



Certificate of Conformity

Certificate number: CM40315

Certification Body:



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THIS IS TO CERTIFY THAT

Zerobound Fire Rated Boundary Wall System

Type and/or use of product:

Fire Rated Boundary Wall System as an External Wall, Zero Allotment Boundary Wall or Fire Rated Boundary Wall.

Description of product:

Zerobound Fire Rated Boundary Wall System incorporates a Magnesium Oxide Panel and proprietary components outlined in A2.

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

BCA 2022

	Volume One	Volume Two
Performance Requirement(s):	Not Applicable	H1P1(2)(c) Structural stability and resistance H2P2 Weatherproofing – Subject to <i>limitation and condition 2</i> H2P3 Rising damp H3D2 Non-combustible materials – Limited to the Zerobound panel H3D3 Construction of external wall – FRL 60/60/60 (14mm panel), FRL 90/90/90 (22mm panel) H6D2(1)(b)(i) Energy Efficiency of External Walls – Will contribute to the overall energy efficiency of the building. Refer A3
Deemed-to-Satisfy Provision(s):	Not Applicable	
State or territory variation(s):	Not Applicable	Not Applicable

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

Limitations and conditions:

- For compliance with H2P2 and H2P3, a damp proof course must be installed as referenced in the [Zerobound Zero Allotment Boundary Wall Installation Guide Version 4.30](#)
- To satisfy H2P2 via verification, the relevant design is required to meet the criteria of H2V1 to the satisfaction of the Appropriate Authority as defined by the NCC. The site specific building must;

Building classification/s:

Class 1 & 10

Richard Donarski – CMI

Don Grehan – Unrestricted Building Certifier

Date of issue: 18/09/2023

Date of expiry: 14/10/2026



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- (i) have a risk score of 20 or less, when the sum of all risk factor scores are determined in accordance with Table H2V1a; and
 - (ii) is not subjected to an ultimate limit state wind pressure of more than 2.5kPa; and
 - (iii) include only windows that comply with AS 2047
3. H1P1(2)(c) Wind Actions are limited to N1, N2 and N3 only and excludes resistance to impact loading from windborne debris.
 4. 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.
 5. In all installations, the minimum clearance between the underside of panel and the adjoining surface level below must comply with the specifications in Part 7.5.7 of the ABCB Housing Provisions.
 6. This Certificate of Conformity does not address State or Territory requirements for the provision or otherwise of maintenance free construction relative to boundary clearances.
 7. The selection and use of fasteners must be a minimum of Stainless Steel fixings detailed in A2 and the [Zerobound Zero Allotment Boundary Wall Installation Guide Version 4.30](#)
 8. 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 as per the requirements of Part 10.8.1 of the ABCB Housing Provisions.
 9. When used in areas within 1km of a coastal areas or subject to high salt spray or in a corrosivity zone as per AS 4312:2019, additional coatings or protection may be required. Zerobound is not suitable for C5 zones.
 10. Other than the items and information listed, the remainder of the information contained in the product's literature is outside the scope of this certification.
 11. 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.



Certificate of Conformity

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

As per page 1.

A2 Description of product

Zerobound Fire Rated Boundary Wall System incorporates:

- Zerobound Magnesium Oxide Panel 2700mm x 600mm x 14mm (FRL 60/60/60) total thickness laminated together with a shiplap edge.
- Zerobound Magnesium Oxide Panel 2700mm x 600mm x 22mm (FRL 90/90/90) total thickness laminated together with a shiplap edge.
- Internal lining as per specification by others (plasterboard minimum of 10mm thickness).
- fixed to timber (min.70x35mm depth) or light gauge steel stud (min. 70x35x0.8mm BMT) framing at max. 450mm maximum stud spacing.
- R2.5 or 2.7 x 90mm glass wool insulation in the framing cavity complying with AS/NZS 4859.1:2018
- Approved wall wrap complying with AS/NZS 4200.1:2017.
- 8Gx40mm Stainless Steel screws on the perimeter of wall and studs to attached the Zerobound panels to frame at 300mm spacings or 2.5x50mm Stainless Steel ring shank nails at 150mm spacings.
- 8Gx20mm Stainless Steel screws on the Zerobound joints at 150mm spacing.
- 8Gx16mm Stainless Steel stitching screws
- Aluminium Firezone Bracket
- Steel Angle Bracket
- Firesealant600 fire rated sealant in all joints and edges.

