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THIS IS TO CERTIFY THAT

Axon™ Cladding

Type and/or use of product:

Intended as external cladding on residential and commercial facades.

Description of product:

Fibre-cement cladding with vertical shiplap joint.

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

BCA 2019 (Amdt. 1)

	Volume One	Volume Two
Performance Requirement(s):	BP1.1(b)(i) Structural reliability – Permanent and wind actions & (iii) FP1.4 Weatherproofing - External walls subject to <i>Limitation and Condition No. 2.</i>	P2.1.1(b)(i) Structural reliability – Permanent and wind actions & (iii) P2.2.2 Weatherproofing – External walls subject to <i>Limitation and Condition No. 2.</i>
Deemed-to-Satisfy Provision(s):	C1.9(e)(iv) Non-combustible materials G5.2 Construction in bushfire prone areas (BAL Low-40)	3.5.4.3(a) Wall cladding boards – Fibre cement 3.5.4.4(a)(i) Sheet wall cladding 3.5.4.5(a) Eaves and soffit linings 3.10.5.0 Construction in bushfire prone areas (BAL Low-40)
State or territory variation(s):	G5.2 (NSW)	3.10.5.0 (NSW, Qld)

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

Limitations and conditions:

- Axon™ Cladding must only be installed in accordance with the [Axon™ Cladding Installation Guide April 2023](#).
- To satisfy FP1.4 & P2.2.2 via verification requires the site specific evaluation of the relevant design against FV1.1 and/or V2.2.1 to the satisfaction of the Appropriate Authority as defined by the NCC:
 - (a)(i) has a risk score of 20 or less, when the sum of all risk factor scores are determined in accordance with Table FV1.1/V2.2.1a; and
 - (a)(ii) is not subjected to an ultimate limit state wind pressure of more than 2.5kPa; and
 - (a)(iii) includes only windows that comply with AS 2047.

Building classification/s:

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



Richard Donarski - CMI



Don Grehan – Unrestricted Building Certifier

Date of issue: 11/04/2023

Date of expiry: 20/08/2024



Certificate of Conformity

- Compliance 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.
3. The project designer or specifier must ensure the product is appropriate for the intended application and that additional detailing is performed for specific designs or applications that fall outside the scope of the manual and/or certification. It is the responsibility of the builder to ensure the product meets aesthetic requirements prior to installation.
 4. No assessment has been undertaken on the product for Part F6 of Vol 1 or Part 3.8.7 of Vol 2 of the 2019 BCA for Condensation management. A pliable building membrane complying with AS/NZS 4200.1:2017 must be installed in accordance with AS/NZS 4200.2:2017 to separate the wall cladding panels from any water sensitive materials.
 5. Compliance with BP1.1(b)(iii) & P2.1.1(b)(iii) excludes resistance to impact loading from windborne debris.
 6. Axon™ Cladding must be fixed to a structurally adequate external wall frame in accordance with the appropriate tables in section A5.
 7. The structural certification is limited to the cladding only and does not include the sub-structure. The structural support members are designed and engineered separately as per project requirements by building designers and engineers.
 8. In order to maintain compliance with BAL – 40, it is the responsibility of the Building Designer to ensure compliance is achieved in accordance with AS 3959-2018.
 9. In all installations the minimum clearance between the underside of panel and the adjoining ground surface level below must comply with the specifications in Part 3.5.4.7 of Volume 2 of the NCC.
 10. 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, CMI Certification Pty Ltd (CMI) 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

Axon™ External Cladding panels are used as an external wall cladding in alterations and additions and residential single and medium density dwellings where a uniform, broadwall cladding is required. Ideal for full wrap or composite construction design on either timber or steel framed homes.

A2 Description of product

Axon™ panels are pre-primed with vertical grooves. There is a ship lap edge joint along the two long edges and square edges along the short edges. The grooves are nominally 2mm deep and 10mm wide. Sheet weighs approximately 12kg/m² in equilibrium.

