Appraisal.
- 2.5 The membrane must be installed by Global Tile Ltd Trained and Approved Applicators.



Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Laticrete Hydro Ban® if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NZBC:

Clause B2 DURABILITY: Performance B2.3.1 [b] 15 years. Laticrete Hydro Ban® will meet this requirement. See Paragraph 9.1.

Clause E3 INTERNAL MOISTURE: Performance E3.3.6. Interior wet area floors and walls incorporating Laticrete Hydro Ban® will meet this requirement. See Paragraphs 11.1 - 11.7.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Laticrete Hydro Ban® will meet this requirement and will not present a health hazard to people.

Technical Specification

4.1 Material supplied by Global Tile Ltd is as follows:

- Laticrete Hydro Ban® is a single component, self-curing, liquid rubber polymer membrane. It is supplied as a light sage colour which dries to an olive green colour when cured. It is supplied in 1 or 5 US gallon (4 or 15 litre) pails.

Handling and Storage

5.1 All materials must be stored inside, up off concrete floors, in dry conditions, out of direct sunlight and out of freezing conditions. The membrane product has a shelf life of 24 months from date of manufacture in the original unopened packaging. Once opened, the product must be used within 3 months.

Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Laticrete Hydro Ban®. The Technical Literature must be read in conjunction with this Appraisal. 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 Laticrete Hydro Ban® is for use in buildings where an impervious waterproof membrane is required to floors and walls to prevent damage to building elements and adjoining areas.
- 7.2 The membrane must be protected from physical damage by the application of ceramic or stone tile finishes. Ceramic or stone tile finishes are outside the scope of this Appraisal.
- 7.3 Movement and control joints may be required depending on the shape and size of the building or room, and the tile finish specified. Design guidelines can be found in the BRANZ Good Practice Guide to Tiling.
- 7.4 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 joist spans given in Table 7.1 shall be reduced by 20%.

Substrates

Plywood

- 8.1 Plywood must be a minimum of 17 mm thick complying with AS/NZS 2269, CD Grade Structural with sanded C face upwards and treated to H3.2 [CCA treated]. LOSP treated plywood must not be used.
- 8.2 The plywood must be laid with the face grain at right angles to the floor joists. Joists must be at 400 mm centres maximum. The sheets must be supported with blocking or framing with a maximum span of 400 mm in each direction. Fixings must be 10 g x 50 mm stainless steel countersunk head screws at 150 mm centres around the edges and 200 mm through the body of the sheets.

Fibre Cement Compressed Sheet / Fibre Cement Sheet Tile Underlay

- 8.3 Fibre cement compressed sheet 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 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 NZBC, such as concrete construction to NZS 3101, Concrete Slab-On-Ground floors to NZS 3604 and Concrete masonry to NZS 4229 and NZS 4230.

Wet Area Wall Linings

- 8.5 Plasterboard wall linings must be manufactured to comply with AS/NZS 2588, and be covered by a valid BRANZ Appraisal for use in internal wet areas.
- 8.6 Fibre cement sheet must be manufactured to comply with the requirements of AS/NZS 2908.2 for use as a wall lining system in wet areas.
- 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 Laticrete Hydro Ban®, when subjected to normal conditions of environment and use, is expected to have a serviceable life of at least 15 years and be compatible with ceramic or stone tile finishes with a design service life of 15 - 25 years.

Maintenance

- 10.1 No maintenance of the membrane will be required provided significant substrate movement does not occur and the tile finish remains intact. Regular checks must be made of the 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, grouts and sealants.
- 10.2 In the event of damage to the membrane, the tiling 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 tile finishes must be kept clean. Cleaning materials that may affect polymer based membranes must not be used.

Internal Moisture

- 11.1 Laticrete Hydro Ban® is impervious to water and when appropriately designed and installed will avoid the likelihood of water penetrating behind linings or entering concealed spaces.
- 11.2 Laticrete Hydro Ban® is suitable for use to contain accidental overflow to meet code compliance with NZBC Clause E3.3.2. A means of code compliance for overflow is given in NZBC Acceptable Solution E3/AS1, Section 2.
- 11.3 Surfaces must be finished with ceramic or stone tile finishes. A means of code compliance with NZBC Clause E3.3.3 is given in NZBC Acceptable Solution E3/AS1, Paragraphs 3.1.1 [b] and 3.1.2 [b].



- 11.4 Falls in showers and shower areas must be a minimum of 1 in 50. In unenclosed showers, falls must extend a minimum of 1500 mm out from the shower rose. Floor wastes must be provided and the floor must fall to the outlet.
- 11.5 The waterproofing membrane must completely cover shower bases, and for unenclosed showers it must extend a minimum of 1500 mm out from the shower rose. Further design guidance on waterproofing wet areas, including waterproofing walls and junctions can be obtained from AS 3740, the BRANZ Good Practice Guide to Tiling, and flooring and wallboard manufacturers.
- 11.6 Where water resistant wall finishes such as prefinished sheet materials are used, they must flash over the membrane a minimum of 30 mm.
- 11.7 BRANZ recommends the entire floor be covered by a waterproof membrane for bath, shower and spa rooms where plywood floors are used.

