



**BRANZ
APPRAISAL
CERTIFICATE
No. 372 (2000)**

**THE WET-SEAL
SYSTEM
WATERPROOFING
MEMBRANE**

Wet-seal Management Pty Ltd

P O Box 481
Coffs Harbour
NSW 2452
Australia

Tel: 0-2-6658 2444

Fax: 0-2-6658 1696

Email: wetseal@Wet-seal.com.au

Internet Website

<http://www.Wet-seal.com.au>

Wet-seal New Zealand Ltd

P O Box 33720
Takapuna
Auckland

New Zealand

Tel/Fax: 0-9-486 6301

Readers are advised to check that this Certificate has not been amended, withdrawn or superseded by a later issue. Refer to the "Valid Certificates Index" in BUILD magazine published by BRANZ, The Australian Institute of Building Surveyors Magazine, 'The Building Surveyor', the Certificate Listing on the BRANZ Internet Site, or contact BRANZ.

BRANZ, Australia
P O Box 323
Mascot
NSW 1460
Australia

Tel: (02) 8339 1881
Fax: (02) 8339 1884

BRANZ
Private Bag 50908
Porirua City
New Zealand

Tel: +64-4-235 7600
Fax: +64-4-235 6070

<http://www.branz.org.nz>



Product

- *This Certificate relates to the Wet-seal System, a site applied flexible fibreglass reinforced modified polyester resin waterproofing membrane.*
- *The Wet-seal System has been appraised for use as an internal wet area water proofing membrane for floors, walls and shower bases which are to be tiled.*
- *The Wet-seal System must be applied by licensed and trained applicators, in accordance with the Wet-seal Management Pty Ltd document entitled "Installation Procedures Manual Issue B," dated 1 December 1993. Unless stated otherwise, reference to "Installation Procedures Manual" shall be taken as this document.*



The Wet-seal System for wet areas.

Building Regulations

1. New Zealand Building Code (NZBC)

In the opinion of BRANZ, the Wet-seal System waterproofing membrane if used, installed and maintained in accordance with the statements and conditions of this Certificate, will contribute to meeting the following provisions of the NZBC:

Clause B2 DURABILITY: Performance B2.3.1(b) 15 years. See Section 6.

Clause E3 INTERNAL MOISTURE: Performance E3.3.2, E3.3.3, E3.3.4, E3.3.5 and E3.3.6. See Section 8.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1 The Wet-seal System will not present a health hazard to people.

2. Building Code of Australia (BCA96)

In the opinion of BRANZ, the Wet-seal System waterproofing membrane if used, installed and maintained in accordance with the statements and conditions of this Certificate, will contribute to meeting the following BCA96 Performance Requirements:

BCA96 Volume 1 – Class 2 to Class 9 Buildings

Part F1 – Damp and Weatherproofing, Performance Requirement F1.7, FP1.6, FP1.7, SA3.1, SA FP1.6 and SA FP1.8. See Section 8.

BCA96 Volume 2 – Class 1 and Class 10 Buildings

Part 2.4 – Health and Amenity, Performance Requirement P2.4.1 and SA 3.1. See Section 8.

Product Information

3. Description

The Wet-seal System is a site applied flexible waterproofing membrane. It uses a fibreglass reinforced matting in conjunction with a flexible polyester resin hardened with a catalyst. When dry this is coated with a flow coat which is a jade coloured polymer also hardened with a catalyst. The total thickness of the membrane where a single layer of glass matt is used is 1.5 – 2 mm and greater at glass matt overlaps.

4. Handling and Storage

4.1 The Wet-seal System Safety Manual contains details on the safe handling and storage of the components.

4.2 The raw materials for the Wet-seal System must be stored in closed containers in a well ventilated area, protected from direct sunlight, heat and cold. They must not be stored near sources of heat or ignition, or near oxidising agents.

Design Information

5. General

5.1 A successful moisture excluding wet area system depends on the correct design and selection of all components including floor and wall substrates, plumbing fittings, tiles, adhesives, sealants and grouts. All components must be compatible with other parts of the system.

5.2 The Wet-seal System can be used on concrete slab, cement render, concrete and masonry walls, compressed fibre-cement flooring, fibre-cement flooring overlay, fibre-cement wall lining, water resistant plasterboard wall lining, plywood flooring and particleboard flooring. In each case the material must be determined as a suitable substrate for wet area waterproofing membranes by reference to the substrate manufacturer's technical literature.

5.3 Wall linings must be fixed in accordance with their manufacturer's instructions providing appropriate support for shower and wet area use and the support of tiles. Flashings must be installed at internal corners in showers, with a bond breaker at shower wall/floor junctions.

5.4 Flooring must also be fixed in accordance with their manufacturer's instructions for wet areas. The Wet-seal System must be laid on floor substrates that fall to waste. Deflections for tiled floors must not exceed 1/360th of the floor span. Specific engineering design may be required.

