

Certificate number: CM40055 Rev1

Certification Body:


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Certificate Holder:


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THIS IS TO CERTIFY THAT

KOOL-WALL Panel System & KOOL-WALL Raw Panel System

Type and/or use of product:

External non-load bearing cladding in domestic construction in cavity and non-cavity wall systems.

Description of product:

KOOL-WALL Panel System & KOOL-WALL Raw Panel System comprise of M Grade expanded polystyrene 40mm, 60mm, 75mm & 100mm panels, fixing components and the Ezycoat weatherproof render system. Refer A2 for further information.

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

BCA 2019 (Amdt. 1)

	Volume One	Volume Two
Performance Requirement(s):	Not Applicable	P2.1.1(a) & (b)(iii) Structural stability and resistance – Refer <i>Limitation and Condition 2</i> P2.2.2 Weatherproofing – Limited to Wind Classes N1-N4 & C1-C2. Refer <i>Limitation and Condition 5</i>
Deemed-to-Satisfy Provision(s):	Not Applicable	3.10.5.0 Construction in bushfire prone areas – Refer <i>Limitation and Condition 6</i> 3.12.1.4(b) Energy efficiency – External walls - Contributes to the overall energy efficiency of the building. Refer A3
State or territory variation(s):	Not Applicable	3.10.5.0 (NSW, QLD), Part 3.12 (NSW, NT, SA, Qld, Tas, ACT)

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

Limitations and conditions:

- Construction shall be in strict accordance with the [KOOL-WALL Installation Manual Version 2.1](#). KOOL-WALL Panel System & KOOL-WALL Raw Panel System are for use in Wind Classes N1 to N6 and C1 to C4 subject to fixing requirements. Refer A5. The structural support members are designed and engineered separately as per project requirements by building designers and engineers.
- This product has not been tested to AS 1530.1-1994 and cannot be considered a non-combustible product.
- Buildings must be within the geometric limits detailed in clause 1.2 of AS 4055-2012 where the maximum eave height must not exceed 6.0m and maximum ridge height must not exceed 8.5m.

Building classification/s:

Class 1 & 10


 Richard Donarski - CMI


 Don Grehan – Unrestricted Building Certifier

Date of issue: 27/07/2021

Date of expiry: 28/06/2022



Certificate of Conformity

4. Compliance with P2.1.1(a) & (b)(iii) excludes resistance to impact loading from windborne debris as the KOOL-WALL Panel System & KOOL-WALL Raw System have not been tested and certified for impact loading from windborne debris in Region C and D as denoted in AS 1170.2:2011. The building designer should take into consideration internal pressure resulting from dominant openings.
5. To satisfy P2.2.2 via verification for Wind Classes N1-N4 & C1-C2, the relevant design is required to meet the criteria of V2.2.1 to the satisfaction of the Appropriate Authority as defined by the NCC. The site specific building must;
 - (a)(i) has a risk score of 20 or less, when the sum of all risk factor scores are determined in accordance with TableV2.2.1a; and
 - (a)(ii) is not subjected to an ultimate limit state wind pressure or more than 2.5kPa; and
 - (a)(iii) includes only windows that comply with AS 2047Compliance with Weatherproofing is limited to the tested specimen detailed in A3, deviations from this specimen, is subject to site specific design and approval by the regulatory authority. Installation must be in accordance with KOOL-WALL Installation Manual Version 2.1.
6. Compliance with 3.10.5.0 is limited to 75mm KOOL-WALL Panel System & 75mm KOOL-WALL Raw System and contributes to the requirements for construction in bushfire prone areas up to BAL-A29. It is the responsibility of the Building Designer to ensure compliance is achieved in accordance with AS 3959:2018.
7. Thermal R values will vary with installation configurations. This product can be used in conjunction with other building elements to achieve a Total R-Value.
8. KOOL-WALL Panel System is to be installed in accordance with the KOOL-WALL Installation Manual Version 2.1.
9. The use of the certified product/system is subject to these Limitations and Conditions and must be read in conjunction with the Scope of Certification below.

