



Certificate of Conformity

Certificate number: CM40055

Certification Body:


ABN: 80 111 217 568
JAS-ANZ Accreditation No.
Z4450210AK
PO Box 7144, Sippy Downs
Qld 4556
+61 (07) 5445 2199
www.CertMark.org

Certificate Holder:


Active Building Systems Pty
Ltd
ABN: 38 083 195 420
21 Saltash Street
Virginia, QLD 4078
Ph: 1300 566 592
www.activebuildingsystems.com.au

THIS IS TO CERTIFY THAT

KOOL-WALL Panel System & KOOL-WALL Raw System

Type and/or use of product:

KOOL-WALL Panel System & KOOL-WALL Raw System can be used as 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 System comprises expanded polystyrene panels, fixing components and the Ezycoat weatherproof render system. Refer A2 for further information.

Models:

- KOOL-WALL Panel
- KOOL-WALL Raw

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

BCA 2019

	Volume One	Volume Two
Performance Requirement(s):	Not Applicable	P2.1.1(a) & (b)(iii) Structural stability and resistance to actions P2.2.2 Weatherproofing
Deemed-to-Satisfy Provision(s):	Not Applicable	3.10.5.0 Bushfire areas – Refer <i>Limitation and condition 2</i> 3.12.1.4(b) Thermal Energy Efficiency – Refer <i>Limitation and condition 3</i>
State or territory variation(s):	Not Applicable	3.10.5.0 (NSW, QLD); Part 3.12 (NSW, NT, 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:

1. This product contributes to the requirements for construction in bushfire prone areas up to BAL 29 - limited to the 75mm panel for external wall cladding.
2. In order to achieve compliance with weatherproofing in accordance with FV1 and V2.1.1, all windows must comply with AS 2047:2014.
3. KOOL-WALL Panel System & KOOL-WALL Raw System is for use in Wind Zones N1 to N6 and C1 to C4 subject to fixing requirements. Refer A3.
4. 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.
5. KOOL-WALL Panel System & KOOL-WALL Raw System is to be installed in accordance with the KOOL-WALL Product Information and [KOOL-WALL Installation Manual Version 1.0 Published Sept. 2016](#).
6. 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.

Building classification/s:

Class 1 & 10


John Thorpe - CMI


Don Grehan – Unrestricted Building Certifier

Date of issue: 28/06/2019

Date of expiry: 28/06/2022





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7. No substitution of any component part of the KOOL-WALL Panel System & KOOL-WALL Raw System is permissible under the scope of this CodeMark Certificate of Conformity.

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.

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. This may result in the product being classified as a non-conforming building product.

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 & KOOL-WALL Raw System comprises expanded polystyrene panels, fixing components and the Ezycoat weatherproof render system.

KOOL-WALL Panel System & KOOL-WALL Raw System includes:

- KOOL-WALL Panel Substrata System;
- KOOL-WALL Joining Mesh; and
- EZYCOAT Ezyskim Render; EZYCOAT Bond; EZYCOAT Sealer; EZYCOAT Scratch; EZYCOAT Sandstone; EZYCOAT Membrane; and EZYCOAT Texture.

A3 Product specification

Energy Efficiency

Summary of Thermal Performance Calculations of KOOL-WALL Direct Fix System

	Total R-Value		Total U-Value	
	Winter	Summer	Winter	Summer
90w03AKOO-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
490w03BKOO-WALL DIRECT FIX SYSTEM having 50mm R1.32 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R1.82	R1.74	0.548	0.576
490w03CKOO-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
490w03DKOO-WALL DIRECT FIX SYSTEM having 70mm R1.84 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R2.37	R2.25	0.442	0.444
490w03EKOO-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
490w03FKOO-WALL DIRECT FIX SYSTEM having 90mm R2.37 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R2.91	R2.77	0.344	0.361
490w03GKOO-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
490w03HKOO-WALL DIRECT FIX SYSTEM having 125mm R3.29 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R3.86	R3.67	0.259	0.272
490w03IKOO-WALL DIRECT FIX SYSTEM having 135mm R3.55 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R4.13	R3.93	0.242	0.254
490w03JKOO-WALL DIRECT FIX SYSTEM having 150mm R3.95 KOOL-WALL panel, sarking, 70mm unreflective still air gap and 10mm plasterboard.	R4.43	R4.32	0.221	0.232

Summary of Thermal Performance Calculations of KOOL-WALL Cavity Fix System

	Total R-Value		Total U-Value	
	Winter	Summer	Winter	Summer
490w04AKOO-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
490w04BKOO-WALL CAVITY SYSTEM having 50mm R1.32 KOOL-WALL panel, 20mm EPS batten, sarking, 70mm unreflective still air gap and 10mm plasterboard	R2.53	R2.42	03.95	04.13
90w04ACKOO-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	03.57	0.373
490w04DKOO-WALL CAVITY SYSTEM having 70mm R1.84 KOOL-WALL panel, 20mm EPS batten, sarking, 70mm unreflective still air gap and 10mm plasterboard	R3.21	R3.07	0.312	0.326
490w04FKOO-WALL CAVITY SYSTEM having 90mm R2.37 KOOL-WALL panel, 20mm EPS batten, sarking, 70mm unreflective still air gap and 10mm plasterboard	R3.62	R3.45	0.277	0.290
490w04HKOO-WALL CAVITY SYSTEM having 125mm R3.29 KOOL-WALL panel, 20mm EPS batten, sarking, 70mm unreflective still air gap and 10mm plasterboard	R4.56	R4.35	0.219	0.230
490w04IKOO-WALL CAVITY SYSTEM having 135mm R3.55 KOOL-WALL panel, 20mm EPS batten, sarking, 70mm unreflective still air gap and 10mm plasterboard	R4.83	R4.61	0.20	0.217

Source: James Fricker Pty Ltd Report No. i490a; Thermal performance calculations; dated 22/05/19.