5.5 The Wet-seal System is flexible and able to accommodate normal building movement but must not be installed over movement joints.

5.6 The preferred installation method for tiled shower bases and floors is to apply the membrane to the floor substrate and

all edges, followed by a mortar bed which slopes to drainage outlets. The Wet-seal System can also be applied to floors that have been laid to falls with the tiles' adhesive fixed direct to the Wet-seal System. Use only tile adhesives that have been verified as suitable for this method by test (refer to Wet-seal Management Pty Ltd or Wet-seal New Zealand Ltd).

5.7 The extent of areas that must be protected from moisture are defined in BCA96 Vol 1 F1.7, Vol 2 Part 3.8.1 and SA 3.2 (Minister's specification SAF1.7); the minimum areas to be protected by a waterproofing membrane are described in AS 3740. The BRANZ Good Tiling Practice also gives guidance. Some manufacturers require their wall linings in shower areas to be protected by a waterproofing membrane. Also manufacturers of flooring, e.g. particleboard, may require their product to be protected in wet areas by a waterproofing membrane.

5.8 Adequate falls must be provided to drains in the floor. In Australia a minimum fall of 1 in 60 must be provided in accordance with BCA 96 Vol 2 Pt. 3.8.1.4 and in New Zealand the minimum fall of 1 in 50 must be provided in accordance with NZBC Acceptable Solution E3/AS1 Paragraph 3.3.5. Inadequate falls will allow moisture to collect, increasing the risk of mould, reducing the slip resistance of the tiles and increasing the risk of deterioration of tile joints and sealants.

5.9 Hobs (upstands) must be constructed of brick, concrete or masonry or any other materials compatible with the waterproofing membrane - excluding timber. Where frameless screens are fitted, the Wet-seal System must be finished to a floor mounted aluminium angle water stop at a minimum distance of 1500 mm from the shower rose, or alternatively the full floor must be sealed. Any other areas where the mortar bed can become wet must also be finished at an angle water stop or at a wall with a membrane upturn.

5.10 Floor wastes compatible with the Wet-seal System must be used and in place at the time of application so the membrane can be sealed to the pipe and flange. The use of floor wastes with Leak Control Flanges is preferred.

5.11 Tiles used must be selected with the correct water absorption and slip resistance; in New Zealand the water absorption and slip resistance of tiles must comply with the NZBC requirements. All tiling must be carried out according to AS 3958.1, using an adhesive complying with AS 2358, and a flexible waterproof grout. All tiles, adhesives, grouts and sealants must be installed according to their manufacturer's instructions.

5.12 Tiles, tile adhesives, grouts and sealants are outside the scope of this Certificate.

6. Durability

Serviceable Life

The Wet-seal System has been successfully used in Australia for over 15 years. It has a compatible life expectancy with typical overlaying tiling systems.

7. Maintenance

7.1 Regular checks of tiled areas (at least annually) must be made to ensure they are sound and prevent moisture penetration. Any cracks or damage must be repaired immediately by replacing tiles, grout or sealants.

7.2 Mildew and mould must be removed from the tiles and tile joints by regular cleaning. Showers must be cleaned weekly to prevent the build up of soap deposits and body oils. Cleaning will reduce deterioration of the tiles and tile joints. Cleaning agents recommended by the tile manufacturer or in the BRANZ Good Tiling Practice must be used.

8. Internal Moisture

8.1 When used as directed by this Certificate the Wet-seal

System will contribute to meeting the requirements of BCA96 and NZBC by providing wall surfaces that are impervious and easily cleaned, by providing an impervious membrane, and by preventing water from penetrating behind linings or to concealed spaces.

8.2 While the membrane provides the waterproof sealing requirements of the BCA96 and NZBC, it is reliant on being supported by a suitable substrate and protected by an overlaying tiled surface.

Installation Information

9. General

Installation of the Wet-seal System is by licensed and trained installers in accordance with the Installation Procedures Manual instructions which are summarised below.

10. Preparation

10.1 Prior to the application of the Wet-seal System the surface to be coated must be smooth, sound, clean, dry and free from dirt, oil, grease, loose matter and other contaminants. Surface defects and shrinkage cracks must be repaired.

10.2 Hobs and angle water stops must be in place.

10.3 Two methods are used for waste outlets. In one method a leak control flange is fitted prior to the membrane installation and the membrane is sealed to the waste flange. In the other, the floor waste pipe is cut off flush with the floor with the inside roughened with sandpaper. The Wet-seal System waterproofing membrane is turned down into the pipe. The waste outlet is fitted into substrates other than concrete through a neat hole, such that there is no more than a 5 mm gap between the pipe work and the substrate and is securely fixed to the substrate with a flanged fitting.

10.4 Wall penetrations for plumbing fittings must be sealed. A backing rod, bead of sealant or tape is applied to all shower wall/floor junctions as a bond breaker.