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. The certification is not transferrable to a manufacturer not listed on Appendix A of this certificate.

Only criteria as identified within this Certificate of Conformity can be used for CodeMark certification claims. Where other claims are made in a client's Installation Manual, Website or other documents that are outside the criteria on this Certificate of Conformity, such criteria cannot be used or claimed to meet the requirements of this CodeMark certification.

The NCC defines a Performance Solution as one that complies with the Performance Requirements by means other than a Deemed-to-Satisfy Solution. A Building Solution that relies on a CodeMark Certificate of Conformity that certifies a product against the Performance Requirements cannot be considered as Deemed-to-Satisfy Solution.

This Certificate of Conformity may only relate to a part of a Performance Solution. In these circumstances other evidence of suitability is needed to demonstrate that the relevant Performance Requirements have been met. The relevant provisions of the Governing Requirements in Part A of the NCC will also need to be satisfied.

This Certificate of Conformity is issued based on the evidence of compliance as detailed herein. Any deviation from the specifications contained in this Certificate of Conformity is outside of this document's scope and the installation of the certified product will not be covered by this Certificate of Conformity.

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.

When using the CodeMark logo in relation to or on the product/system, the Certificate Holder makes a declaration of compliance with the Scope of Certification and confirms that the product is identical to the product certified herein. In issuing this Certificate of Conformity, CertMark International has relied on the experience and expertise of external bodies (laboratories and technical experts).

Nothing in this document should be construed as a warranty or guarantee by CMI, and the only applicable warranties will be those provided by the Certificate Holder.

APPENDIX A – PRODUCT TECHNICAL DATA

A1 Type and intended use of product

As per page 1.

A2 Description of product

The KOOL-WALL Panel System use a M Grade polystyrene panel that is flat on all surfaces. This product requires finishing with fibreglass mesh, render coats and KOOL-WALL Panel System Components. KOOL-WALL Panel System is also available pre-coated with embedded fibreglass mesh and an initial render coat. This product requires finishing with additional render coat and KOOL-WALL Panel System Components detailed in [KOOL-WALL Installation Manual Version 2.1](#).

The KOOL-WALL Raw Panel System uses a M Grade polystyrene panel with grooves across the front and rear face. This product requires finishing with fibreglass mesh, render coats and KOOL-WALL Panel System Components detailed in [KOOL-WALL Installation Manual Version 2.1](#).

The KOOL-WALL Panel System and KOOL-WALL Raw Panel System Components:	KOOL-WALL Panel System & KOOL-WALL Raw System dimensions:						
<ul style="list-style-type: none"> KOOL-WALL Panel & KOOL-WALL Raw Panel Ezycoat Fibretech Hi Tensile Strength Fibreglass Mesh KOOL-WALL Ezyseal Sealant Foam Backing Rod Ezycoat ECA Render Ezycoat Acrylic Texture Finishes 	<ul style="list-style-type: none"> Ezycoat Membrane Paint Eztrim Cavity C Channel KOOL-WALL Screw & Washer Polystyrene Batten Metal Flashing Weatherproof Flashing Tape 						
	<table border="1"> <tr> <td>Length</td> <td>2500mm</td> </tr> <tr> <td>Width</td> <td>1200mm</td> </tr> <tr> <td>Thickness</td> <td>40mm, 60mm, 75mm & 100mm</td> </tr> </table>	Length	2500mm	Width	1200mm	Thickness	40mm, 60mm, 75mm & 100mm
Length	2500mm						
Width	1200mm						
Thickness	40mm, 60mm, 75mm & 100mm						

A3 Product specification

Weatherproofing

KOOL-WALL Panel System & KOOL-WALL Raw System – Direct Fix

Testing was conducted in accordance with the Verification Method FV1.1 and V2.2.1 'Weatherproofing' test procedure as contained within NCC of Australia & AS/NZS 4284:2008.

