



BRANZ Appraised

Appraisal No. 1271 [2024]

ALLCO CASALI DAMP PROOF MEMBRANES

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BRANZ Appraisals

Technical Assessments of products for building and construction.



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Product

- 1.1 Allco Casali Damp Proof Membranes are self-adhesive and torch-applied membranes for use as damp-proof membranes on below ground structures.

Scope

- 2.1 Allco Casali Damp Proof Membranes have been appraised as damp-proof membranes for use under floor slabs complying with NZS 3604 and under floor slabs complying with NZS 4229.
- 2.2 Allco Casali Damp Proof Membranes have also been appraised for use as damp-proof membranes on buildings subject to specific design within the following scope:
 - where the design of the building will be the responsibility of the building designer; and,
 - with clean, sound, continuous substrates of in-situ or pre-cast concrete complying with NZS 3101 or concrete masonry complying with NZS 4210; and,
 - where the membrane is adequately protected against damage during backfilling and in service; and,
 - where subsoil drainage and free draining granular backfill has been placed behind basement walls.
- 2.3 Installation of Allco Casali Damp Proof Membranes must be completed by Allco Waterproofing Solutions Ltd trained applicators in accordance with the Allco Waterproofing Solutions Ltd Technical Literature.

Building Regulations

New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, Allco Casali Damp Proof Membranes, 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 (a) not less than 50 years, (b) 15 years and B2.3.2. Allco Casali Damp Proof Membranes meet these requirements. See Paragraphs 10.1-10.3.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.3. Allco Casali Damp Proof Membranes meet this requirement. See Paragraphs 12.1-12.3.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Allco Casali Damp Proof Membranes meet this requirement.



Technical Specification

- 4.1 Materials supplied by Allco Waterproofing Solutions Ltd are:
- **Casali Olympia** – an APP co-polymer modified bitumen, polyester reinforced torch on membrane with a sanded top surface. Supplied in rolls 3 mm thick, 1 m wide and 10m long.
 - **Casali Aderix** – a APP modified bitumen, polyester reinforced self-adhesive membrane with a PE top film. Supplied in rolls 2.5 mm thick, 1 m wide and 10 m long.
 - **Casali Eradix** - a 4 mm thick anti-root bituminous membrane with a PE film on both sides for concrete substrates only. It is supplied in rolls 1 m wide and 10 m long.
 - **Casali Dermafil** - a nominally 4 mm thick, APP-modified bitumen torch-applied sheet waterproofing membrane used as a cap sheet in a double layer system. The lower face has a polyethylene film which is torched off during application and an upper face finished with slate chips. It is supplied in 1 x 10 m rolls.

Handling and Storage

- 5.1 Handling and storage of all materials, whether on-site or off-site, is under the control of the installer. Dry storage must be provided for the product and the product must be kept from freezing.

Technical Literature

- 6.1 This Appraisal must be read in conjunction with:
- Standard Details for Allco Casali Damp Proof Membranes, July 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

Substrate Design

Walls

- 7.1 Substrate design must be in accordance with the NZBC to a relevant standard, such as NZS 3101 for concrete and NZS 4230 or NZS 4229 for concrete masonry.
- 7.2 The substrate must have a surface finish that is smooth, clean and free from defects or irregularities which may damage the membrane.

Control Joints

- 7.3 Where control or construction joints are formed in the structure where Allco Casali Damp Proof Membranes is part of the design, please consult Allco Waterproofing Solutions Ltd for advice on selection of appropriate joint protection.

Concrete Slab-on-ground

- 7.4 Allco Casali Damp Proof Membranes can be laid on 50-75 mm concrete blinding, well compacted sand blinding and well compacted site fill with a blinded topping.
- 7.5 Please consult Allco Waterproofing Solutions Ltd for other acceptable substrates for both horizontal and vertical applications. The structural concrete slab placed over the membrane must be a minimum of 100 mm thick.

Control Joints

- 8.1 Where control or construction joints are formed in the substrate, Allco Waterproofing Solutions Ltd must be consulted for use of the membranes over these joints.

Backfilling and Drainage

- 9.1 The membrane must be protected against damage by the placement of a protection sheet between the membrane and the granular fill.
- 9.2 The minimum requirement for backfilling is that a granular, free-draining material is used with the top of the backfill capped with an impervious clay fill that may be covered with topsoil if required. The impervious capping and topsoil must slope at a minimum of 1:30 fall away from the wall.
- 9.3 A minimum 100 mm diameter subsoil perforated drainage pipe must be installed at the bottom of the wall. The pipe must be covered with a geotextile filter fabric, be laid at a minimum 1:200 fall and discharge to a drainage outlet. Provision for cleaning the pipe must also be provided.

Durability

Serviceable Life

- 10.1 Allco Casali Damp Proof Membrane is a suitable damp-proof membrane material (polymer modified bitumen emulsion), therefore it is expected to have a serviceable life of at least 50 years provided it is installed and maintained in accordance with this Appraisal and is continually protected from sunlight and ultraviolet (UV) radiation.
- 10.2 Allco Casali Damp Proof Membrane is a suitable damp-proof membrane material (modified bituminous sheet), therefore it is expected to have a serviceable life of at least 50 years provided it is installed and maintained in accordance with this Appraisal and is continually protected from sunlight and UV radiation.
- 10.3 This Appraisal covers Casali Dermafil for use above ground (15 year durability) only. The use of Casali Dermafil in areas which would require a 50 year durability is outside the scope of this Appraisal. No evaluation has been carried out on the PREVENTOL B2 additive which is claimed to provide a chemical root-stop barrier in the Casali Eradix membrane. For this reason, this Appraisal does not include the use of Casali membranes under roof-top gardens.

