

Complies with E2 as an Alternative Solution. CodeMark 30092 and BRANZ Appraisal No. 948

## Viking Torch-On Waterproofing Membrane



### Product Description

Viking Torch-On roofing and deck waterproofing membrane system for roofs and decks comply with E2 as an Alternative Solution, supported by CodeMark Certification and BRANZ Appraisal.

Viking Torch-On membrane systems may be specified on new or refurbishment roofs and decks for residential or commercial projects. Directly to concrete, ply, Viking PIR insulation or StrandSarking.

Viking Torch-On are torch applied two-layer bituminous waterproofing membrane systems. The two-layers consist of a 3mm or 4mm thick Base-sheet which is torch-applied or self-adhered to a primed substrate, and a 4mm thick Black or Grey coloured ceramic-chip Cap-sheet. The Cap-sheet protects the roof system from ozone and UV degradation. A non-woven polyester / fibre-glass composite reinforced mesh within both sheet layers provides latitudinal tensile strength and high puncture resistance.

Vikings Torch-On systems offer three various modified bitumen sheet compounds providing differing properties explained under 'Viking Torch-On Types and Properties'.

Product Warranty period is 20-yrs or 25-yrs dependent on which Viking Torch-On system is specified.

For specific projects, Viking Torch-On membrane systems may be eligible for [Viking's Full System Warranty](#), which covers the product and installation warranties in one document.

### Scope of Use:

Viking Torch-On Waterproofing Membranes have been assessed as roof waterproofing membranes on buildings within the following scope:

- The scope limitations of NZS 3604:2011 and NZBC Acceptable Solution E2/AS1, Paragraph 1.1; or,
- The scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area when subject to specific structural design; and,
- With substrates of plywood or suspended concrete slab
- Situated in NZS 3604:2011 Wind Zones, up to and including Extra High; and,
- With a minimum fall for roofs of 1:30 (2°), decks of 1:40 (1.5°)

Viking Torch-On Membranes have also been appraised for use as roof and deck waterproofing membranes on specifically designed buildings within the following scope:

- Subject to specific structural and weathertightness design situated in wind pressures up to a maximum design differential ultimate limit state (ULS) of 6 kPa;

- With substrates of plywood or suspended concrete slab and
- With weathertightness design of junctions for each specific structure being the responsibility of the building designer.

### New Zealand Building Code (NZCB):

This system 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, B1.3.4, B1.3.4(b), B1.3.4(c), B1.3.4(d), B1.3.4(e),
- Clause B2 Durability: Performance B2.3.1, B2.3.1(b),
- Clause E2 External moisture: Performance E2.3.1, E2.3.2, E2.3.7, E2.3.7(b), E2.3.7(c)
- Clause F2 Hazardous building materials: Performance F2.3.1

### NOTES

Viking Torch-On can be used for both commercial and residential buildings. It can be applied over suitably prepared existing surfaces as a re-roof solution. It is also suitable for low-slope and pitched roofs, internal gutters and parapets, balconies / decks and roof gardens. Viking Roofspec advise that all membranes (other than Dec-K-ing) also incorporate a traffic floating deck surface on pedestals. LINK: [Refer Viking Buzon Screwjack Pedestals](#).

Savings in power and construction costs can be made by incorporating Viking Torch-On with a Viking WarmRoof or WarmSpan solution. Refer Masterspec further in PTS.

Viking Torch-On roll sizes are the largest within the market for torch-on membranes 10m long x 1m wide. The torch application means it is a suited solution for tricky/confined roofs as the membrane can be "bled" into tight corners and awkward areas that might be difficult to detail.

### Viking Torch-On Types and Properties:

Gemini APP (Atactic Polypropylene) is suited for the moderate environmental conditions in New Zealand Climate Zones 1 & 2 (North Island excluding the volcanic plateau)

Serviceable temperature range of +120°C to -10°C.

Product Warranty period 20-yrs      Roll size 10mt x 1mt.

Lybra SBS (Styrene Butadiene Styrene) is suited for more extreme climates, such as New Zealand's Climate Zone 3 (South Island and North Island's volcanic plateau)

Serviceable temperature range of +100°C to -15°C.

Product Warranty period 20-yrs      Roll size 10mt x 1mt.

Phoenix Super APAO (Amorphous Polyalphaolefin) possesses high durability and elastomeric properties meaning it can be installed anywhere in NZ CLIMATE ZONES and the South Pacific

Serviceable temperature range of +140°C to -35°C.

Phoenix Super APAO will last longer than average torch-on systems.

Product Warranty period 25-yrs      Roll Size 10mt x 1mt.

### Warranties:

Viking Torch-On systems are backed by Vikings 20-year product warranty with Certificate of Workmanship provided by Viking Approved Applicator companies.

Specific projects may be eligible for [Viking's Full System Warranty](#) (FSW), which must be applied for directly with

Viking Roofspec and is a process that warranties the full installation of product and workmanship in one document, conditions apply.

Viking Roofspec only supply Viking Torch-On to our Approved Applicator network of Viking Licensed Installers. FSW: Only Approved Applicator Companies with Installers licensed to Level 2 of Viking training may install for Viking Full System Warranty projects.

### Viking Licensing / Training:

Viking Roofspec provides training and Viking licensing as recognition of the Viking Approved Applicator network. Viking Roofspec invest heavily in this area and Viking Licensing is recognised at 3 levels.

- Level 1 - all installers of Viking Torch-on are to complete Viking Stage 1 training.
- Level 2 - licensed installers have had assessments by Viking Roofspec to prove high competency of unsupervised correct installation and detailing to Viking Roofspec specification.
- Level 3 - includes installer having either an LBP or NZ Certificate in membrane roofing.

### Viking Torch-On Provides:

- 6.0kPa (ULS) Wind uplift resistance – fully adhered system
- Can be incorporated with Viking WarmRoof / WarmSpan Insulated Roof Systems. Refer Masterspec.
- Vikings Torch-On systems provide NZ's widest range of modified bitumen and base sheet options with proprietary accessories
- 20-yr Viking Product Warranty for Gemini (APP) or Lybra (SBS) systems or [Viking 20-yr Full System Warranty \(conditions apply\)](#)
- 25-yr Viking Product Warranty for Phoenix Super (APAO) or Viking 20 yr Full System Warranty (conditions apply)

### Supporting Evidence

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

- Codemark Certificate GM-CM30092
- Branz Appraisal No. 948

### Product Criteria

#### Design Requirements

Product specification and incorporation of Viking Torch-On 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 both the BRANZ Appraisal No.948 and CodeMark certificate GM-CM30092 where the design limitations are outlined for the scope of this PTS.

Viking Torch-On is supplied as a complete system with proprietary accessories to deal with secure roof terminations and proper drainage. [Click here for a comprehensive list of accessories.](#)

#### 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. 948 and the Viking Roofspec Torch-On Applicator Handbook.

- Builder must refer to the correct Viking Substrate Checklist. For a list of installation requirements, please refer to the CodeMark certificate GM-CM30092.