Results

Test Type	Criteria	Result						
Structural Test	Nominated serviceability limit state pressures: + 820 Pa and – 1230 Pa (serviceability limit state wind pressures for N4 and C2 housing wind classifications in accordance with AS 4055-2012 Table 3.4)	Pass						
Static Water Penetration	300 Pa for 15 minutes Result: No leakage through the cladding system was observed during the test.	Pass						
Cyclic Water Penetration	<table border="1"> <tr> <td>Cyclic @ 125 - 245 Pa</td> <td>Duration: 5 minutes</td> </tr> <tr> <td>Cyclic @ 165 – 330 Pa</td> <td>Duration: 5 minutes</td> </tr> <tr> <td>Cyclic @ 245 – 490 Pa</td> <td>Duration: 5 minutes</td> </tr> </table> Result: No leakage through the cladding system was observed during the test.	Cyclic @ 125 - 245 Pa	Duration: 5 minutes	Cyclic @ 165 – 330 Pa	Duration: 5 minutes	Cyclic @ 245 – 490 Pa	Duration: 5 minutes	Pass
Cyclic @ 125 - 245 Pa	Duration: 5 minutes							
Cyclic @ 165 – 330 Pa	Duration: 5 minutes							
Cyclic @ 245 – 490 Pa	Duration: 5 minutes							

Source: Ian Bennie and Associates Report No. 2019-054-S4 dated 27/05/2019. VENN Engineering; Reference: VE-ABS2010161A; Weatherproofing Assessment; Dated 19/10/2020

KOOL-WALL Panel System & KOOL-WALL Raw System – Cavity Fix

Testing was conducted in accordance with the Verification Method FV1.1 ‘Weatherproofing’ (Volume 1) and V2.2.1 ‘Weatherproofing’ (Volume 2) test procedure as contained within National Construction Code of Australia & AS/NZS 4284:2008.

Results

Test Type	Criteria	Result
Structural Test	Nominated serviceability limit state pressures: + 820 Pa and – 1230 Pa (serviceability limit state wind pressures for N4 and C2 housing wind classifications in accordance with AS 4055-2012 Table 3.4)	Pass
Static Water Penetration	300 Pa for 15 minutes Result: No leakage through the cladding system was observed during the test.	Pass
Cyclic Water Penetration	Cyclic @ 245 – 490 Pa Duration: 5 minutes Result: No leakage through the cladding system was observed during the test.	Pass

Source: Ian Bennie and Associates Report No. 2019-054-S5 dated 27/05/2019. VENN Engineering; Reference: VE-ABS2010161A; Weatherproofing Assessment; Dated 19/10/2020

Energy efficiency – External walls

Summary of Thermal Performance Calculations of KOOL-WALL Panel System & KOOL-WALL Raw System Direct Fix System	Total R-Value		Total U-Value	
	Winter	Summer	Winter	Summer
KOOL-WALL DIRECT FIX SYSTEM having 40mm R1.05 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R1.55	R1.48	0.645	0.677
KOOL-WALL DIRECT FIX SYSTEM having 60mm R1.58 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R2.10	R1.99	0.477	0.501
KOOL-WALL DIRECT FIX SYSTEM having 75mm R1.97 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R2.50	R2.38	0.399	0.420
KOOL-WALL DIRECT FIX SYSTEM having 100mm R2.63 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R3.18	R3.30	0.315	0.330

Summary of Thermal Performance Calculations of KOOL-WALL Panel System & KOOL-WALL Raw System Cavity Fix System	Total R-Value		Total U-Value	
	Winter	Summer	Winter	Summer
KOOL-WALL CAVITY SYSTEM having 40mm R1.05 KOOL-WALL panel, 20mm EPS batten, sarking, 70mm unreflective still air gap and 10mm plasterboard	R2.26	R2.17	0.442	0.462
KOOL-WALL CAVITY SYSTEM having 60mm R1.58 KOOL-WALL panel, 20mm EPS batten, sarking, 70mm unreflective still air gap and 10mm plasterboard	R2.80	R2.68	0.357	0.373
KOOL-WALL CAVITY SYSTEM having 75mm R1.97 KOOL-WALL panel, 20mm EPS batten, sarking, 70mm unreflective still air gap and 10mm plasterboard	R3.21	R3.07	0.312	0.326
KOOL-WALL CAVITY SYSTEM having 100mm R2.63 KOOL-WALL panel, 20mm EPS batten, sarking, 70mm unreflective still air gap and 10mm plasterboard	R3.88	R3.71	0.258	0.269

Source: James Fricker Pty Ltd Report No. i490a; Thermal performance calculations; dated 17/06/2021.