Span tables

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

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

KOOL-WALL cladding span table for wall areas within 1200mm of corners

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

Source: Venn Engineering; Span Table Structural Design Report Reference: VE-ABS 190620A; Dated 21/06/2019.

Structure - Fixings for KOOL-WALL 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.

Fire

BAL 29 was achieved using 90 x 45 timber stud frames. The exposed side clad with 10mm Gyprock plasterboard while the exposed side had a nominal 10.1mm thick (measured) EZYCOAT ECA Render applied over 75mm KOOL-WALL Panel cladding. The table below outlines the tested specimen.

No.	Item	Description
Substrate		
1	Product	KOOL-WALL Panels
	Material	Polystyrene M grade Panel
	Size	1200 x 2500 x 75mm
	Density	49kg/m ³ (Nominal)
	Location/ Fixing	One layer across both exposed face levels and up north and south return walls. Ø4.8 x 125mm Bugle Head Coarse thread Class 4 square drive external wall screws with Ø45mm KOOL-WALL Plastic Fixing Button at nominal 300mm centres along battens.
Render System		
2	Moisture	1.5% of dry mass (measured)
	Density	1644kg/m ³ (measured)
	Thickness (Total)	10.1mm mean thickness(measured) Specimen varied between a minimum thickness of 8.2mm to a maximum thickness of 12.1mm across 16 core samples taken from the tested specimen.
a	Product	EZYCOAT ECA Render & Ezycoat Acrylic Texture
	Location	First layer was trowel applied directly over panels (Item 2c) with mesh embedded between two coats. Second layer applied the same day.
b	Product	EZYCOAT EZYPREP & PATCH
	Location	Applied over edges before Ezytrim angles were installed.
c	Product	Ezycoat Fibreglass Joining Mesh
	Size	5 x 5mm grid (165 gsm)

	Location	Applied directly onto the Panels (Item 1).
d	Product	Ezycoat Acrylic Texture
	Location	Trowel applied over the rendered surface the next day.
Wraps and Sealant		
3	Product	Vapour permeable sarking Wall Wrap durability class Light
	Location	Single layer with nominal 50mm overlap on exposed side of timber framing. Stapled to the timber framing nominal 300mm centres.
4	Product	Soudaseal FR
	Location	Sealant was installed at: <ul style="list-style-type: none"> • Panel -window interface • All panel butt joints • At panel –wall wrap interface at the edges
5	Product	KOOL-WALL EZY-TRIM EZ90/30-6mm
	Material	PVC
	Size	36mm x 36mm x 1.15mm thick
	Location	Angles embedded into Ezyprep & Patch at; outer perimeter edges of wing wall, two vertical edges at the wing wall/return wall edges as well as the along the sill and head and window (top, bottom and vertical edges).
Unexposed Cladding		
6	Product	Gyprock 10mm Plasterboard
	Size	1200mm wide x 3000mm long sheets cut to suit.
	Density	660kg/m ³ (measured)
	Location	Clad horizontally on the unexposed side of the timber framing.
	Fixings	32mm x 6g Bugle Head Drill Point Fine Thread ZY Plasterboard Screws at nominal 300mm centres.
Window		
7	Frame	Extruded Aluminium
	Glazing	5TF Grade A Safety Glass – 5mm thick toughened glass
	Size	OD: Nominal 800mm wide x 800mm high x 52mm deep. ID: 742mm wide x 742mm high (to glazing).
Framing		
8	Product	90x45 MGP10 Radiata Pine
	Density	489 kg/m ³ (measured)
	Location	Refer to figures A1.1 and A1.2 for frame details (contact the Certificate Holder for these drawings).
Framing		
9	Eave Cladding	4.5mm Gyprock Fibre-cement sheet
10	Sill Cladding	13mm Gyprock Fyrcheck Plasterboard
11	Sill Cladding	9mm Gyprock Fibre-cement sheet

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

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 1.0 Published Sept. 2016](#).
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 1.0 Published Sept. 2016.
3. The KOOL-WALL Panel System & KOOL-WALL Raw System comprises a number of proprietary components that may only be installed by KOOL-WALL Registered Installers.

A6 Other relevant technical data

No other relevant technical data.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

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

B2 Reports

1. CSIRO; NATA Accreditation No. 165; Technical Assessment No. 322; Assessment in accordance with AS 4055:1992 'Wind loads for housing'; Dated February 2006.
2. Exova WarringtonFire; NATA Accreditation No. 3277; Report No. 38398900.1; Test report on the Bushfire resistance in accordance with AS1530.8.1:2007; Dated 10/01/2017.
3. James M Fricker Pty Ltd; Report No. i490a; Thermal performance calculations; Dated 22/05/2019.
4. Ian Bennie and Associates; NATA Accreditation 2371; Test Report No. 2019-054-S4; Weatherproofing verification using method V2.2.2 & FV1; Dated 27/05/2019.
5. Ian Bennie and Associates; NATA Accreditation 2371; Test Report No. 2019-054-S5; Weatherproofing verification using method V2.2.2 & FV1; Dated 27/05/2019.
6. Venn Engineering; Report No. VE-ABS 190620A; Span Table Structural Design Report; Dated 21/06/2019.

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