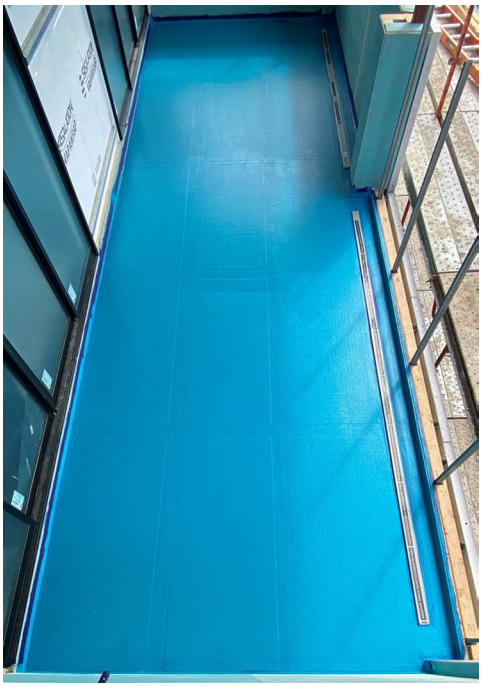
BRANZ Appraised

Appraisal No. 1004 (2023)

CUREFLEX EXTERNAL WATERPROOFING MEMBRANES



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Amended 06 December 2023

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 Cureflex Membranes are liquid applied waterproofing membranes for use under ceramic or stone tile finishes on external decks and balconies.

Scope

2.1 Cureflex Membranes have been appraised for use as waterproofing membranes for pedestrian decks and balconies within the following scope:

- on substrates of fibre cement compressed sheet on timber frame construction; or,
- on substrates of concrete; and,
- when protected from ultraviolet (UV) exposure and physical damage by ceramic or stone tiles; and,
- where decks and balconies are designed and constructed such that deflections do not exceed 1/360th of the span.

2.2 The structural and weathertightness design for each specific structure is the responsibility of the building designer.

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

2.4 Installation of Cureflex Membranes and accessories must be carried out by trained installers, approved by Demtech Australia Pty Ltd

Building Regulations

National Construction Code (NCC)

3.1 **In the opinion of BRANZ, Cureflex External Waterproofing Membranes, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NCC:**

NCC 2022 Volume One - Building Code of Australia

Part F3 ROOF AND WALL CLADDING. Performance F3P1. Cureflex Membranes meet this requirement. See Paragraphs 13.1–13.7.

NCC 2022 Volume Two - Building Code of Australia

Part H2 DAMP AND WEATHERPROOFING. Performance H2P2. Cureflex Membranes meet this requirement. See Paragraphs 13.1–13.7.

Technical Specification

4.1 Materials supplied by Demtech Australia Pty Ltd are as follows:

- **Cureflex SLR2000:** a Class III, higher elastomeric, one-part SBR waterproofing membrane. It is supplied as a purple liquid paste in 5 and 15 L containers.
- **Cureflex PCM17 2-Part:** a fast-drying, two-part waterproofing membrane. It is supplied as a powder in a 15 kg bag and a liquid in 10 L pails, and is coloured pale green/blue when mixed.
- **LS151 Primer:** a specially formulated primer for enhancing adhesion to smooth or dense surfaces. It is supplied as a blue viscous paste in 1, 2, 5 and 15 L containers.
- **PG57 Primer Liquid Additive:** a full-strength, non-tacky, styrene acrylic polymer used to prime porous substrates to improve adhesion. It is supplied as a white milky liquid in 5 and 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 out of 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:

- Cureflex - Insitu Shower Base Waterproofing, Bath HOB Waterproofing, Balcony Waterproofing (PP).
- Cureflex SLR2000 Technical Data, October 2023.
- Cureflex PCM17 2-Part Polymer Cementitious Membrane, October 2023.

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 Cureflex Membranes are for use where impervious waterproof membranes are required on decks and balconies to prevent damage to building elements and adjoining areas.

7.2 The membranes must be covered with ceramic or stone tile finishes within seven days. The finishes must protect the membranes from exposure to UV light and physical damage.

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

7.4 Effective control of moisture in the structure and from within the building must be considered due to the impermeability of the membranes.

7.5 Where the system abuts cladding systems, designers must detail the junction to meet their own requirements and the performance requirements of the NCC. Details not included within the Technical Literature have not been assessed and are outside the scope of this Appraisal.

Substrates

Fibre Cement Compressed Sheet

8.1 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 an external decking substrate. The fibre cement sheet must be of a thickness to meet specific structural design requirements and must be secured to the structure to resist wind uplift and all other forces acting on the deck or balcony, such as deflection from gravity and live loads. Installation must be in accordance with the instructions of the manufacturer.

Concrete

8.2 Concrete substrates must be to a specific engineering design meeting the requirements of the NCC.

Durability

Serviceable Life

9.1 Cureflex Membranes, 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 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 tiling 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 sealants.

10.2 In the event of damage to the waterproofing membrane, the tiling must be removed. Repair can be carried out by applying a patch of suitable membrane.

10.3 Drains and outlets must be maintained to operate effectively, and tiling finishes must remain clean.

Outbreak of Fire

11.1 Cureflex Membranes must be protected or separated from fireplaces, heating appliances, chimneys and flues in accordance with the requirements of NCC Volume One, Part G2, Performance G2P1, and NCC Volume Two, Part H7, Performance H7P3.

