

Complies with E2 as an Alternative Solution. BRANZ Appraised - Certificate No. 826



BRANZ Appraised
Appraisal No. 826[2014]

masterspec
Ref No. 4421 SB

Viking Peel & Stick Waterproofing Membrane

Technical Statement

Product Description

Viking Peel & Stick Membrane is a self-adhering, damp-proof membrane (DPM) waterproofing system for vertical and horizontal tanking applications. It is primarily adhered to the outside of a sub-structure of a building (such as a foundation or basement) to prevent water ingress.

Other forms of tanking where Peel & Stick can be used include under floor slabs, behind masonry walls, the lining of substrates of in situ or pre-cast concrete; retaining walls, cellars, lift shafts, tunnels, plaza decks, roof gardens and planter boxes.

Peel & Stick consists of a 1.5mm thick rubberised asphalt membrane, on the face of which a heavy-duty, high impact polyethylene film is laminated. It is easy to install (aiding a quality finish), with the adhesive side having a removable release sheet which is peeled back at the time of application to the substrate. It is cold-applied, so it is useful in restricted areas where the use of a flame is not an option. The Peel & stick system consists of the membrane, bituminous primer, liquid mastic sealant, protection boards and drainage boards.

Peel & Stick provides full-adhesion to eliminate water migration. Peel & Stick can be adhered to various substrate types and the bond improves over time. It possesses elastomeric properties, so the membrane forgives movement and provides flexibility over cracks. It is mechanically strong and resists hydrostatic pressure.

Peel & Stick comes in rolls 1.5mm thick x 0.914m wide (fewer seams) x 20.4m long. BRANZ Appraised No. 826 (2014). 20-year product warranty. Viking Roofspec is an active member of the Waterproofing Membrane Association Inc. (W.M.A.I.); an incorporation of companies whose goal is to lift the standard of waterproofing in New Zealand. The W.M.A.I. is formulating a "Tanking Code of Practice" for the Department of Building and Housing.

Scope of use

Viking Peel & Stick Membrane has been appraised as a DPM for use:

- On buildings subject to non-specific design under floor slabs complying with NZS 3604 and behind concrete masonry basement walls and under floor slabs complying with NZS 4229; and,
- On buildings subject to specific design with substrates of in situ or precast concrete complying with NZS 3101 or concrete masonry complying with NZS 4230 and 4210; and,
- Where subsoil drainage and free draining granular backfill has been placed behind basement walls.

Viking Peel & Stick Membranes must be adequately protected against damage during backfilling and in service.

New Zealand Building Code (NZBC)

The product will, if employed in accordance with the supplier's installation and maintenance requirements, assist with meeting the following provisions of the building code:

- Clause B1 Structure: Performance B1.3.1
- Clause B2 Durability: Performance B2.3.1, B2.3.1(a), B2.3.2, B2.3.2(a)
- Clause E2 External moisture: Performance E2.3.3
- Clause F2 Hazardous building materials: Performance F2.3.1

Supporting Evidence

The product has and can make available, the following additional evidence to support the above statements:

Product Criteria

Design requirements

Product specification and incorporation of Viking Peel & Stick Membranes into the building design shall be carried out by a designer/architect/engineer or a building professional who:

- Is qualified to design the buildings covered under the 'Scope' of use of this product.
- Has ready access to the technical specifications including installation details and standards referenced in the BRANZ Appraisal No. 826 (2014)) where the design limitations are outlined for the scope of this PTS.

Accessories that are part of the Viking Peel and Stick system include bituminous primer (19L), liquid mastic sealant (750ml), protection boards and drainage boards.

Installation requirements

- Installation shall be carried out by a Viking Roofspec trained and licensed installer.
- Installation shall be undertaken in accordance with all relevant technical information related to the selected installation method, including information contained within the BRANZ Appraisal No. 826 (2014).

Maintenance requirements

- Annual inspections must be made of the membrane's termination bar and sealant and protection, the backfill capping, and the drainage pipe to ensure all are functioning as originally designed.
- 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.
- Long term properties of the material may be affected by contact with petroleum-based products such as oils, greases and solvents.

Warranties

The Viking Peel & Stick system is backed by a 20-year product warranty.

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Visit nextgen or masterspec for the online version of our specification.