Axon™ Cladding Sheet Sizes

Product	Length (mm)	Width (mm)	Thickness (mm)	Mass (kg)	Sheets per pack	Product Code
Axon™ cladding 133 Smooth	2450	1200	9	36	30	403931
	2750	1200	9	40	30	403932
	3000	1200	9	44	30	403933
	3600	1200	9	52	30	404979
Axon™ cladding 133 Grained	3000	1200	9	44	30	404512
	2450	1200	9	36	30	404417
Axon™ cladding 400 Smooth	2750	1200	9	40	30	404418
	3000	1200	9	44	30	404419

Note: All dimensions and masses are approximate and subject to manufacturing tolerances.

Components:

Hardie™ Joint Sealant – General purpose polyurethane exterior grade sealant.

Hardie™ Weather Barrier – Water barrier and vapour permeable membrane compliant to AS/NZS 4200.1:2017.

RAB™ Board – Airtight, weatherproof, vapour permeable and non-combustible rigid 6mm fibre-cement sheeting compliant to AS/NZS 4200.1:2017 & AS/NZS 2908.2:2000.

Hardie™ 9mm Aluminium Recessed Horizontal Jointer - A recessed horizontal jointer that creates a 6mm horizontal shadow line.

Hardie™ Horizontal h Flashing – Aluminium extrusion used along horizontal control joints.

Hardie™ Edge Trim – Powder coated aluminium architectural slab edge solution.

Hardie™ 9mm Internal Corner – Aluminium extrusion to be used in internal corners.

Hardie™ 9mm External Square Corner - Aluminium extrusion to be used in external corners.

Hardie™ Corner Flashing – Colorbond® steel used behind cladding at internal and external corners.

Hardie™ Axent™ Trim – Material composite trim used for box corners and around windows and doors.

Hardie™ Foam Back Sealing Tape – Installed under sheet vertical joints to improve water tightness.

Certificate of Conformity

A3 Product specification

Material The basic composition is Portland cement, ground sand, cellulose fibre and water. James Hardie building products are manufactured to Australian/New Zealand Standard AS/NZS 2908.2:2000 'Cellulose-cement products-Flat sheet.' Axon™ External cladding panels are classified Type A, Category 3 in accordance with AS/NZS 2908.2:2000.

Resistance to fire Axon™ External cladding panels are suitable where non-combustible materials are required in accordance with C1.9(e)(iv) of the Building Code of Australia.

Physical Property	Saturated Condition		Equilibrium Condition 23°C – 50% RH	Standard
	Minimum Bending Strength	>7.0 Mpa		
Category	3			
Type	A			
Average Density in kg/m ³ (Oven Dry)	1180			ISO 8336:2009
Watertightness	Watertightness Passes AS/NZS 2908.2:2000		Passes	AS/NZS 2908.2:2000
Dimensional Conformance			Passes	ISO 8336:2009
Heat-Rain Durability				
Warm Water Resistance			Passes	AS/NZS 2908.2:2000
Freeze-Thaw Resistance				
Combustibility	Suitable where non-combustible materials are required in accordance with C1.9(e)(iv) of the BCA			Deemed to comply with BCA

Weatherproofing Axon™ Fibre Cement Cladding System – Direct Fixed

Testing was conducted in accordance with the Verification Method FV1 (Current against 2019 Verification Method FV1.1) 'Weatherproofing' (Volume 1) and V2.2.1 'Weatherproofing' (Volume 2) test procedure as contained within National Construction Code of Australia and subsequently assessed for validation against the certified product.

Results

Test Type	Criteria	Result
Structural Test	100% Serviceability Limit State Pressure of 1.230kPa for 1 minute in both positive and negative directions.	Pass
Static Water Penetration	30% Serviceability Limit State Pressure 369Pa for 15 minutes Pass Criteria: No presence of water on the inside surface of the façade.	Pass
Cyclic Water Penetration	Cyclic @ 15-30% SLS – 184 to 369Pa	Pass
	Duration: 5 minutes	
	Cyclic @ 20-40% SLS – 246 to 492Pa	
	Duration: 5 minutes	
	Cyclic @ 30-60% SLS – 369 to 738Pa	
	Duration: 5 minutes	
	Pass Criteria: No presence of water on the inside surface of the facade.	

Source: Test Report No. TS035-17, Weathertightness in accordance with FV1 & V2.2.1; dated 16 April 2018.

