



Certificate of Conformity

Certification Body:



BRANZ
1222 Moonshine Rd,
RD1, Porirua 5381
Private Bag 50 908
Porirua 5240,
New Zealand

Tel: +64 4 237 1170
Web: www.branz.co.nz

Certificate Holder:



Thermakraft Australia Pty Ltd.
Unit 1, No.1 Bungaleen Court,
Dandenong South,
Victoria 3175,
AUSTRALIA

Tel: +61 3 9870 5800
Web: www.thermakraft.com.au
Email:
sales@thermakraft.com.au

Certificate number: 80001

THIS TO CERTIFY THAT

Thermakraft® Watergate Plus Housewrap

Type and/or use of product:

Watergate Plus is a pliable building membrane for use as a sarking on walls of buildings within the following scope:

- Class 1 and Class 10 buildings; and,
- Class 2 to Class 9 buildings; and,
- constructed with timber or steel framing; and,
- with masonry veneer; and,
- with absorbent and non-absorbent wall claddings directly fixed to framing; and,
- with absorbent and non-absorbent wall claddings installed over an 18 mm minimum drained cavity; and,
- situated in non-cyclonic wind zones up to and including N3.

Description of product:

Watergate Plus is a white coloured pliable building membrane. The product is printed with the Watergate Plus logo repeated along the length of the roll.

COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S)

BCA 2019

	Volume One	Volume Two
Performance Requirement(s)	FP1.4 Weatherproofing – Contributes to this performance	P2.2.2 Weatherproofing – Contributes to this performance
	FP6.1 Condensation and water vapour management – Contributes to this performance	P2.4.7 Condensation and water vapour management – Contributes to this performance
	GP5.1 Bushfire resistance – Contributes to this performance	P2.7.5 Buildings in bushfire prone areas – Contributes to this performance

Chelydra Percy – BRANZ Limited

Euan Morrison:
Unrestricted Building Certifier name and signature

Date of issue: 13 September 2019

Date of expiry: 13 September 2022



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Deemed-to-Satisfy Provision(s):	C1.9 (e)(vi)	Non-combustible building elements – Sarking-type materials	3.7.1.1 (f)	General concession – non-combustible materials – Sarking-type materials
	F1.6	Sarking	3.8.7.2	Pliable building membrane
	F6.2	Pliable building membrane		
	G5.2	Protection – Contributes to this performance		
State or territory variation(s):	FP6.1	Condensation and water vapour management: Tas – Contributes to this performance	P2.7.5	Buildings in bushfire prone areas: Tas – Contributes to this performance
	GP5.1	Bushfire resistance: NSW and Qld – Contributes to this performance		
	G5.2	Protection: NSW – Contributes to this performance		

SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B

Limitations and conditions:

- a. Watergate Plus must not be exposed to the weather or ultra-violet light for a total of more than 60 days before being covered by the wall cladding.
- b. Watergate Plus is less than 1 mm in thickness and has an AS 1530.2 flammability index of less than 5 and therefore has a flammability index classification of low in accordance with AS/NZS 4200.1. In bushfire prone areas, the building designer is responsible for determining the compliance requirements in accordance with AS 3959.
- c. Watergate Plus achieves an ASTM E96 Procedure B, Class 4 Vapour Permeable rating and meets the requirements for a Vapour Control Membrane Classification in accordance with AS/NZS 4200.1.
- d. Watergate Plus provides a degree of temporary weather protection during early construction. However, the product will not make the building weathertight and some wetting of the underlying structure is always possible before the building is closed in. Hence, the building must be closed-in and made weatherproof before moisture sensitive materials such as wall or ceiling linings and insulation materials are installed.
- e. Handling and storage of the product, whether on or off site, is under the control of the installer. The rolls must be protected from damage and weather. They must be stored on end, under cover, in clean, dry conditions and must not be crushed

Building classification/s:

Classes 1,2,3,4,5,6,7,8,9 &10

Scope of certification: The CodeMark Scheme is a building product certification scheme. The rules of the Scheme are available at the ABCB website www.abcb.gov.au. This Certificate of Conformity is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed against have been met. The responsibility for the product performance and its fitness for the intended use remain with the certificate holder.

Disclaimer: The Scheme Owner, Scheme Administrator and Scheme Accreditation Body do not make any representations, warranties or guarantees, and accept no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency or completeness of any material contained within this certificate; and the Scheme Owner, Scheme Administrator and Scheme Accreditation Body disclaim 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 product(s) referred to in this certificate.

APPENDIX A – PRODUCT TECHNICAL DATA

A1 Type and intended use of product

Watergate Plus is a pliable building membrane intended for use as a wall sarking fixed over timber or steel framed walls in order to limit the entry of wind into building cavities, and to act as a secondary barrier to wind-driven rain.

A2 Description of product

As per page 1.