CAD Details

Please visit our website www.vikingroofspec.co.nz or our masterspec listing for our latest CAD Roofing details

Viking Peel & Stick System Physical Properties

Bituclad4 Torch-on Tanking		
Property	Test Method	Test Results
Colour	-	Black
Tensile (Membrane)	ASTM D415	325 psi
Tensile (Film)	ASTM D882	5, 000 psi
Elongation	ASTM D412	350%
Permeance	ASTM D96	0.05 perms
Low Temp. Flexibility (100) Cycles)	ASTM D1970 ASTM C836	Unaffected, @ 45° F Cracking Cycle* Unaffected @ - 25° F
Peel Strength	ASTM D903	10lb / in
Lap Adhesion	ASTM D1876	19.0 lb / in
Puncture Resistance	ASTM E154	60 lb min
Soil Burial	GSA-PBS 07121	16 wks, no effect
H2O Absorption	ASTM D570	0.1% by wt
Hydrostatic Head	ASTM D751	230 ft
* 180° bend over a 1" (25mm) mandrel at -45°C)		



BRANZ Appraised
Appraisal No.826 [2014]

BRANZ Appraisals

Technical Assessments of products
for building and construction

**BRANZ
APPRAISAL
No. 826 (2014)**

VIKING PEEL & STICK MEMBRANE

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Readers are advised to check the validity of this Appraisal by referring to the Valid Appraisals listing on the BRANZ website, or by contacting BRANZ.

Product

1.1 Viking Peel & Stick Membrane is a self adhesive damp-proof membrane for basement retaining walls and floors.



Scope

- 2.1 Viking Peel & Stick Membrane has been appraised as a DPM for use:
- on buildings subject to non-specific design under floor slabs complying with NZS 3604 and behind concrete masonry basement walls and under floor slabs complying with NZS 4229; and,
 - on buildings subject to specific design with substrates of insitu or precast concrete complying with NZS 3101 or concrete masonry complying with NZS 4230 and 4210; and,
 - where subsoil drainage and free draining granular backfill has been placed behind basement walls.
- 2.2 Viking Peel & Stick Membrane must be adequately protected against damage during backfilling and in service.
- 2.3 The product must be installed by Viking Roofspec approved applicators.

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Viking Peel & Stick Membrane 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. Viking Peel & Stick Membrane meets this requirement. See Paragraph 11.1.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.3. Viking Peel & Stick Membrane meets this requirement. See Paragraphs 13.1 – 13.3.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Viking Peel & Stick Membrane meets this requirement and will not present a health hazard to people.

3.2 This is an Appraisal of an **Alternative Solution** in terms of New Zealand Building Code compliance.

Technical Specification

- 4.1 Materials supplied by Viking Roofspec are as follows:
- Viking Peel & Stick Membrane** – is a self adhesive sheet membrane consisting of rubberised asphalt laminated to polyethylene. The membrane is 1.5 mm thick and supplied in rolls 0.914 m wide x 20.4 m long.
- Tanking Primer** – is a fast drying, solvent based contact adhesive. It is supplied in 5 US gallon pails.
- Tanking Primer WB** – is a fast drying, water based contact adhesive. It is supplied in 5 US gallon pails.

Handling and Storage

- 5.1 Handling and storage of all materials whether on or off site is under the control of the installer. Dry storage must be provided for all products and the membranes must be protected from sunlight and ultra-violet (UV) radiation. Rolls of membrane must be stored on end.

Technical Literature

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Viking Peel & Stick Membrane. 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 Viking Peel & Stick Membrane is applied to the exterior face of basement retaining walls and on site concrete under concrete slab-on ground to prevent water vapour penetrating to the interior face in spaces where moisture may cause damage.
- 7.2 The membrane is a self-adhering; cold-applied, polymer-rubber modified bitumen sheets in roll form and is applied as single layer system.

Substrate Design

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

Control Joints

- 8.1 Where control or construction joints are formed in the substrate, Viking Roofspec must be consulted for use of the membrane over these joints.

Concrete Slab-on-ground

- 9.1 The membrane must be laid on a minimum of 75 mm thickness of site concrete. The structural concrete slab placed over the membrane must be a minimum of 100 mm thick.

Backfilling and Drainage

- 10.1 The membrane must be protected against damage by the placement of a protection material between the membrane and the granular fill. Minimum protection requirements are:
- 6 mm corflute.
 - 30 mm polystyrene foam sheet.
 - a proprietary drainage board system.
- 10.2 The backfilling must be a granular, free-draining material with the top of the backfill capped with an impervious clay fill which may be covered with topsoil if required. The impervious capping and topsoil must slope with a minimum of 1:30 fall away from the wall.
- 10.3 The subsoil drainage system must have a minimum 100 mm diameter pipe with openings to collect water, a geotextile filter fabric or other filter material to prevent silting of the pipe, have access for cleaning the subsoil pipe and be a minimum 200 mm below the floor level and a sloped minimum 1:200 fall to a drainage outlet.
- 10.4 After backfilling, the installation is completed with a termination bar and sealant in accordance with the details contained within the Technical Literature to protect the upper edge of the membrane.