Structural stability and resistance

KOOL-WALL Panel System & KOOL-WALL Raw System cladding span table for general wall area (more than 1200mm away from corners)

Wind Class	General Area		Ult. wind gust V _h m/s	40mm panel		60mm panel		75mm panel		100mm panel	
	Ext. coeff. C _{p,e}	Pressure kPa		Max. stud spacing (mm)	Vert. fixing spacing (mm)	Max. stud spacing (mm)	Vert. fixing spacing (mm)	Max. stud spacing (mm)	Vert. fixing spacing (mm)	Max. stud spacing (mm)	Vert. fixing spacing (mm)
N1	-0.65 0.7	-0.45 0.49	34	600	300	600	300	600	300	600	300
N2	-0.65 0.7	-0.62 0.67	40	600	300	600	300	600	300	600	300
N3/C1	-0.65 0.7	-0.98 1.05	50	450	300	600	300	600	300	600	300
N4/C2	-0.65 0.7	-1.45 1.56	61	450	300	450	300	600	300	600	300
N5/C3	-0.65 0.7	-2.14 2.30	74	300	300	450	300	450	300	450	300
N6/C4	-0.65 0.7	-2.88 3.11	86	300	200	300	300	450	300	450	300

KOOL-WALL Panel System & KOOL-WALL Raw System cladding span table for wall areas within 1200mm of corners

Wind Class	<1200 of corners		Ult. wind gust V _h m/s	40mm panel		60mm panel		75mm panel		100mm panel	
	Ext. coeff. C _{p,e}	Pressure kPa		Max. stud spacing (mm)	Vert. fixing spacing (mm)	Max. stud spacing (mm)	Vert. fixing spacing (mm)	Max. stud spacing (mm)	Vert. fixing spacing (mm)	Max. stud spacing (mm)	Vert. fixing spacing (mm)
N1	-1.3	-0.90	34	600	300	600	300	600	300	600	300
N2	-1.3	-1.25	40	600	300	600	300	600	300	600	300
N3/C1	-1.3	-1.95	50	600	150	600	300	600	300	600	300
N4/C2	-1.3	-2.90	61	450	150	450	250	450	300	450	300
N5/C3	-1.3	-4.27	74	300	150	300	250	300	300	300	300
N6/C4	-1.3	-5.77	86	300	100	300	200	300	250	300	250

Source: Venn Engineering report Reference No. VE-ABS190620C dated 01/10/2020.

Construction in bushfire prone areas

BAL-A29 was achieved using 90 × 45 MGP10 Radiata Pine stud frames. The unexposed side clad with 10mm Gyprock plasterboard (660kg/m³) while the exposed side had a 10.1mm mean thickness (measured) EZYCOAT ECA Render applied over 75mm KOOL-WALL Raw Panel System. In accordance with AS 1530.8.1 Section 15.7 (b) the 75mm KOOL-WALL Panel System is also deemed compliant due to their increased wall thickness due to the removal of the grooved areas.

Source: Exova WarringtonFire; Report No:38398900.1; Dated 10/01/2017.



Certificate of Conformity

A4 Manufacturer and manufacturing plant(s)

Active Building Systems Pty Ltd.
21 Saltash Street,
Virginia QLD 4078.