### Maintenance Requirements

- Maintenance requirements for Viking Torch-On are outlined in Viking's 'Membrane Care and Maintenance Guide'.
- In the event of damage to the membrane, the membrane must be repaired by a Viking Licensed Installer to minimum Stage 1 only who can remove the damaged portion and torch apply a patch as for new work.
- Drainage outlets must be cleared and maintained to operate effectively.

### Environmental

Bitumen is a bi-product of the oil refining process. Torch-On membranes provide a constructive use of this waste product. The robust nature of a modified bitumen membrane system will ensure sustainability through longevity. A Viking Torch-On roof can be overlaid at the end of its useful life, avoiding the dumping of the old roof and the filling of landfills with inorganic waste.

### Masterspec

# masterspec

Visit [nextgen](#) or [masterspec](#) for the online version of our specification.

#### **4421VB: Viking Two-Layer Torch-On System**

4422VS VIKING WARMSPAN *where Viking Torch-On can also be selected*

4422VW VIKING WARMROOF *where Viking Torch-On can also be selected*

Viking Substrate Checklist Plywood for Torch-On

Viking Substrate Checklist Concrete

Viking Substrate Checklist Strandsarking for Torch-On

### CAD Details

Please visit our website [www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz) or our masterspec listing for our latest CAD Roofing details.

## Physical Properties

COLOURS	Ceramic Cap Sheet Colours Black or Grey
Reinforcement	Polyester non-woven reinforced with glassfibre
Compound Bitumen modified with	Gemini APP / Atactic Polypropylene Lybra SBS / Styrene Butadiene Styrene Phoenix Super APAO / Amorphous Polyalphaolefin
Surface finishing CAP SHEET APAO	External side: Ceramic Chip self-protection - Sand, polymeric film PE/PP, non-stick polymeric TNT (only overlap) Internal side: sand, polymeric film PE/PP, non-stick polymeric film TNT
BASE SHEET APAO	External side: sand, polymeric film PE/PP, non-stick polymeric TNT Internal side: sand, polymeric film PE/PP, non-stick polymeric film TNT
CAP SHEET APP/ SBS	External side: Ceramic Chip self-protection, non-stick polymeric TNT (only overlap) Internal side: polymeric film PE/PP
BASE SHEET APP/ SBS	External side: sand Internal side: polymeric film PE/PP
Application method	Flame of propane gas

## Lybra SBS 3mm Base Sheet

TECHNICAL CHARACTERISTICS				
CHARACTERISTIC	TEST METHOD	UNITS	NOMINAL VALUES	TOLERANCES
Visible defects	EN 1850-1	visible	Without defects	
Length	EN 1848-1	m	10,00 -1%	MLV
Width	EN 1848-1	m	1,000 -1%	MLV
Straightness	EN 1848-1	mm	20 mm x 10 m	MLV
Thickness	EN 1849-1	mm	3	± 0,2
Watertightness (A)	EN 1928	kPa	60	MLV
External fire performance	EN 13501-5	B roof	F Roof	
Reaction to fire	EN 13501-1	Class	F	Pass
Shear resistance longitudinal / transversal	EN 12317-1	N/50 mm	650 / 400	± 20%
Water vapour transmission proprieties Method A	EN 1931	μ / Sd (m)	20.000 / 30	± 2000
Tensile Strength Longitudinal / Transversal	EN 12311-1	N/50 mm	750 / 500	± 20%
Elongation at break Longitudinal / Transversal	EN 12311-1	%	35 / 40	- 15 absolut
Resistance to impact	EN 12691	mm	900	MLV
Resistance to static loading Method A	EN 12730	Kg	15 (Method A and B)	MLV
Resistance to tearing (nail shank)	EN 12310-1	N	160 / 160	- 30%
Dimensional stability Longitudinal / Transversal	EN 1107-1 met. A	%	± 0,3 %	MLV
Flexibility at low temperature	EN 1109	°C	-15	MLV
Flow resistance at elevated temperature	EN 1110	°C	90	MLV
Durability of watertightness against artificial ageing	EN 1296 / EN 1928	Kpa	=60	MLV
Durability of watertightness against chemicals	EN 1847 / EN 1928	Kpa	= 60	MLV

## Lybra SBS 4mm Cap Sheet

TECHNICAL CHARACTERISTICS				
CHARACTERISTIC	TEST METHOD	UNITS	NOMINAL VALUES	TOLERANCES
Visible defects	EN 1850-1	visible	Without defects	
Length	EN 1848-1	m	10,00 -1%	MLV
Width	EN 1848-1	m	1,000 -1%	MLV
Straightness	EN 1848-1	mm	20 mm x 10 m	Pass
Thickness	EN 1849-1	mm	4 (mineral)	± 0,2
Watertightness (A)	EN 1928	kPa	60	MLV
External fire performance	EN 13501-5	B roof	F Roof	
Reaction to fire	EN 13501-1	Class	F	Pass
Tensile Strength Longitudinal / Transversal	EN 12311-1	N/50 mm	750 / 500	± 20%
Elongation at break Longitudinal / Transversal	EN 12311-1	%	35 / 40	- 15 absolut
Resistance to impact	EN 12691	mm	900	MLV
Resistance to static loading Method A	EN 12730	Kg	15	MLV
Resistance to tearing (nail shank)	EN 12310-1	N	160 / 160	- 30%
Dimensional stability Longitudinal / Transversal	EN 1107-1 met. A	%	± 0,3 %	MLV
Flexibility at low temperature	EN 1109	°C	-15	MLV
Flow resistance at elevated temperature	EN 1110	°C	100	MLV
Flow resistance at elevated temperature after artificial ageing	EN 1296 / EN 1110	°C	110	-10
Adhesion of granules	EN 12039	%	Max 30 %	MDV

## Gemini APP 3mm Base Sheet

TECHNICAL CHARACTERISTICS				
CHARACTERISTIC	TEST METHOD	UNITS	NOMINAL VALUES	TOLERANCES
Visible defects	EN 1850-1	visible	Without defects	
Length	EN 1848-1	m	10,00 -1%	MLV
Width	EN 1848-1	m	1,000 -1%	MLV
Straightness	EN 1848-1	mm	20 mm x 10 m	MLV
Thickness	EN 1849-1	mm	3	± 0,2
Watertightness (A)	EN 1928	kPa	60	MLV
External fire performance	EN 13501-5	B roof	F Roof	
Reaction to fire	EN 13501-1	Class	F	Pass
Tensile Strength Longitudinal / Transversal	EN 12311-1	N/50 mm	750 / 500	± 20%
Elongation at break Longitudinal / Transversal	EN 12311-1	%	35 / 40	- 15 absolut
Resistance to tearing (nail shank)	EN 12310-1	N	160 / 160	- 30%
Dimensional stability Longitudinal / Transversal	EN 1107-1 met. A	%	± 0,3 %	MLV
Flexibility at low temperature	EN 1109	°C	-10	MLV
Flow resistance at elevated temperature	EN 1110	°C	120	MLV