A3 Product specification

- a. Watergate Plus is a synthetic pliable building membrane for use for use as a sarking on walls of buildings under wall claddings. Watergate Plus is a white coloured and less than 1 mm in thickness. The product is printed with the Thermakraft Watergate Plus logo repeated along the length of the roll.
- b. The product is supplied in rolls 1.37 m wide x 18.3 m, 36.5 m and 54.8 m long; 1.500 m wide x 16.7 m , 33.4 m and 50 m long; 2.740 m wide x 30.0 m long; and 3.000 m wide x 30m long. The rolls are wrapped in clear polythene film.
- c. Accessories used with Watergate Plus which are supplied by the installer are:
 - Fixings – staples, clouts, screws, proprietary fixings, or other temporary fixings to attach the pliable building membrane to the wall framing.
 - Pliable membrane support – polypropylene strap, 75 mm galvanized mesh or galvanized wire, or vertical cavity battens where required to support the pliable building membrane on the wall.
- d. Watergate Plus is deemed to be a satisfactory sarking material in accordance with BCA Volume 1, Paragraph F1.6. Refer to Table 1.
- e. Watergate Plus is deemed to be a satisfactory pliable building membrane in accordance with BCA Volume 1, Paragraph F6.2 and BCA Volume 2, Paragraph 3.8.7.2 Refer to Table 1.
- f. Watergate Plus is deemed to comply with AS 3959 as a satisfactory sarking material in accordance with BCA Volume 1, Paragraph G5.2. Refer to Table 1.

TABLE 1: Watergate Plus Material Properties

AS/NZS 4200.1 Properties	Property Performance Requirement	Actual Property Performance	AS/NZS 4200.1 Classification
Duty Classification	Edge tear resistance: ≥ 45 N Burst strength: ≥ 200 N	Edge tear (Average): Machine direction = 75 N (Pass) Cross direction = 67 N (Pass) Burst Strength = 229 N (Pass)	Light Wall Duty
Emittance	>0.15	0.9 (Untested)	Non-reflective
Vapour Control Membrane Classification	Class 4 ≥ 1.1403 $\mu\text{g}/\text{N}\cdot\text{s}$	2.632 $\mu\text{g}/\text{N}\cdot\text{s}$	Class 4 - Vapour permeable
Water Control Classification	100mm static head in accordance with AS/NZS 4201.4	Pass	Water barrier
Flammability Classification	Flammability index of ≤ 5 in accordance with AS 1530.2	Pass	Low
Surface Water Absorbency Classification	≥ 100 g/m^2 in accordance with AS/NZS 4201.6	Pass	High
pH of Extract	≥ 5.5 and ≤ 8.0	8.0	Pass
Air Control Classification	≥ 0.1 $\text{MN s}/\text{m}^3$ in accordance with ISO 5636-5	25.3 $\text{MN}\cdot\text{s}/\text{m}^3$ (Pass)	Air barrier

A4 Manufacturer and manufacturing plant(s)

Thermakraft Limited
11 Turin Place
East Tamaki
Auckland
New Zealand

A5 Installation requirements

- a. Installation must always be carried out in accordance with the Watergate Plus Technical Literature and this Certificate, by competent tradespersons with an understanding of pliable building membrane installation.
- b. Watergate Plus must be fixed to all framing members at maximum 300 mm centres with large-head clouts 20 mm long, 6-8 mm staples, self-drilling screws or proprietary fixings. The pliable building membrane must be pulled taut over the framing before fixing.
- c. Watergate Plus must be run horizontally and must extend from the upper side of the top plate to the under-side of the bearers or wall plates supporting ground floor joists, or below bottom plates on concrete slabs. Horizontal laps must be no less than 150 mm wide, with the direction of the lap ensuring that water is shed to the outer face of the pliable building membrane. End laps must be made over framing and be no less than 150 mm wide.
- d. The pliable building membrane should be run over openings and these then left covered until windows and doors are ready to be installed. Openings are formed in the membrane by cutting on a 45-degree diagonal from each corner of the penetration. The flaps of the cut membrane must be folded inside the opening and stapled to the penetration framing. Excess membrane may be cut off flush with the internal face of the wall frame.
- e. In masonry veneer installations and wall cladding installations over a cavity, where the studs or cavity battens are installed at greater than 450 mm centres, the pliable building membrane must be supported to prevent it bulging into the cavity space when bulk insulation is installed in the wall frame cavity. Where the pliable building membrane needs to be supported, polypropylene strap or galvanized wire must be installed horizontally over the membrane at 300 mm centres. Alternatively, 75 mm galvanized wire mesh can be installed over the entire pliable building membrane surface.
- f. Watergate Plus can be added as a second layer over window and door joinery head flashings.
- g. When used behind masonry veneer cladding, the brick ties must be fixed to the face of the stud only.
- h. When fixing the product in windy conditions, care must be taken due to the large sail area created by the wide roll widths.
- i. Any damaged areas of Watergate Plus, such as tears, holes or gaps around service penetrations, must be repaired. Damaged areas can be repaired by covering with new material lapping the damaged area by at least 150 mm and taping, or by taping small tears with ThermoKraft White GP tape.

A6 Other relevant technical data

Technical Literature

The Technical Literature for Watergate-Plus entitled 'Thermakraft Watergate Plus Datasheet; Issue 5, June 2019' and 'Thermakraft Watergate Plus Application and Installation; Issue 6, August 2019', must be read in conjunction with this Certificate. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this certificate must be followed.