11. Membrane Application

11.1 In shower areas, the fibreglass is dressed to fit the entire shower base, 25-35 mm down the waste pipe, and 150 mm up the walls. A double layer of fibreglass is used in all wall/floor joints. Hobs, if fitted are completely covered with fibreglass across the inner face, top and outer face and for a distance of approximately 50 mm across the floor. Fibreglass is placed approximately 1800 mm up the internal wall corners (to at least the height of the shower rose).

11.2 In walk-in showers (showers without hobs), the fibreglass membrane is carried across the floor areas and stopped at a floor angle or carried across the full floor area and 80 mm up the walls.

11.3 The mixed resin is applied to completely cover the fibreglass, it is also applied down the floor waste.

11.4 When the fibreglass is dry, the mixed flowcoat is applied. In all cases except when the tiles are to be laid directly onto the membrane, clean sharp sand is spread across the wet flowcoat on the floor area to provide a key for the mortar bed.

11.5 In New Zealand water resistant plasterboard wall linings must be sealed with a full coat of the Wet-seal System prior to the application of tiles.

12. Tiling

12.1 Tiling directly to the membrane may be carried out a minimum of 24 hours after the flowcoat is applied. A flexible two part adhesive recommended by Wet-seal Management Pty Ltd or Wet-seal New Zealand Ltd must be used.

12.2 Mortar beds and floor screeds may be applied 24 hours after the flowcoat.

13. Health and Safety

Precautions must be taken during the installation and the curing of the Wet-seal System to minimise health risks associated with the application of the materials. Work areas and inter-connecting spaces must be well ventilated. Work areas and interconnecting spaces must not be occupied until the product is fully cured and all airborne chemicals removed. Protective clothing, including masks must be worn in accordance with the Installation Procedures Manual.

Basis of Appraisal

The following is a summary of technical investigations carried out.

14. Tests

14.1 The following tests commissioned by Wet-seal Australia Management Pty Ltd, have been reviewed by BRANZ and found to be satisfactory.

14.2 Water Absorption by Coated Fibreglass Sheeting, Physical test on Cured Fibreglass Resin, Tensile Strength of Fibre Glass Samples, Water Vapour Transmission, and Shower Tray Acceptance Testing.

15. Other Investigations

15.1 The processes in Australia including methods adopted for quality control have been examined by BRANZ. Details of the quality and composition of the materials used were also obtained and found satisfactory. Wet-seal Management Pty Ltd are an ISO 9002 certified supplier.

15.2 Site inspections were carried out by BRANZ to assess methods used for the installation of the Wet-seal System, and completed installations were examined.

15.3 The Applicators manual entitled "Installation Procedure Manual Issue B" dated 1 December 1993 has been reviewed by BRANZ and found to be satisfactory.

15.4 The Australian Building Systems Appraisal Council (ABSAC) Technical Opinion and the supporting files for the Wet-seal System were reviewed by BRANZ and found to be satisfactory. The review of the files was carried out with the assistance of ABSAC.

16. Sources of Information

- AS 2358:1990 Adhesive – for fixing ceramic tiles.
- AS 3740:1994 Waterproofing of wet areas within residential buildings.
- AS 3958.1:1991 Guide to the installation of ceramic tiles.
- BRANZ 'Good Tiling Practice', October 1996.
- BRANZ Bulletin No. 339 (December 1995) 'Internal Wall Tiling'.
- Building Code of Australia BCA96, Volumes 1 and 2, Australian Building Codes Board, 1996, including amendment No. 7
- Minister's Specification SA F1.7, October 1995.
- Technical Report No. 110 (Amended) by the Australian Building Systems Appraisal Council Ltd 'Wet-sealing System' – February 1990 (Revalidated February 1993).
- New Zealand Building Code Handbook and Approved Documents, Building Industry Authority, 1992.
- The Building Regulations 1992, including September 1997 Amendment.



The Wet-seal System.

In the opinion of BRANZ, the Wet-seal System Waterproofing Membrane is fit for purpose and can be used to meet the relevant provisions of the Building Code provided it is used, designed, installed and maintained as set out in this Certificate.

This Certificate is issued only to the Certificate Holder, Wet-seal Management Pty Ltd, and is valid until further notice, subject to the Conditions of Certification.

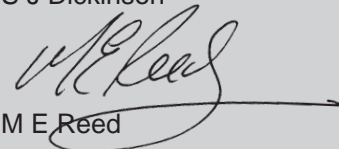
Conditions of Certification

1. This Certificate relates only to the product as described herein.
2. The Certificate Holder:
 - 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.
3. The product and the manufacture are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ.
4. This Certificate must be read, considered and used in full together with the technical literature.
5. BRANZ makes no representation 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.
6. Any reference in this Certificate to any other publication shall be read as a reference to the version of the publication specified in this Certificate.
7. This Certificate does not address any Legislation, Regulations, Codes or Standards, not specifically named herein.

For BRANZ



S J Dickinson



M E Reed

Date of issue: 8th September 2000

©COPYRIGHT No part of this publication may be reproduced without the prior written permission of BRANZ.