## Gemini APP 4mm Cap Sheet

TECHNICAL CHARACTERISTICS				
CHARACTERISTIC	TEST METHOD	UNITS	NOMINAL VALUES	TOLERANCES
Visible defects	EN 1850-1	visible	Without defects	
Length	EN 1848-1	m	10,00 -1%	MLV
Width	EN 1848-1	m	1,000 -1%	MLV
Straightness	EN 1848-1	mm	20 mm x 10 m	Pass
Thickness	EN 1849-1	mm	4 (mineral)	± 0,2
Watertightness (A)	EN 1928	kPa	60	MLV
External fire performance	EN 13501-5	B roof	F Roof	
Reaction to fire	EN 13501-1	Class	F	Pass
Tensile Strength Longitudinal / Transversal	EN 12311-1	N/50 mm	750 / 500	± 20%
Elongation at break Longitudinal / Transversal	EN 12311-1	%	35 / 40	- 15 absolut
Resistance to impact	EN 12691	mm	900	MLV
Resistance to static loading Method A	EN 12730	Kg	15	MLV
Resistance to tearing (nail shank)	EN 12310-1	N	160 / 160	-30%
Dimensional stability Longitudinal / Transversal	EN 1107-1 met. A	%	± 0,3 %	MLV
Flexibility at low temperature	EN 1109	°C	-10	MLV
Flow resistance at elevated temperature	EN 1110	°C	120	MLV
Flow resistance at elevated temperature after artificial ageing	EN 1296 / EN 1110	°C	120	-10
Adhesion of granules	EN 12039	%	Max 30 %	MDV

## Phoenix Super APAO 4mm Base Sheet

TECHNICAL CHARACTERISTICS				
CHARACTERISTIC	TEST METHOD	UNITS	NOMINAL VALUES	TOLERANCES
Visible defects	EN 1850-1	visible	Without defects	
Length	EN 1848-1	m	10,00 -1%	MLV
Width	EN 1848-1	m	1,000 -1%	MLV
Straightness	EN 1848-1	mm	20 mm x 10 m	MLV
Thickness	EN 1849-1	mm	4	± 0,2
Watertightness (A)	EN 1928	kPa	60	MLV
External fire performance	EN 13501-5	B roof	F Roof	
Reaction to fire	EN 13501-1	Class	F	Pass
Shear resistance longitudinal / transversal	EN 12317-1	N/50 mm	500 / 500	MLV
Water vapour transmission proprieties Method A	EN 1931	μ / Sd (m)	120.000 / 480	-20.000
Tensile Strength Longitudinal / Transversal	EN 12311-1	N/50 mm	900 / 650	± 20%
Elongation at break Longitudinal / Transversal	EN 12311-1	%	40 / 45	± 15 absolut
Resistance to impact	EN 12691	mm	1250	MLV
Resistance to static loading Method A	EN 12730	Kg	20	MLV
Resistance to tearing (nail shank)	EN 12310-1	N	200 / 200	-30 N
Dimensional stability Longitudinal / Transversal	EN 1107-1 met. A	%	± 0,3 %	MLV
Flexibility at low temperature	EN 1109	°C	-35	MLV
Flow resistance at elevated temperature	EN 1110	°C	140	MLV
Flexibility at low temperature after artificial ageing	EN 1296 / EN 1109	°C	-35	MLV
Flow resistance at elevated temperature after artificial ageing	EN 1296 / EN 1110	°C	140	-10
Artificial ageing by long-term exposure to the combination of Uv radiation, elevated temperature and water	EN 1297 / EN 1850-1	Visible	Pass	Whitout defects
Durability of watertightness against artificial ageing	EN 1296 / EN 1928	Kpa	60	MLV
Durability of watertightness against chemicals	EN 1847 / EN 1928	Kpa	60	MLV

## Phoenix Super APAO 4mm Cap Sheet

TECHNICAL CHARACTERISTICS				
CHARACTERISTIC	TEST METHOD	UNITS	NOMINAL VALUES	TOLERANCES
Visible defects	EN 1850-1	visible	Without defects	
Length	EN 1848-1	m	10,00 -1%	MLV
Width	EN 1848-1	m	1,000 -1%	MLV
Straightness	EN 1848-1	mm	20 mm x 10 m	Pass
Thickness	EN 1849-1	mm	4	± 0,2
Watertightness (A)	EN 1928	kPa	60	MLV
External fire performance	EN 13501-5	B roof	F Roof	
Reaction to fire	EN 13501-1	Class	F	Pass
Shear resistance longitudinal / transversal	EN 12317-1	N/50 mm	500 / 500	MLV
Tensile Strength Longitudinal / Transversal	EN 12311-1	N/50 mm	900 / 650	± 20%
Elongation at break Longitudinal / Transversal	EN 12311-1	%	40 / 45	± 15 absolut
Resistance to impact	EN 12691	mm	1250	MLV
Resistance to static loading Method A	EN 12730	Kg	20	MLV
Resistance to tearing (nail shank)	EN 12310-1	N	200 / 200	-30 N
Dimensional stability Longitudinal / Transversal	EN 1107-1 met. A	%	± 0,3 %	MLV
Flexibility at low temperature	EN 1109	°C	-35	MLV
Flow resistance at elevated temperature	EN 1110	°C	140	MLV
Flexibility at low temperature after artificial ageing	EN 1296 / EN 1109	°C	-35	MLV
Flow resistance at elevated temperature after artificial ageing	EN 1296 / EN 1110	°C	140	-10
Adhesion of granules	EN 12039	%	Max 30 %	MDV



# CERTIFICATE OF CONFORMITY

This product Certificate is issued under Section 269 of the Building Act 2004 for:

## Viking GM Torch On Membrane Systems



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### Product Description

Viking GM torch On Membrane Systems are a range of torch-applied reinforced modified-bitumen membranes for use as fully bonded double-layer torch on waterproofing membranes on nominally flat and pitched roofs. There are three types of systems:

	Base sheet	Cap Sheet Grey	Cap Sheet Black
Lybra SBS	SEM227	SEM248	SEM245
Gemini APP	SEM327	SEM348	SEM345
Phoenix Super APAO	SEM127	SEM148	SEM145

The base sheet is a 3mm thick APP/3mm thick SBS/4mm thick APAO modified non-woven polyester/fibreglass composite reinforced, torch on bitumen membrane. The cap sheet is a 4mm thick APP/4mm thick SBS/4mm thick APAO modified, non-woven polyester/fibreglass composite reinforced, torch on bitumen membrane finished in various ceramic chip colours. All sheets are delivered in 1m x10m rolls.

The ancillary components supplied by Viking Roofspec are as follows

Torch on primer solvent based SES299	Torch on primer water based SES300
Dropper outlets IMT400 & IMT401	Roof vents IMV111, IMV112
Roof Outlets Sure fix drain/grate IMT500, IMT 501 & IMT502	Scuppers IMT100, IMT101, IMT102, IMT104
Overflow IMT105	Leaf/gravel grates IMT301, IMT302, IMT303, IMT304
Drain SDM049	Elastigum SES015

Pegasus Spot vent sheet SEM400 Sump IMR100, IMR120 and IMR130

### Product purpose and use

- Viking GM torch On Membranes Systems have been assessed as roof waterproofing membranes on buildings within the following scope:
  - the scope limitations of NZS 3604:2011 and NZBC Acceptable Solution E2/AS1, Paragraph 1.1; or,
  - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area when subject to specific structural design; and,
  - situated in NZS 3604:2011 Wind Zones, up to, and including Extra High; and,
  - with substrates of plywood or suspended concrete slab; and,
  - with a minimum fall for roofs of 1:30 (2 degrees).
- Viking GM torch On Membranes Systems have also been assessed for use as roof waterproofing membranes on buildings within the following scope:
  - subject to specific structural and weathertightness design situated in wind pressures up to a maximum design differential ultimate limit state (ULS) of 6 kPa; and,
  - with substrates of plywood or suspended concrete slab.