Durability

Serviceable Life

- 11.1 Viking Peel & Stick Membrane 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 ultra-violet (UV) radiation.

Maintenance

- 12.1 Annual inspections must be made of the membrane's termination bar and sealant and protection, the backfill capping, and the drainage pipe to ensure all are functioning as originally designed.
- 12.2 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

- 13.1 Viking Peel & Stick Membrane, 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.
- 13.2 The membrane is self-adhesive and can be used to form sealed joints and to seal penetrations. The top edge of the membrane must be sealed to the wall as set out in the Technical Literature and protected.
- 13.3 Building designers must ensure junctions with other membranes, such as at the floor/wall junction, form a waterproof joint. These junctions have not been assessed and are outside the scope of this Appraisal.

Installation Information

Installation Skill Level Requirement

- 14.1 Installation of the membranes must be completed by Viking Roofspec approved applicators.

System Installation

Substrate Preparation

15.1 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

15.2 All substrates must be primed before application of the membrane. Viking Roofspec should be contacted to confirm the most suitable primer. Application instructions for the primers are contained in the technical data sheets.

Membrane Installation - Walls

15.3 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 ultra-violet (UV) radiation for no longer than 30 days. The backfilling should be coordinated with the membrane installer.

Membrane Installation - Floors

15.4 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

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

Health and Safety

16.1 Safe use and handling procedures for the membrane is provided by Viking Roofspec.

Basis of Appraisal

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

Tests

17.1 The following testing of Viking Peel & Stick Membrane has been undertaken by various organisations for thickness, elongation, puncture resistance, low temperature pliability, water absorption, vapour permeability, adhesion to concrete with and without primer, tensile strength, shear strength, crack bridging, resistance to fungi and hydrostatic pressure resistance. Test methods and results have been reviewed by BRANZ and found to be satisfactory.

Other Investigations

18.1 A durability opinion has been given by BRANZ technical experts.

18.2 Practicability of installation has been assessed by BRANZ and found to be satisfactory.

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

Quality

19.1 The manufacture of the Viking Peel & Stick Membrane has been examined on behalf of BRANZ, including methods of quality control.

19.2 The quality of materials supplied to the market is the responsibility of Viking Roofspec.

19.3 Quality of installation on site is the responsibility of the Viking Roofspec approved installer.

19.4 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 Viking Roofspec.

19.5 Building owners are responsible for the maintenance of the membrane system in accordance with the instructions of Viking Roofspec.

Sources of Information

- NZS 3101: 2006 Concrete structures standard.
- NZS 3604: 2011 Timber-framed buildings.
- NZS 4229: 1999 Concrete masonry buildings not requiring specific engineering design.
- NZS 4230: 2004 Design of reinforced concrete masonry structures.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 (including Amendment 5, 1 August 2011).
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.



BRANZ

In the opinion of BRANZ, **Viking Peel & Stick 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 **Viking Roofspec**, 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. **Viking Roofspec**:
 - 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 **Viking Roofspec**.
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 **Viking Roofspec** or any third party.

For BRANZ

C Percy
Chief Executive

Date of issue: 30 January 2014



Viking Peel & Stick Membrane System Product Warranty

Viking Roofspec offers this Warranty for the Viking Membrane System for 20 years from the Warranty Commencement Date ("Warranty Period").