A5 Installation requirements

1. KOOL-WALL Panel System & KOOL-WALL Raw System must be installed in accordance with the KOOL-WALL Product Information and [KOOL-WALL Installation Manual Version 2.1](#).
2. A Certificate of Installation for quality control, must be signed by a KOOL-WALL Registered Installer as verification of installation in accordance with the KOOL-WALL Product Information and KOOL-WALL Installation Manual Version 2.1.
3. KOOL-WALL Panel System & KOOL-WALL Raw System comprises a number of proprietary components that may only be installed by KOOL-WALL Registered Installers.

Fixings for KOOL-WALL Flat or KOOL-WALL Precoated or KOOL-WALL Raw Panels

Panel Thickness	Frame Substrate	Fixing Type	Class	Size (Non Cavity)
40mm	Timber	Screw	3	10g x 75mm
	Steel	Screw	3	10g x 65mm
60mm	Timber	Screw	3	10g x 100mm
	Steel	Screw	3	10g x 75mm
75mm	Timber	Screw	3	10g x 100mm
	Steel	Screw	3	10g x 95mm
100mm	Timber	Screw	3	10g x 125mm
	Steel	Screw	3	10g x 125mm

Source: Ian Bennie and Associates; Test Report No. 2019-054-S4; Dated 27/05/2019. Venn Engineering report Reference No. VE-ABS190620C dated 01/10/2020.

A6 Other relevant technical data

Acoustic Performance

40mm KOOL-WALL Panel System, 75mm Glass wool insulation batts, 10mm plasterboard & 5mm cement render face.	R_w/STC 42
75mm KOOL-WALL Panel System, 75mm Glass wool insulation batts, 10mm plasterboard & 5mm cement render face.	R_w/STC 44

Source: Palmer Acoustics (Aust) Pty Ltd Acoustic Engineers and Scientists Drg No. SK 1 dated 27/03/2003

B1 Evaluation methods

1. Fire Safety Provisions A5.2(1)(d). Reports from Accredited Testing Laboratories.
2. Structural Provisions A5.2(1)(e). Reports from a professional engineer.
3. Thermal Provisions A5.2(1)(e). Reports from a professional engineer.
4. Weatherproofing Provision A5.2(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.

B2 Reports

1. Ian Bennie and Associates; NATA Accreditation No. 2371; Test Report No. 2019-054-S4; Direct Fixed testing in accordance with AS/NZS 4284:2008 and Verification methods FV1 and V2.2.1; Dated 27 May 2019.
2. Ian Bennie and Associates; NATA Accreditation No. 2371; Test Report No. 2019-054-S5; Cavity Fixed testing in accordance with AS/NZS 4284:2008 and Verification methods FV1 and V2.2.1; Dated 27 May 2019.
3. Ian Bennie & Associates; NATA Accreditation No. 2371; Test Report No. 2019-054-S1; Report for Static Ultimate Wind Load Tests to AS 4040.2; May 2019.
4. Ian Bennie & Associates; NATA Accreditation No. 2371; Test Report No. 2019-054-S2; Report for Static Ultimate Wind Load Tests to AS 4040.2; May 2019.
5. Ian Bennie & Associates; NATA Accreditation No. 2371; Test Report No. 2019-054-S3; Report for Static Ultimate Wind Load Tests to AS 4040.2; May 2019.
6. Ian Bennie & Associates; NATA Accreditation No. 2371; Test Report No. 2019-054-S6; Report for Static Ultimate Wind Load Tests to AS 4040.2; May 2019.
7. James M Fricker Pty Ltd; Report No. i490a; Thermal Calculations to AS/NZS 4859 Parts 1 & 2:2018; Dated 17/06/2021.
8. VENN Engineering; Reference: VE-ABS190620C; Span Table Structural Design Report; Dated 01/10/2020.
9. VENN Engineering; Reference: VE-ABS2010161A; Weatherproofing Assessment; Dated 19/10/2020.
10. Exova Warringtonfire Aus Pty Ltd; Nata Accreditation No. 3277; Report No. EWFA 38398900.1; Fire testing to AS 1530.8.1-2007 – Determination of BAL; Dated 10/01/2017.

The Certificate Holder has chosen not to make the above evidence of compliance publicly available, due to the documents being considered commercial in confidence.