### Certificate holder

<b>CodeMark Certification Body</b>		08/04/2018		08/04/2021	GM-CM30092-RevA
Global-Mark Pty Ltd, Suite 4.07, 32 Delhi Road, North Ryde NSW 2113, Australia Tel: +61 (0)2 9886 0222 <a href="http://www.Global-Mark.com.au">www.Global-Mark.com.au</a>	Herve Michoux Managing Director	Date of issue	Last update	Date of next re-certification	Certificate Number

The purpose of construction site audits is to confirm the practicability of installing the product; and to confirm the appropriateness and accuracy of installation instructions. In issuing this certificate, Global-Mark has relied on the independent expert and/or laboratory advise or reports. This certificate is issued by Global-Mark Pty Limited, an independent certification body accredited by the product certification accreditation body (JAS-ANZ) appointed by the Chief Executive of the Ministry of Business Innovation and Employment under the Building Act 2004. The Ministry of Business Innovation and Employment does not in any way warrant, guarantee, or represent that the building method or product the subject of this certificate conforms with the New Zealand Building Code, nor accept any liability arising out of the use of the building method or product. The Ministry of Business Innovation and Employment disclaims, to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages, and costs arising as a result of the use of the building method(s) or product(s) referred to in this certificate. This Certificate may only be reproduced in its entirety.

It is advised to check that this Certificate of Conformity is currently valid and not withdrawn, suspended or superseded by a later issue by referring to the Ministry of Business Innovation and Employment website, <http://www.mbie.govt.nz/>

New Zealand Building Code (NZBC) references the Building Code in force at the time of issuing the product certificate.

Certificate holder will notify Global-Mark Pty Ltd in accordance with Regulation 15 of the Building (Product Certification) Regulations 2008

# CERTIFICATE OF CONFORMITY

This product Certificate is issued under Section 269 of the Building Act 2004 for:

## Viking GM Torch On Membrane Systems



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Web: [www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz)

### Compliance with the New Zealand Building Code (NZBC):

Viking GM torch On Membranes Systems if designed, used, installed and maintained in accordance with the scope of this Certificate, will meet the following provisions of the NZBC:

**Clause B1 STRUCTURE:** Performance B1.3.1, and B1.3.4 (b) (c) (d) (e) for the relevant physical conditions of B1.3.3 (p). Viking GM torch On Membranes Systems meet these requirements.

**Clause B2 DURABILITY:** Performance B2.3.1 (b) and B2.3.2 (a), 15 years. Viking GM torch On Membranes Systems meet this requirement.

**Clause E2 EXTERNAL MOISTURE:** Performance E2.3.1, E2.3.2 and E2.3.7 (b) and (c). Viking GM torch On Membranes Systems meet these requirements.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. Viking GM torch On Membranes Systems meet this requirement and will not present a health hazard to people.

### Subject to the following conditions and limitations:

1. Maintaining the validity of and compliance with the BRANZ Appraisal No. 948 (2017) Viking GM Torch On Membranes.
2. Subject to regular inspection and maintenance in accordance with of BRANZ Appraisal No. 948 (2017) and the Code of Practice for Torch-on Membrane Systems for Roofs ,1<sup>st</sup> Edition, October 2008
3. The Viking GM torch On Membranes Systems can only be used with the ancillary components provided by Viking Roofspec listed in the product description section of this certificate. Where these components are substituted with alternative products, these applications fall outside the scope of this Certification.

### Design Conditions:

1. Product specification and incorporation of the Viking GM torch On Membranes Systems 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 both the BRANZ appraisal No. 948 (2017) and this certificate.
2. Roofs must be designed and constructed in accordance with the following limitations:
  - constructed to suitable falls as follow:
    - Roof falls must be built into the substrate. The minimum fall to roofs is 1 in 30 (2 degrees) and gutters is 1 in 100 (0.5 degrees). All falls must slope to an outlet. Inadequate falls will allow moisture to collect and increase the risk of deterioration of the membrane.  
*Note: Where possible BRANZ recommends a minimum 1:60 (1 degree) slope for gutters.*
    - Allowance for deflection and settlement of the substrate must be made in the design of the roof to ensure falls are maintained and no ponding of water can occur; and,
    - with no integral roof gardens.
3. The design and construction of the substrate and movement and control joints is specific to each building, and therefore is the responsibility of the building designer and building contractor and is outside the scope of this Certification.
4. When used in structural and weather tightness design situated in wind pressures up to a maximum design differential ultimate limit state (ULS) of 6 kPa; on substrates of plywood or suspended concrete slab; the weather tightness design of junctions for each specific structure is the responsibility of the building designer and is outside the scope of this Certification.

### Product Installation Conditions:

1. Installation shall be carried out by a Viking Roofspec trained and licensed installer.
2. 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 948 (2017), the Code of PRACTICE for Torch-on Membrane Systems for Roofs ,1<sup>st</sup> Edition, October 2008.
3. Long term properties of the material may be affected by contact with petroleum-based products such as oils, greases and solvents.

### End of the record



**BRANZ Appraised**  
Appraisal No. 948 [2017]

## VIKING GM TORCH ON MEMBRANES

**Appraisal No. 948 [2017]**

Amended 18 September 2019



### BRANZ Appraisals

Technical Assessments of products  
for building and construction.



### Viking Roofspec

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**BRANZ**

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[branz.co.nz](http://branz.co.nz)



## Product

- 1.1 Viking GM Torch On Membranes consist of three double layer membrane systems, [Gemini APP, Lybra SBS and Phoenix Super APAO]. The membrane products [both base and cap sheets] are manufactured from fibreglass/polyester composite reinforced, modified bitumen.

## Scope

- 2.1 Viking GM Torch On Membranes have been appraised as roof and deck waterproofing membranes on buildings within the following scope:
  - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; or
  - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with respect to building height and maximum floor plan areas when subject to specific design; and,
  - with building structures designed and constructed to meet the requirements of the NZBC; and,
  - with substrates of plywood or concrete slab; and,
  - with minimum falls for roofs of 1:30 and decks of 1:40; and,
  - with decks that have a maximum area of 40 m<sup>2</sup>; and,
  - situated in NZS 3604 Wind Zones, up to, and including Extra High.
- 2.2 Viking GM Torch On Membranes have also been appraised for use as roof and deck waterproofing membranes on specifically designed buildings within the following scope:
  - subject to specific structural and weathertightness design; and,
  - with substrates of plywood or concrete slab; and,
  - situated in specific design wind pressures [refer Paragraph 8.1] and,
  - with the weathertightness design of junctions for each specific structure being the responsibility of the building designer.
- 2.3 Roofs and decks waterproofed with Viking GM Torch On Membranes must be designed and constructed in accordance with the following limitations:
  - nominally flat or pitched roofs and decks constructed to drain water to gutters and drainage outlets complying with the NZBC; and,
  - with no steps within the deck level, no integral roof gardens and no downpipe direct discharge to the decks; and,
  - with the deck membrane continually protected from physical damage by pedestal protection system or Viking Decoupling System.
- 2.4 The design and construction of the substrate and movement and control joints is specific to each building, and therefore is the responsibility of the building designer and building contractor and is outside the scope of this Appraisal.
- 2.5 The membranes must be installed by Viking Roofspec Licensed and Trained Installers.