Spread of Fire

12.1 Cureflex Membranes are considered an exempt building material, in accordance with NCC Volume One Deemed-to-Satisfy Provision C2D11 (3).

External Moisture

13.1 Decks and balconies must be designed and constructed to meet code compliance with NCC Volume One, Part F3 Roof and wall cladding, Performance F3P1 and NCC Volume Two Part H2 Damp and weatherproofing, Performance H2P2. They must also take account of snowfalls in snow prone areas.

13.2 When installed in accordance with this Appraisal and the manufacturer's Technical Literature, Cureflex Membranes will prevent the penetration of water and will therefore meet code compliance with Part F3 Roof and wall cladding, Performance F3P1 and Part H2 Damp and Weatherproofing, Performance H2P2. The membranes are impervious to water and will give a weathertight deck capable of accepting minor structural movements.

13.3 Cureflex Membranes are impermeable, therefore a means of dissipating construction moisture must be provided in the building design and construction to meet code compliance with NCC Volume One, Performance F3 Roof and wall cladding, Performance F3P1 and NCC Volume Two, Part H2 Damp and weatherproofing, Performance H2P2.

13.4 BRANZ recommends a minimum fall to decks and balconies of 1:40 and that all falls must slope to an outlet. Inadequate falls will allow moisture to collect and increase the risk of deterioration of the membrane and tile finish.

13.5 Deck and balcony falls must be built into the substrate and not created with mortar screeds applied over the membranes.

13.6 Allowance for deflection and settlement of the substrate must be made in the design of the deck or balcony.

13.7 Drainage flanges must be used for any outlet and must be fitted with a grate or cage to reduce potential sources of blockages. An overflow must be provided where the deck or balcony does not drain to an external gutter.

Installation Information

Installation Skill Level Requirement

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

14.2 Installation of substrates must be completed by tradespersons with a thorough understanding of deck and balcony construction, in accordance with instructions given within the substrate manufacturers 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, before laying the membrane.

15.2 The ambient and substrate temperatures must be between 5°C and 35°C before laying the membrane.

15.3 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.

15.4 Substrates must be primed with a primer as specified by Demtech Australia Pty Ltd and allowed to dry fully before the membranes are installed.

Membrane Installation

16.1 Cureflex SLR2000 must be thoroughly stirred before application. Cureflex PCM17 2-Part requires Part A and Part B to be mixed as per the installation instruction in the correct ratio.

16.2 The membranes must be applied in a minimum of two coats at the rates set out in the Technical Literature. Subsequent coats must be applied in a different direction to the previous coat. The total finished thickness of Cureflex SLR2000 must be a minimum of 1.64 mm and the minimum thickness of Cureflex PCM17 2-Part must be 2.01 mm.

16.3 Application can be made by roller (medium/long nap) or brush (long bristle).

16.4 In all situations, reinforcement provisions as set out in this Appraisal and the Technical Literature apply.

16.5 It is strongly recommended that the membrane is protected with temporary covers until it is fully cured in case of mechanical damage or rain wetting.

16.6 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 tile adhesive must be confirmed with the adhesive manufacturer or Demtech Australia Pty Ltd

Inspections

18.1 Critical areas of inspection for waterproofing systems 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 membranes.
- Acceptance of the substrate by the membranes installer prior to application of the membrane.
- Installation of the membranes 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 moisture, frost and mechanical damage during curing.

Health and Safety

19.1 Additional information on Cureflex Membranes and accessories is available in the Material Safety Data Sheets available from Demtech Australia Pty Ltd

Basis of Appraisal

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

Tests

20.1 The following testing of Cureflex Membranes has been undertaken by the following organisations:

- XtecGen, Australia – water absorption; tensile strength and elongation; shore A hardness; water vapour transmission; accelerated weathering and low temperature flexibility.

20.2 Test methods and results have been reviewed by BRANZ and found to be satisfactory.

Other Investigations

21.1 An assessment was made of the durability of Cureflex Membranes by BRANZ technical experts.

21.2 Site inspections were carried out by BRANZ to examine the practicability of installation.

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

Quality

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

22.2 The quality of supply to the market is the responsibility of Demtech Australia Pty Ltd.

22.3 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of the framing system and the substrates.

22.4 Quality on-site is the responsibility of the trained installers, approved by Demtech Australia Pty Ltd.

22.5 Building owners are responsible for the maintenance of the ceramic or stone tiles in accordance with the instructions of Demtech Australia Pty Ltd.

Sources of Information

- 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 4858:2004 Wet area membranes.
- BRANZ Good Practice Guide: Tiling, April 2015.
- National Construction Code 2022, Australian Building Codes Board.

Amendments

Amendment No. 1, dated 06 December 2023

This Appraisal has been amended to update the colour of PCM17 & SLR2000.

BRANZ

In the opinion of BRANZ, Cureflex External Waterproofing Membranes are fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided they are used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to Demtech 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. Demtech 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 Demtech 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 Demtech Australia Pty Ltd or any third party.

For BRANZ

Claire Falck
Chief Executive

Date of Issue:
30 November 2023