Maintenance

- 11.1 Annual inspections must be made of the membrane top edge seal and protection, the backfill capping, and the drainage pipe to ensure all are functioning as originally designed.
- 11.2 If required, the drainage pipe must be cleared to remove any sediment or silt build-up. The slope of the backfill capping must be maintained at all times.

External Moisture

- 12.1 Allco Casali Damp Proof Membranes, when installed in accordance with this Appraisal and the Technical Literature, will prevent water vapour from penetrating to the interior face of basement retaining walls and floors in spaces where moisture may cause damage. The membrane has a vapour flow resistance of not less than 90 MN s/g.
- 12.2 All penetrations and construction joints should be made waterproof following the instructions in the Technical Literature before the application of the membrane. The membrane must be terminated at ground level as set out in the Technical Literature, and protected.
- 12.3 Building designers must ensure junctions with other membranes, such as at the floor/wall junction, form a waterproof joint. Junctions have not been assessed and are outside the scope of this Appraisal.

Installation Information

Installation Skill Level Requirement

- 13.1 All design and building work must be carried out in accordance with the Allco Casali Damp Proof Membranes Technical Literature and this Appraisal. All building work must be undertaken by Allco Waterproofing Solutions Ltd trained applicators. Where the work involves Restricted Building Work (RBW) this must also be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License class.

System Installation

Substrate Preparation

- 14.1 All surfaces must be checked to ensure they are dry, clean, smooth and free from sharp edges, loose or foreign materials, oil, grease or other deleterious material that may affect adhesion or may damage the membranes.

Priming

- 14.2 All substrates must be primed before application of the membrane. Allco Waterproofing Solutions Ltd should be contacted to confirm the most suitable primer. Application instructions for the primers are contained in the technical data sheets.

Membrane Installation - Walls

- 14.3 Starting at the lowest point, the membrane must be installed in accordance with the Technical Literature. Sheet edges and ends must be overlapped in accordance with the Technical Literature. Internal and external corners must be reinforced with an extra layer of membrane 300 mm wide. Protection material must be installed before backfilling. Backfilling must commence immediately after the membrane is installed to ensure the membrane is not left exposed to sunlight or UV radiation for no longer than 30 days. The backfilling should be coordinated with the membrane installer.

Membrane Installation - Floors

- 14.4 The membrane must be installed in accordance with the Technical Literature. Sheet edges and ends must be overlapped in accordance with the Technical Literature. The membrane must be inspected for damage and any damage must be repaired in accordance with the Technical Literature. The membrane must not be exposed to UV radiation for any longer than 30 days before the structural concrete slab is placed.

Inspections

- 14.5 The Technical Literature and the approved applicator Quality Control sheets must be referred to during the inspection of the membrane installation.

Health and Safety

- 15.1 Safe use and handling procedures for the membrane system are provided in the Technical Literature.

Basis of Appraisal

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

Tests

- 16.1 Various testing organisations have tested Allco Casali Damp Proof Membranes for water vapour transmission, adhesion to concrete, low temperature flexibility, sag index resistance, static puncture resistance, storage stability, resistance to re-emulsification, tensile strength and elongation retention before and after heat aging. These have been reviewed by BRANZ and found to be satisfactory.

Other Investigations

- 17.1 A durability opinion has been given by BRANZ technical experts.
17.2 Practicability of installation has been assessed by BRANZ and found to be satisfactory.
17.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.



Quality

- 18.1 The manufacture of the membrane has been examined by BRANZ and details regarding the quality and composition of the materials obtained by BRANZ show the processes to be satisfactory.
- 18.2 The quality management system of the membrane manufacturer has been assessed to ISO 9001.
- 18.3 The quality of materials supplied to the market is the responsibility of Allco Waterproofing Solutions Ltd.
- 18.4 Quality of installation on-site is the responsibility of the applicator.
- 18.5 Designers are responsible for the building design, and building contractors are responsible for the quality of construction of substrate systems in accordance with the instructions of Allco Waterproofing Solutions Ltd.
- 18.6 Building owners are responsible for the maintenance of the membrane systems in accordance with the instructions of Allco Waterproofing Solutions Ltd.

Sources of Information

- AS/NZS 1170:2002 Structural and design actions - General principles.
- NZS 3101:2006 The design of concrete structures.
- NZS 3604:2011 Timber-framed buildings.
- NZS 4210:2001 Masonry construction: Materials and workmanship.
- 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.



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21 May 2024

ALLCO CASALI DAMP PROOF
MEMBRANES



In the opinion of BRANZ, **Allco Casali Damp Proof 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 **GL Imports Ltd T/A Allco Waterproofing Solutions 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. **GL Imports Ltd T/A Allco Waterproofing Solutions 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 **GL Imports Ltd T/A Allco Waterproofing Solutions 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 **GL Imports Ltd T/A Allco Waterproofing Solutions Ltd** or any third party.

For BRANZ

Claire Falck
Chief Executive
Date of Issue:
21 May 2024