## Building Regulations

### New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Viking GM Torch On 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 (b), 15 years. Viking GM Torch On Membranes meet this requirement. See Paragraph 10.1.

**Clause E2 EXTERNAL MOISTURE:** Performance E2.3.1 and E2.3.2. Viking GM Torch On Membranes meet these requirements. See Paragraphs 13.1 - 13.9.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. Viking GM Torch On Membranes meet this requirement and will not present a health hazard to people.

## Technical Specification

4.1 Materials supplied by Viking Roofspec are as follows:

- **Gemini APP Base 3mm** – is an APP modified, non-woven polyester/fibreglass composite reinforced, torch on bitumen membrane used a base sheet in a double layer system. It is coloured black and supplied in rolls 3.0 mm thick, 1.0 m wide and 10.0 m long.
- **Gemini APP Cap 4mm Ceramic** – is an APP modified, non-woven polyester/fibreglass composite reinforced, torch on bitumen membrane used a cap sheet in a double layer system. It is available in various ceramic chip colours and supplied in rolls 4.0 mm thick, 1.0 m wide and 10.0 m long.
- **Lybra SBS Base 3mm** – is a SBS modified, non-woven polyester/fibreglass composite reinforced, torch on bitumen membrane used a base sheet in a double layer system. It is coloured black and supplied in rolls 3.0 mm thick, 1.0 m wide and 10.0 m long.
- **Lybra SBS Cap 4mm Ceramic** – is a SBS modified, non-woven polyester/fibreglass composite reinforced, torch on bitumen membrane used a cap sheet in a double layer system. It is available in various ceramic chip colours and supplied in rolls 4.0 mm thick, 1.0 m wide and 10.0 m long.
- **Phoenix Super APAO Base** – is an APAO modified, non-woven polyester/fibreglass composite reinforced, torch on bitumen membrane used a base sheet in a double layer system. It is coloured black and supplied in rolls 4.0 mm thick, 1.0 m wide and 10.0 m long.
- **Phoenix Super APAO Cap Ceramic** – is an APAO modified, non-woven polyester/fibreglass composite reinforced, torch on bitumen membrane used a cap sheet in a double layer system. It is available in various ceramic chip colours and supplied in rolls 4.0 mm thick, 1.0 m wide and 10.0 m long.
- **Easy Paste** – is a multi-purpose water based bituminous primer. It is supplied in 5, 10 and 20 kg pails.

## Handling and Storage

5.1 Handling and storage of all materials whether on or off site is under the control of the Viking Roofspec approved installers. Dry storage must be provided for all products and the rolls of membrane must be stored in an upright position.

## Technical Literature

6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for the Viking GM Torch On Membranes. 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 The Gemini APP, Lybra SBS and Super Phoenix APAO Viking GM Torch On Membranes are fully bonded, double layer, torch on waterproofing systems for use on non-trafficable roofs, decks, balconies, gutters and parapets. The membrane systems are used where an impervious waterproof membrane is required to prevent damage to building elements and adjoining areas on new or existing buildings. Viking Roofspec must be consulted as to the suitability of any existing substrates prior to using Viking GM Torch On Membranes.
- 7.2 The effective control of internal moisture must be considered at the design stage due to the impermeability of the membranes. Refer to BRANZ publication "Good Practice Guide - Membrane Roofing".
- 7.3 All the systems require a protection system for when anything other than irregular maintenance foot traffic is expected. Viking Roofspec should be consulted for the best system to meet the design requirements.
- 7.4 Decks must always be protected by a pedestal protection system or Viking Decoupling System.
- 7.5 Refer to Viking Roofspec for deck foot traffic protection system specifications.

### Structure

- 8.1 Viking GM Torch On Membranes as fully bonded double layer systems are suitable for use in areas subject to maximum wind pressures of 6 kPa Ultimate Limit State.

### Substrates

#### Plywood

- 9.1 Plywood must be treated to H3 [CCA treated]. LOSP treated plywood must not be used. Plywood must comply with NZBC Acceptable Solution E2/AS1, Paragraph 8.5.3 and 8.5.5. Where specific design is used [i.e. outside the scope of NZBC E2/AS1] the plywood thickness and fixing size may increase and centres may decrease to meet specific wind loadings. Timber framing 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.

#### Concrete

- 9.2 Concrete substrates must be to a specific engineering design meeting the requirements of the NZBC, such as concrete construction to NZS 3101.

#### Existing Construction

- 9.3 A thorough inspection of the substrate must be made to ensure it is in fit condition and does not contain any materials that will adversely affect the performance of the membrane.
- 9.4 Repairs must be undertaken, where applicable, to ensure the substrate is sound, the joints are sealed, and the flashings are sound. Plywood substrates must be checked for screw fixings, and if necessary refixed as for new plywood.

### Durability

#### Serviceable Life

- 10.1 Viking GM Torch On Membranes are expected to have a minimum durability of at least 15 years, with an expected serviceable life of 25 years, provided they are designed, used, installed and maintained in accordance with this Appraisal and the Technical Literature.

#### Chemical Resistance

- 10.2 Industrial air pollutants and windborne salt deposits should not significantly affect the durability of the membranes. However, the long term properties of the material may be affected by contact with low molecular weight petroleum distillates.



## Maintenance

- 11.1 The membrane roof and deck systems must be regularly [at least annually] checked for damage, rubbish and debris. Damage, such as small punctures and tears must be repaired as recommended by Viking Roofspec.
- 11.2 Special care must be taken when inspecting the membrane roof and deck systems to ensure the continuing prevention of moisture ingress, and repairs must be undertaken where required.
- 11.3 Drainage outlets must be maintained to operate effectively.

## Prevention of Fire Occurring

- 12.1 Separation or protection must be provided to Viking GM Torch On Membranes from heat sources such as fire places, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solutions C/AS1 - C/AS6 and NZBC Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources.