1. Viking Roofspec warrants that the Membrane System will, subject to the terms set out below, retain its waterproofing for the Warranty Period provided that the Membrane System has been properly installed by a Viking Approved Applicator in accordance with all Viking Roofspec specifications current at the time of installation, including, but not restricted to the technical data and standard details as listed on the Viking Roofspec Website at www.vikingroofspec.co.nz and training provided by Viking Roofspec ("Viking Specifications").
2. This Warranty covers only materials supplied by Viking Roofspec as the Membrane System, including the membrane and primer; provided materials were new and unused at the time of installation and have not been disturbed thereafter.
3. Warranty Commencement Date _____
(Date of completion of Membrane System installation)
4. The Membrane System
Membrane type: Viking Peel & Stick
5. The Building
Project address _____
Application _____
Installed by _____
6. This Warranty covers only the waterproofing properties of the Membrane System. Viking Roofspec will not be liable for any failure of the Membrane System or damage resulting from any failure that has been caused in part or in whole by the Membrane System not being installed in accordance with the Viking Specifications. Viking Roofspec does not give any warranty as to the suitability of any installer and will not, in any circumstances be liable for the actions or omission of any installer. Viking Roofspec requires that all Viking Approved Applicators provide a separate Workmanship Warranty covering any defects in the installation of the Membrane System.
7. The Membrane System is not warranted against, and Viking Roofspec shall not be liable for loss of waterproofing properties or damage caused by:
 - objects penetrating the sheeting, or mechanical damage;
 - chemical or substance;
 - any shifting or altering of the building after installation;
 - the failure of other Building components;
 - the lack of adequate protection for the membrane;
 - the lack of adequate drainage;
 - environmental factors including, pollutants and biological agents contaminated water or contaminated earth;
 - accident or intentional or negligent acts, misuse, abuse, vandalism or civil disobedience or the like; or



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- Acts of God which include, but are not limited to, acts of nature without human intervention, such as earthquakes, storms, floods, and explosions.
- 8. In addition to the above limitations, this Warranty will be void and Viking Roofspec will not be liable under it if;
 - any alteration or repair is made on or through the Membrane System (including, but not limited to: structures, fixtures or utilities) without prior written authorisation from Viking Roofspec;
 - any alteration or repair is made to the Membrane System by a person other than a Viking Approved Applicator;
- 9. Viking Roofspec shall not be liable under this Warranty (or any implied warranties which are not excluded under clause (15) for any consequential, indirect or special loss or damage of any kind whatsoever, or loss of profits, whether under contract, tort or otherwise.
- 10. Viking Roofspec's liability is in any circumstances limited to (at the option of Viking Roofspec) either;
 - providing for the repair of the original Membrane System,
 - or providing a credit to be applied towards the purchase of a new Membrane System, calculated *pro rata*, based upon the number of remaining months of the unexpired Warranty Period, using the current material prices for the Membrane System. The maximum *pro rata* value allowed by Viking Roofspec for repair or credit shall not exceed the original purchase price of the product supplied.
- 11. The obligations under this Warranty shall only be enforceable against Viking Roofspec upon completion of the installation of the Membrane System; completion of the installation contract; and once payment in full has been received for the product supplied.
- 12. Should any defect occur which requires a remedy under the terms of this Warranty, then the defect must be notified to Viking Roofspec in writing within fourteen (14) days of discovery. By notifying Viking Roofspec you authorise Viking Roofspec to investigate the Warranty claim to assess whether it falls within the terms of this Warranty. Should our investigation of the claim find that the cause is outside the terms of this Warranty, then you acknowledge and agree that Viking Roofspec may charge you its reasonable investigation costs. You agree to provide Viking Roofspec free access to the Membrane System in order to investigate or to affect repairs under this Warranty during normal business hours.
- 13. Any remedial work required under this Warranty shall be as determined by Viking Roofspec and shall be carried out in accordance with the Viking Specifications by a contractor nominated by Viking Roofspec. Viking Roofspec does not accept liability for delay in sourcing repair materials.
- 14. Nothing in this Warranty shall require Viking Roofspec to shift any earth, hardfill, structure, fixtures, plant, equipment, flashings or other items so as to allow access to part of any Membrane System to be repaired or replaced. Neither shall Viking Roofspec be liable for any costs involved in such shifting or reinstallation.
- 15. This Warranty represents the limit of Viking Roofspec's liability for the Membrane System. All other warranties, express or implied, are hereby excluded to the maximum extent permitted by applicable law.
- 16. Notwithstanding any other provisions of this Warranty, nothing in this Warranty is intended to limit any condition, warranty, right or remedy available under or imposed by any applicable legislation including, for the avoidance of doubt but without limitation, the Building Act 2004, the Fair Trading Act 1986 and the Consumer Guarantees Act 1993) except to the extent permitted by such legislation.

Viking
Peel&Stick

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Viking Roofspec
Taking care of detail

- 17. This Warranty shall be governed according to the laws of New Zealand and any disputes shall be decided in the courts of New Zealand.

Warranty Workmanship no

Viking Warranty No

For Viking Roofspeg

Date issued

www.vikingroofspeg.co.nz

Sample

Viking
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