Structure

Watergate Plus is suitable for use on walls of buildings situated in non-cyclonic wind zones up to and including N3.

Durability

Provided it is not exposed to the weather or ultra-violet light for a total of more than 60 days, and provided the exterior cladding is maintained in accordance with the cladding manufacturer's instructions and the cladding remains weather resistant, Watergate Plus is expected to have a serviceable life equal to that of other pliable building membranes.

Flammability

Watergate Plus Wall Underlay has an AS 1530.2 flammability index of less than 5 and therefore has a flammability index classification of low in accordance with AS/NZS 4200.1.

Heating Appliances, Fireplaces, Chimneys and Flues

Watergate Plus must be separated from fireplaces, heating appliances, flues and chimneys in accordance with the requirements of the BCA for the protection of combustible materials.

Fire Safety – Bush Fire Areas

Australian Standard AS3959 is cited as a means of demonstrating compliance for Bushfire Prone Areas. The standard specifies in clause 3.10 that where sarking is required that it shall have a flammability index of not more than 5. Watergate Plus meets this requirement.

Damp and Weatherproofing

Wall claddings installed over Watergate Plus must meet the performance requirements of the BCA, e.g. Deemed to Satisfy wall claddings covered by the BCA.

Watergate Plus, when installed in accordance with the Technical Literature and this Certificate will assist in the total cladding systems compliance with the Damp and Weatherproofing performance clauses of the BCA.

Responsibilities

The quality of supply to the market is the responsibility of Thermakraft Limited.

Building designers are responsible for the design of the building, and for the incorporation of the pliable building membrane into their design in accordance with the instructions of Thermakraft Limited.

Quality of installation is the responsibility of the installer in accordance with the instructions of Thermakraft Limited.

Sources of Information

- AS 1530.2: 1993 Test for flammability of materials.
- AS 2001.2.19: 1998 Methods of test for textiles – Determination of bursting force of tensile fabrics – Ball burst method.
- AS 3959: 2018 Construction of buildings in bushfire-prone areas.
- AS/NZS 1301.421s: 2008 Determination of the pH value of aqueous extracts of paper, board and pulp – cold extraction method.
- AS/NZS 4200.1: 2017 Pliable building membranes and underlays – materials.
- AS/NZS 4201.1: 1994 Pliable building membranes and underlays – Methods of test – Resistance to dry delamination.
- AS/NZS 4201.2: 1994 Pliable building membranes and underlays – Methods of test – Resistance to wet delamination.
- AS/NZS 4201.3: 1994 Pliable building membranes and underlays – Methods of test – Shrinkage.
- AS/NZS 4201.4: 1994 Pliable building membranes and underlays – Methods of test – Resistance to water penetration.
- AS/NZS 4201.6: 1994 Pliable building membranes and underlays – Methods of test – Surface water absorbency.
- ASTM D882: 2012 Standard test method for tensile properties of thin plastic sheeting.
- ASTM E96: 2016 (Method B) Standard test methods for water vapor transmission of materials.
- ASTM G154: 2006 Standard practice for operating fluorescent light apparatus for exposure of non-metallic underlays.
- BS 6538.3: 1987 Method for determination of air permeance using the Garley apparatus.
- TAPPI T470: 1986 Edge tearing resistance of paper (Edge-tear stirrup method)
- National Construction Code Series, Building Code of Australia 2019, Australian Building Code Board.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation Methods

The following tests have been carried out on Watergate Plus in accordance with AS/NZS 4200.1:

- tensile strength, edge-tear resistance and resistance to water vapour transmission in accordance with AS/NZS 4200.1
- shrinkage in accordance with AS/NZS 4201.3
- resistance to water penetration in accordance with AS/NZS 4201.4
- surface water absorbency in accordance with AS/NZS 4201.6
- burst strength in accordance with AS 2001.2.19
- pH of extract in accordance with AS/NZS 1301.421s
- air resistance to BS 6538.3

Ultra-violet (UV) light ageing of pliable building membranes is a critical evaluation requirement to verify continued performance after site construction exposure. UV aging of Watergate Plus equivalent to 60 days construction site exposure was completed and the range of tests detailed above were repeated after UV aging.

The following tests and evaluations were also carried out on the Watergate Plus:

- The Flammability Index of Watergate-Plus has been evaluated in accordance with AS 1530.2.
- BRANZ Expert Judgement (Materials Scientist) of the Durability Performance.
- The practicability of installation of Watergate Plus has been assessed by BRANZ and found to be satisfactory.
- The referenced Technical Literature has been examined by BRANZ and found to be satisfactory.

B2 Reports

This Product Certificate must be read in conjunction with:

- BRANZ Appraisal No. 729 (2017) Watergate Plus Housewrap, 21 September 2017.
- Thermakraft Watergate Plus Datasheet, Issue 2, dated Issue 5, June 2019.
- Thermakraft Watergate Plus Application and Installation, dated Issue 6, August 2019.