## External Moisture

- 13.1 Roofs and decks must be designed and constructed to shed precipitated moisture. They must also take account of snowfalls in snow prone areas. A means of meeting code compliance with NZBC Clause E2.3.1 is given by the Technical Literature which aligns with details in NZBC Acceptable Solution E2/AS1.
- 13.2 When installed in accordance with this Appraisal and the Technical Literature, Viking GM Torch On Membranes will prevent the penetration of water and will therefore meet code compliance with NZBC Clause E2.3.2. The membranes are impervious to water and will give a weathertight roof.
- 13.3 The minimum fall for roofs is 1 in 30, for decks 1 in 40 and for gutters 1 in 100. All falls must slope to an outlet. Inadequate falls will allow moisture to collect and increase the risk of deterioration of the membranes.  
*Note: Where possible a fall of 1 in 60 in the gutters is preferred.*
- 13.4 Roof and deck falls must be built into the substrate.
- 13.5 Allowance for deflection and settlement of the substrate must be made in the design of the roof to ensure falls are maintained and no ponding of water can occur.
- 13.6 Viking GM Torch On Membranes are impermeable therefore a means of dissipating construction moisture must be provided in the building design and construction to meet code compliance with NZBC Clause E2.3.6.
- 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 roof does not drain to an external gutter or spouting.
- 13.8 Penetrations and upstands of the membranes must be raised above the level of any possible flooding caused by the blockage of roof drainage.
- 13.9 The design of details not covered by the Technical Literature is subject to specific weathertightness design and is outside the scope of this Appraisal.

## Installation Information

### Installation Skill Level Requirement

- 14.1 Installation of the membranes must be completed by installers, approved by Viking Roofspec.
- 14.2 Installation of substrates must always be carried out in accordance with the Viking GM Torch On Membranes Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner [LBP] with the relevant Licence Class.



### Preparation of Substrates

- 15.1 Substrates must be dry, clean and stable before installation commences. Surfaces must be smooth and free from nibs, sharp edges, dust, dirt or other materials such as oil, grease or concrete formwork release agents. All surface defects must be filled to achieve an even and uniform surface.
- 15.2 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. 585.
- 15.3 The moisture content of the plywood and timber substructure must be a maximum of 20% and the plywood sheets must be dry at time of membrane application. This will generally require plywood sheets to be covered until just before the membrane is laid, to prevent rain wetting.

### Membrane Installation

- 16.1 The installation of this membrane system is very complex and limited to trained installers only. The Viking Roofspec Technical Literature should be referred to in all instances for the correct procedures.

### Inspections

- 17.1 Critical areas of inspection for waterproofing systems 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 suppliers instructions.

### Health and Safety

- 18.1 Safe use and handling procedures for Viking GM Torch On Membranes are provided in the Technical Literature. The products must be used in conjunction with the relevant Material Safety Data Sheets for each membrane.



## Basis of Appraisal

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

### Tests

- 19.1 The following is a summary of the testing of Viking GM Torch On Membranes undertaken by various organizations:
- Tensile strength, elongation, tear strength dimensional stability, low temperature flexibility, heat resistance, unrolling at low temperatures, sliding resistance, watertightness, static and dynamic indentation, fatigue cycling, peel resistance and testing on joints in accordance with MOAT 27 and 56.
  - BRANZ has reviewed the information and have found it to be satisfactory.

### Other Investigations

- 20.1 A durability opinion has been provided by BRANZ technical experts.
- 20.2 Installation of the membranes has been assessed by BRANZ for practicability and found to be satisfactory.
- 20.3 The Technical Literature has been examined by BRANZ and found to be satisfactory.

### Quality

- 21.1 The manufacture of the Viking GM Torch On Membranes 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.
- 21.2 BRANZ has taken note of technical assessments and certifications covering quality aspects associated with the products.
- 21.3 The quality of supply of the product to the market is the responsibility of Viking Roofspec.
- 21.4 Quality on site is the responsibility of the Viking Roofspec approved installers.
- 21.5 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 supplier, Viking Roofspec and this Appraisal.

### Sources of Information

- AS/NZS 1170: 2002 Structural Design action - general principles.
- AS/NZS 2269: 2012 Plywood - Structural.
- BRANZ Good Practice Guide - Membrane Roofing, October 2015.
- BRANZ Bulletin No. 585 - Measuring Moisture in Timber and Concrete.
- NZS 3101: 2006 The design of concrete structures.
- NZS 3604: 2011 Timber-framed buildings.
- Acceptable Solutions and Verification Methods for New Zealand Building Code External Moisture Clause E2, Ministry of Business, Innovation and Employment, Third Edition July 2005 [Amendment 7, 1 January 2017].
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.

## Amendments

### Amendment No.1, dated 18 September 2019

This Appraisal has been amended to add decks and balconies to the Appraisal Scope.





**BRANZ Appraised**  
Appraisal No. 948 [2017]

**BRANZ Appraisal**  
Appraisal No. 948 [2017]  
01 February 2017

VIKING GM TORCH ON  
MEMBRANES



In the opinion of BRANZ, **Viking GM Torch On 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 **Viking Roofspect**, 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 Roofspect**:
  - 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 Roofspect**.
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 Roofspect** or any third party.

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For BRANZ

**Chelydra Percy**

Chief Executive

Date of Issue:

01 February 2017

- Ensure concrete substrate has been allowed to fully cure – at least 28 days from pour
- If the concrete is less than 28 days old or a rapid curing compound has been used, you must identify the product and verify correct curing has taken place prior to laying
- Relative humidity of concrete substrates must be 75% or less before application. This can be verified with the use of hygrometer), **if moisture level is high use the Viking Roofspec Vented Base Sheet (SEM701)**
- Fill hollows or holes with a cement plaster, or FLC
- Surface to be smooth, clean, dry and free of debris or release agents
- Venting installed as required. Contact Viking Roofspec if a venting specification has not been provided
- Minimum 20mm bitumen fillets required at the base of upstands for Torch-On Membrane
- All drains and outlets are membrane compatible. Confirm with Viking Roofspec if required
- Ensure minimum required falls are met. E2/AS1 2011 states **2° for roofs** (1:30 or **34mm/mt**), **1.5° for decks** (1:40 or **25mm/mt**)\* and **1:100 (10mm/mt) for internal gutters**  
\* a minimum of 2° is required in Auckland
- Please ensure you have ordered the correct membrane, colour and thickness for your project

## NOTES:

- Cover the substrate to keep it dry, ensuring the waterproofing membrane can be installed when needed. Communicate early with your Viking Approved Applicator on the project scheduling to ensure weather exposure is kept to a minimum
- Correct substrate installation is critical to durability and performance of the membrane. Failure to strictly comply with substrate specification may affect product warranty
- All constructions should comply with the New Zealand Building Code. Contact your local council for further advice
- Communication between the Applicator and Construction Company will assist to ensure specification is met
- Information regarding our products, specifications and warranties is available at **[www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz)** If you have a query regarding this substrate specification please call Viking on **0800 729 799**