Weatherproofing Axon™ Fibre Cement Cladding System – Cavity Fixed

Testing was conducted in accordance with the Verification Method E2/VM1 which has been confirmed to be equivalent to the NCC FV1.1/V2.2.1 test methodology for cavity wall systems test procedure as contained within National Construction Code of Australia and subsequently assessed for validation against the certified product.

Results

Test Type	Criteria	Result
Structural Test	Serviceability Limit State Pressure of 1.51 kPa for 1 minute in both positive and negative directions	Pass
Series 1	455 Pa for 15 minutes	Pass
Static Water Penetration	Pass Criteria: No water on building wrap.	Pass
Series 1	Cyclic @ 455 to 910 Pa for 5 minutes	Pass
Cyclic Water Penetration	Pass Criteria: No water on building wrap.	Pass
Series 2	455 Pa for 15 minutes	Pass
Water Management Test	Pass Criteria: No water on building wrap.	Pass
Series 2	Cyclic @ 455 to 910 Pa for 5 minutes	Pass
Water Management Test	Pass Criteria: No water on building wrap	Pass
Series 3	Static pressure of 50 Pa for 15 minutes	Pass
“Wetwall Test”	Pass Criteria: No water on building wrap.	Pass

Source: Test Report No. TS033-13, Weathertightness - NZ Axon on CLD Battens; dated 8 January 2014 and Equivalence report from James Hardie Research Pty Ltd dated 21/10/2022.

A4 Manufacturer and manufacturing plant(s)

Axon™ Cladding Panels are manufactured in Australia by James Hardie Australia Pty Ltd. Contact Certificate Holder for details.

A5 Installation requirements

Axon™ Cladding Panels must only to be installed in accordance with the [Axon™ Cladding Installation Guide April 2023](#).

A suitable weather barrier must be installed behind Axon™ cladding in accordance with the relevant requirements of the BCA and the AS/NZS 4200.2:2017 Pliable building membranes and underlays – Installation. James Hardie recommends HardieWrap™ Weather Barrier – refer to the building designer, certifier, or other relevant expert, for suitability.

Refer to the [Axon™ Cladding Installation Guide April 2023](#) for Stud Spacings and fixing requirements.

A6 Other relevant technical data

Thermal Axon™ Cladding panels will contribute to the overall thermal performance of the building; however, it is the responsibility of the building designer to ensure the minimum thermal requirements for the building envelope is achieved.

Resistance to fire Testing has been conducted by CSIRO on the James Hardie Cladding materials in accordance with AS/NZS 3837:1998 and are classified as conforming to Group 1 material. (Average Specific Extinction Area 10.4m²/Kg).

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

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

B2 Reports

1. David Beneke Consulting; Report 2019-12-LO-14; Structural compliance NCC; Dated 27/05/2020.
2. Cardno (NSW/ACT) Pty Ltd; Report 605726-LO-14-2; Certification of fastener and span tables; Dated 22/09/2016.
3. Ignis solutions; Evaluation No. IGNS-6090-01 Issue 01 Revision 00[2018]; Bushfire compliance BAL low to 40; Dated 31/03/2018.
4. James Hardie Research Pty Ltd; NATA Accreditation No. 14220; Test Report Number TS032-12; Testing in accordance with AS/NZS 2908.2:2000 Products Part 2: Flat Sheets; Dated 10/02/2021.
5. James Hardie Research Pty Ltd; NATA Accreditation No. 14220; Test Report Number TS035-17; Weathertightness (FV1/V2.1.1 'Weatherproofing'); Dated 16/04/2018.
6. James Hardie Research Pty Ltd; NATA Accreditation No. 14220; Test Report Number TS033-13; Weathertightness (E2-VM1); Dated 08/01/2014.
7. James Hardie Research Pty Ltd; NATA Accreditation No. 14220; NCC 2019 Weatherproofing Compliance Equivalence; Dated 05/07/2019.
8. James Hardie Research Pty Ltd; NATA Accreditation No. 14220; Equivalence of NZ E2/VM1 and NCC FV1.1/V2.2.1 test methodologies for Cavity Wall Systems; Dated 21/10/2022.

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