Installation Information

Installation Skill Level Requirement

- 12.1 Installation of the membrane must be completed by Global Tile Ltd Approved and Trained Applicators that have experience in the application of waterproofing membranes and understand waterproofing principles.
- 12.2 Installation of the substrate must always be carried out in accordance with the Laticrete Hydro Ban® Interior Waterproofing Membrane Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner [LBP] with the relevant Licence Class.

Preparation of Substrates

- 13.1 Substrates must be dry, clean and stable before installation commences. Surfaces must be even and free from nibs, sharp edges, dust, dirt or other materials such as oil, grease or concrete formwork release agents.
- 13.2 The moisture content of a timber substructure must be a maximum of 20% and plywood and fibre cement sheet substrates must be dry to touch at the time of membrane application.
- 13.3 The relative humidity of concrete substrates must be 75% or less before membrane application. The concrete can be checked for dryness by using a hygrometer as set out in BRANZ Bulletin No. 515.
- 13.4 All voids, cracks, holes, joints and excessively rough areas must be filled to achieve an even and uniform surface. Junctions of substrate abutments, such as at wall/floor and wall/wall junctions must have a bond breaker joint system installed as set out in the Technical Literature.

Membrane Installation

- 14.1 Installation must not be undertaken where the substrate surface temperature is below 10°C or above 32°C.
- 14.2 Laticrete Hydro Ban® must be thoroughly stirred before application.
- 14.3 The membrane must be applied in a minimum of two coats at the rates set out in the Technical Literature. Subsequent coats must be applied in an opposite direction to the previous coat. The total finished system thickness of Laticrete Hydro Ban® must be a minimum of 1.0 mm.
- 14.4 Application can be made by roller [medium/long nap], brush [long bristle], flat steel trowel and airless sprayer.
- 14.5 Reinforcement provisions as set out in the Technical Literature should be followed.
- 14.6 It is strongly recommended that the membrane is protected with temporary covers until it is fully cured in case of mechanical damage.
- 14.7 Clean up may be undertaken with water.



Tiling

- 15.1 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.
- 15.2 The cured membrane must be protected at all times to prevent mechanical damage, so may require temporary covers until the finishing is completed.
- 15.3 Tiling must be undertaken in accordance with AS 3958.1 and the 'Good Practice Guide to Tiling'. The compatibility of the tile adhesive must be confirmed with the adhesive manufacturer or Global Tile Ltd.

Inspections

- 16.1 Critical areas of inspection are:
 - Construction of substrates, including crack control and installation of bond breakers 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

- 17.1 Safe use and handling procedures for the membranes is 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

- 18.1 Testing has been undertaken on Laticrete Hydro Ban® by the following:
 - CSIRO Industrial Research Services to AS/NZS 4858 Appendix A, Water Vapour Transmission to ASTM E96-92, cyclic movement resistance requirements, water absorption.
 - SGS US Testing Inc for breaking strength & seam strength, static head, dimensional stability, resistance to fungi and shear strength to ceramic tile and cement mortar.
 - BRANZ has tested the tensile adhesion and low temperature flexibility of the membrane.

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

Other Investigations

- 19.1 An assessment was made of the durability of the Laticrete Hydro Ban® by BRANZ technical experts.
- 19.2 Site visits have been carried out by BRANZ to assess the practicability of installation and to examine completed installations.
- 19.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.



Quality

- 20.1 The manufacture of Laticrete Hydro Ban® 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. BRANZ has taken note of a certification covering quality aspects associated with the product.
- 20.2 BRANZ has taken note of Technical Assessments and certifications covering quality aspects associated with the product.
- 20.3 The quality of supply of the membrane system materials to the market is the responsibility of Global Tile Ltd.
- 20.4 Quality on site is the responsibility of the Global Tile Ltd Trained and Approved applicators.
- 20.5 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, Global Tile Ltd and this Appraisal.
- 20.6 Building owners are responsible for the maintenance of the tiling or stone finishing systems in accordance with the instructions of Global Tile Ltd.

Sources of Information

- AS/NZS 1170: 2002 Structural design actions.
- AS/NZS 2908.2: 2000 Cellulose-cement products – Flat sheet.
- AS/NZS 2269: 2012 Plywood – Structural.
- AS/NZS 2588: 1998 Gypsum plasterboard.
- AS 3958.1: 2007 Ceramic tiles – Guide to the installation of ceramic tiles.
- NZS 3101: 2006 The design of concrete structures.
- 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.
- BRANZ Good Practice Guide, Tiling, April 2015.
- BRANZ Bulletin 585 – Measuring moisture in timber and concrete.



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14 June 2019

LATICRETE HYDRO BAN®
INTERIOR WATERPROOFING
MEMBRANE



In the opinion of BRANZ, **Laticrete Hydro Ban® Interior Waterproofing Membrane** 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 **Global Tile 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. **Global Tile 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 workmanship;
 - 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 **Global Tile 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 **Global Tile Ltd** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

14 June 2019