- Framing supports at 400mm centres (in one direction). All plywood edges must also be supported. **Do not use tongue and groove plywood.** If alternative support spans are required refer to WMAI C.o.P for Torch-On Membrane Systems Table 7
- Minimum thickness 17mm, F8, CCA H3.2 treated, structural plywood (not LOSP treated)
- Minimum CD grade with the sanded C face upwards
- Plywood laid with face grain at right angles to supports
- Plywood is to be laid with staggered joints in a brick-bond pattern with a continuous bead of suitable construction adhesive on top of timber supports. Sheet edges to be carefully glued with a continuous bead of suitable construction adhesive (no spot gluing) and tight butt-jointed. Once sheets have been placed together remove any excess adhesive by scraping the joint with a chisel. Ensure joints and sheets are not walked on within two hours of application. When fully cured remove excess and sand off joints
- Leave a 5mm minimum expansion gap around the perimeter of the plane. The fixing specification allows for a maximum 50m<sup>2</sup> without expansion joints (dependant on design). 5mm expansion joints should be used on areas over 50m<sup>2</sup>. **For further information regarding placement of expansion joints for your design, please contact Viking Roofspec**
- Plywood screw-fixed with 10g x 50mm S/S counter-sunk screws at 150mm centres at all sheet edges and 200mm centres through the body of the sheet. All screws to be counter sunk 1-2mm
- Provide minimum 20mm timber fillets at the base of all upstands. **Viking Roofspec recommends using (IMT603) Bitumen Fillets**
- Chamfer all external edges with a minimum radius of 5mm
- Plywood is to be kept dry at all times during construction.** Blow/torch drying the plywood surface prior to membrane application does not comply. Plywood and framing supports to be at no more than **20% moisture content**
- For roofs and roof decks over living spaces, all insulated cavities must be ventilated in accordance with E2/AS1 8.5.2. No cavity ventilation is required for a Viking WarmRoof system that meets or exceeds the minimum R-value requirements of the climate zone
- All outlets and overflows are membrane compatible. Note that TPO membranes cannot be welded to stainless steel scuppers or sumps. Outlets/overflows must have clamped grates
- Ensure compliant falls. E2/AS1 8.5.1. limitations state **2° for roofs (1:30 or 34mm/mt), 1.5° for decks (1:40 or 25mm/mt) and 1:100 (10mm/mt)\* for internal gutters**  
\* a minimum of 2° is required in Auckland
- Please ensure you have ordered the correct membrane, colour and thickness for your project

**NOTES:**

- Cover the substrate to keep it dry, ensuring the waterproofing membrane can be installed when needed. Communicate early with your Viking Approved Applicator on the project scheduling to ensure weather exposure is kept to a minimum
- Correct substrate installation is critical to durability and performance of the membrane
- Failure to strictly comply with substrate specification may affect product warranty
- All constructions should comply with the New Zealand Building Code. Contact your local council for further advice
- Communication between the Applicator and Construction Company will assist to ensure specification is met
- Information regarding our products, specifications and warranties is available at **[www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz)** If you have a query regarding this substrate specification please call Viking on **0800 729 799**

- StrandSarking, 3.600 x .800mt x 16.3mm, square edge H3.1 treated substrate, refer BRANZ Appraisal No. 946
- For use as a roof substrate with a minimum slope of 2°. Can be used for internal gutters with 1:100 falls. Not for use under trafficable decks. Not for use as a diaphragm roof structure
- Framing supports at 400mm centres maximum (in one direction). **All sheet edges must also be supported**
- StrandSarking sheets must be laid continuous over at least two spans (three framing members). When used over a single span, then blocking (nogs) must be used under each unsupported edge
- Plywood is to be laid with staggered joints in a brick-bond pattern with a continuous bead of suitable construction adhesive on top of timber supports. Sheet edges to be carefully glued with a continuous bead of suitable construction adhesive (no spot gluing) and tight butt-jointed. Once sheets have been placed together remove any excess adhesive by scraping the joint with a chisel. Ensure joints and sheets are not walked on within two hours of application. When fully cured remove excess and sand off joints
- Leave a 5mm minimum expansion gap around the perimeter of the plane and any other elements protruding through the roof such as vent pipes. Greater clearances than this may be required around flues and chimneys
- The fixing specification allows for a maximum 50m<sup>2</sup> without expansion joints (dependent on design). 5mm expansion joints should be used on areas over 50m<sup>2</sup>. **For further information regarding placement of expansion joints for your design, please contact Viking Roofspec**
- Screw-fixing requirements, 10g x 50mm S/S counter-sunk screws, to be counter-sunk 1-2mm, no closer than 10mm from the sheet edges. **For screw spacings refer to Table 3 of the StrandSarking BRANZ Appraisal No. 946**
- 'Very-High and Extra-High' wind-zones **100mm centres** throughout body of sheet, 150mm centres at all sheet edges
  - 'High' wind-zone 150mm centres throughout body of sheet, 150mm centres at all sheet edges
- Chamfer all external edges with a minimum radius of 5mm
- For roofs and roof decks over living spaces, all insulated cavities must be ventilated in accordance with E2/AS1 8.5.2. No cavity ventilation is required for a Viking WarmRoof system that meets or exceeds the minimum R-value requirements of the climate zone
- StrandSarking is to be kept dry at all times during construction.** Blow/torch drying the surface prior to membrane application does not comply. Substrate and framing supports to be at maximum **20% moisture content**
- StrandSarking has a maximum exposure period of eight weeks, before being clad with the roofing membrane. It is recommended for the waterproofing membrane to be installed as soon as the StrandSarking is laid
- All outlets and overflows are membrane compatible. Note that TPO membranes cannot be welded to stainless steel scuppers or sumps. Outlets and overflows must have clamped grates
- Please ensure you have ordered the correct membrane, colour and thickness for your project

**NOTES:**

- Cover the substrate to keep it dry, ensuring the waterproofing membrane can be installed when needed. Communicate early with your Viking Approved Applicator on the project scheduling to ensure weather exposure is kept to a minimum
- Correct substrate installation is critical to durability and performance of the membrane.
- Failure to strictly comply with substrate specification may affect product warranty
- All constructions should comply with the New Zealand Building Code. Contact your local council for further advice
- Communication between the Applicator and Construction Company will assist to ensure specification is met
- Information regarding our products, specifications and warranties is available at **[www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz)** If you have a query regarding this substrate specification please call Viking on **0800 729 799**

**Correct, regular maintenance of your membrane roof or deck will ensure the best, long-term performance of the Viking Torch-On system.**

## GENERAL CARE

Following is a list of maintenance recommendations for the Viking Torch-On system

- a) **Provide proper drainage.** Keep the roof surface clean of debris - leaves, twigs, paper or accumulated dirt - particularly around drains to avoid clogging. Ponding water on the surface of the membrane increases the risk of moisture ingress at membrane laps, or in the event of a puncture or cut in the membrane
- b) **Avoid membrane exposure to chemicals,** petroleum products and solvents, grease and oils (including kitchen fat)
- c) **Foot traffic.** The Viking Torch-On membrane should be protected from regular foot traffic. Viking Roofspec recommends extra protection mats in those areas. **For more information please contact Viking Roofspec on 0800 729 799 or email [info@vikingroofspec.co.nz](mailto:info@vikingroofspec.co.nz)**
- d) **Exercise care with tools and equipment.** Where it is necessary for workers to be on the roof to service units, care should be taken when placing doors, lids or sharp objects directly onto the membrane surface. When moving units or equipment, avoid damage by using protective boards over the membrane prior to moving equipment
- e) **Remove debris,** such as glass, bolts, nails, screws, metal shavings etc. and any other material that may cause punctures or cuts to the membrane
- f) **Repairs.** Arrange for immediate repair of any damage using a Viking Approved Applicator. **To find a Viking Approved Applicator visit [www.vikingroofspec.co.nz/find-an-applicator/](http://www.vikingroofspec.co.nz/find-an-applicator/)** page

## CLEANING

Viking Enviroclad membrane roofs should be cleaned at least annually, using a neutral detergent and water. Caustic or acidic cleaners should be avoided. If the roof is highly exposed to organic debris (leaves and branches), it should be cleaned more regularly. Viking Roofspec recommend using **Viking Weathered Membrane Cleaner** for hard to remove stains.

## INSPECTIONS

A regular inspection programme should be established. Viking Enviroclad membrane roof inspections should be conducted at least twice a year after installation. Inspections should include high-risk areas such as hatches, drains and around roof top equipment, as well as a general inspection of the entire membrane area. Where possible, inspections should also include the examination from the underside for evidence of leaks, structural issues or movement and other deficiencies. Parapets, flashings and edging should also be examined for evidence of deterioration or moisture infiltration.

Additionally, Viking Enviroclad membrane inspections should also be conducted:

- a) After severe weather conditions; such as strong winds, hail or continued heavy rain, examine the roof for ponding, debris or damage to other building elements
- b) After repair or replacement of roof top equipment (e.g. satellite dish, air conditioning units etc.), or when the roof is exposed to work where damage may occur.

## WARRANTIES

Viking Roofspec Enviroclad membrane system is warranted for 20-years. The Viking Approved Applicator named in the Certificate of Workmanship underwrites the workmanship for installation of an Enviroclad system for ten-years. In the event of an issue, these warranties will cover the cost of labour and materials to correct any problem caused by a fault in workmanship or materials supplied by Viking Roofspec.

In some cases the Viking Enviroclad system may be installed in conjunction with other components not manufactured or supplied by Viking Roofspec, or terminated to building components that may cause or contribute to a leak. Materials not supplied by Viking Roofspec are excluded from the Product Warranty.

## LEAKS

In order to retain warranty cover, any material or workmanship failure must be advised to Contractor, Approved Applicator or Viking Roofspec within 14 days of the leak or failure being identified. First contact should be to the Viking Approved Applicator who installed the membrane. If the issue is related to workmanship then the Approved Applicator will make good any fault (within the warranty period stated in the Certificate of Workmanship). If the issue is related to the Product Warranty, the Approved Applicator will communicate this to Viking Roofspec or the building owner can contact Viking Roofspec direct. Viking Roofspec will assign a technical representative to the project to assess the damage and plan the appropriate step to rectification.

For any further information relating to membrane maintenance or information regarding our products, specifications and warranties are available at [www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz) call Viking Roofspec on **0800 729 799**



# MEMBRANE POST INSTALLATION CHECKLIST

- Substrate checklist has been completed for the specific membrane type to be installed, with any remedial work finished before the membrane is installed
- All Outlets and Overflows are 'membrane-type-compatible' and have been installed correctly
- Membrane has been installed in the correct sequence, starting from the outlets up-to the highest point of the roof/deck or gutter
- All detailing has been installed as per manufacturer specifications and details
- All laps and details have been correctly inspected as per manufacturer specifications.  
**Note:** Torch-on Gussets must be installed in the Base Sheet layer
- Internal Gutters have been flood-tested up-to the height of the overflow for a minimum period overnight, up-to 24 hours. **Note:** Torch-on membranes must be tested on the first (Base Sheet) layer, before the Cap Sheet is installed
- All accessories used are correct and compatible for the membrane type installed
- Vents have been installed as per specification. **Note:** Cavity ventilation is not required for a WarmRoof system that meets or exceeds the minimum R-value requirements
- Membrane and details are free from damage at the time of inspection.  
See comments below if anything found

<b>Date Inspected:</b>			
<b>Inspected By:</b>			
<b>Site Address:</b>			
<b>Areas Inspected:</b>			
<b>Approved Applicator Company:</b>			
<b>Names of Licensed Installers:</b>			
<b>Main Contractor:</b>			
<b>Testing method:</b> <i>tick at least one</i>	<b>Seam-Probed</b>	<b>Flood-tested</b>	<b>ILD</b>
<b>Notes or Comments:</b> <i>Was inspection 100% pass or were repairs needed? Any following actions required?</i>			

**Print Name:** .....

**Signature:** .....

**Viking Roofspec Notes:**

Specifications, substrate checklists and applicator handbooks can be found on Viking Roofspec Applicators Only page at [www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz)

All construction must comply with the New Zealand Building Code. Contact your local council for further details

**Viking Roofspec**

**Ph: 0800 729 799**

**Email: [info@vikingroofspec.co.nz](mailto:info@vikingroofspec.co.nz)**

# Viking Torch-On 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 and weatherproofing 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](http://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, proprietary accessories, primers and adhesives; 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: \_\_\_\_\_  
Membrane Thickness: \_\_\_\_\_  
Membrane Colour: \_\_\_\_\_
5. The Building  
  
Project Address: \_\_\_\_\_  
  
Area of Application: \_\_\_\_\_  
  
Installed by: \_\_\_\_\_
6. This Warranty covers only the waterproofing and weatherproofing 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 Certificate of Workmanship 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 (save those specifically approved for use by Viking Roofspec);
  - shifting or altering of the Membrane System after installation;
  - infiltration or condensation of moisture in, around, or above the walls of the Building or the failure of other Building components;
  - the lack of positive drainage (ponded water);
  - the lack of adequate ventilation;
  - environmental factors including dirt, pollutants and biological agents, fungi, bacteria or spores;
  - accident or intentional or negligent acts, misuse, abuse, vandalism or civil disobedience or the like; or
  - Acts of God which include, but are not limited to, acts of nature without human intervention, such as earthquakes, storms, floods, lightning strikes 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;
  - the owner of the Building fails to use reasonable care in maintaining the Membrane System, such maintenance to include (but not be limited to) those items listed in the Membrane Care and Maintenance information, as amended and updated from time to time. Current Membrane Care and Maintenance information is available from our website at [www.vikingroofspec.co.nz](http://www.vikingroofspec.co.nz). You acknowledge that Viking Roofspec has no obligation to notify you of changes to the Membrane Care and Maintenance information; or
  - the building is moved from the site at which the Membrane System was originally installed.
9. Change in the aesthetics, colour or finish of the Membrane System, or "Tenting" of the Membrane System due to substrate movement, are not covered by this Warranty.

10. Viking Roofspec shall not be liable under this Warranty (or any implied warranties which are not excluded under clause (16) for any consequential, indirect or special loss or damage of any kind whatsoever, or loss of profits, whether under contract, tort or otherwise.
11. 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.
12. 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.
13. 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.
14. 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 or inability to match repair materials exactly to those originally installed.
15. Nothing in this Warranty shall require Viking Roofspec to shift any 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.
16. 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.
17. 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.
18. This Warranty shall be governed according to the laws of New Zealand and any disputes shall be decided in the courts of New Zealand.

Certificate of Workmanship No.

Viking Warranty No.



John Edwards  
For Viking Roofspec

Date Issued