A3 Product specification

Structure	<p>In external wall applications Zerobound Fire Rated Boundary Wall System is required to achieve weatherproofing performance requirements and has demonstrated resistance to Design Serviceability Limit State Wind Pressures of +0.55 kPa and -0.83 kPa calculated in accordance with AS/NZS 1170.2 Structural Design Actions Part 2: Wind Actions, that correspond to AS 4055 Wind Classifications N1, N2 and N3. The strength of the Zerobound fire rated boundary wall system is limited to applications where either;</p> <ul style="list-style-type: none">- AS/NZS 1170.2 absolute design ultimate limit state wind pressure (non-cyclonic) does not exceed 4.45 kPa (screwed) and 3.42 kPa (nailed), AND the design serviceability limit state wind pressures do not exceed +0.55 kPa and -0.83 kPa; or,- AS 4055 Wind Classifications N1, N2 and N3 (excluding AS 4055 Wind Classifications N4, N5, N6, C1, C2, C3 and C4) are not exceeded.
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Source: Acronem Consulting Australia Report No. ACA 190716 dated 07/03/2023

Damp-proofing of External Walls of Buildings	<p>The damp-proofing performance of the Zerobound Fire Rated Boundary Wall System to prevent moisture from the ground from causing unhealthy or dangerous conditions, or loss of amenity and undue dampness or deterioration of building elements is primarily achieved based on detailing that the Zerobound Fire Rated Boundary Wall System is to be installed in accordance with the required clearances as per Part 7.5.7 of the ABCB Housing Provisions.</p> <p>It is the responsibility of the building designer to ensure that any additional local regulations are met prior to the installation of the Zerobound Fire Rated Boundary Wall System to the satisfaction of the appropriate authority as defined by the NCC.</p> <p>In addition, a damp proof course must be installed as referenced in the Zerobound Zero Allotment Boundary Wall Installation Guide Version 4.30</p>
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Source: Acronem Consulting Australia Report No. ACA 190716 dated 07/03/2023

Weatherproofing The weatherproofing performance of Zerobound Fire Rated Boundary Wall System installed in applications where an external wall;

- (i) has a risk score of 20 or less, when the sum of all risk factor scores are determined in accordance with Table H2V1a; and
- (ii) is subjected to an absolute ultimate limit state wind pressure of more than 2.5 kPa but not more than 4.45 kPa; and
- (iii) includes only windows that comply with AS 2047,

This has been verified by a combination of prototype testing in accordance with the requirements of AS/NZS 4284, strength testing of the panel and fixings (for 14 mm thickness), and engineering assessment (for 22mm thickness) where, in all cases, the maximum design serviceability limit state wind pressures do not exceed tested values, +0.55 kPa & -0.83 kPa.

Based on these results, the Zerobound Fire Rated Boundary Wall System is limited to external wall applications where the design serviceability limit state wind pressure, calculated in accordance with AS/NZS 1170.2 Structural Design Actions Part 2: Wind Actions, does not exceed +0.55 kPa and -0.83 kPa. This is deemed to include AS 4055 Wind Classifications N1, N2 & N3 (and excludes AS 4055 Wind Classifications, N4, N5, N6, C1, C2 C3 & C4).

Source: Acronem Consulting Australia Report No. ACA 190716 dated 07/03/2023

Zerobound Fire Rated Boundary Wall System – Direct Fix Testing

Testing was conducted in accordance with the Verification Method FV1 (Current against 2022 Verification Method H2V1) ‘Weatherproofing’ test procedure as contained within National Construction Code of Australia.

Results

Test Type	Criteria	Result
Structural Test	100% Serviceability Limit State Pressure of +550 Pa and -830 Pa for 1 minute	Pass
Static Water Penetration	300Pa for 15 minutes	Pass
Cyclic Water Penetration	83 to 165 Pa Duration: 5 minutes	Pass
	110 to 220 Pa Duration: 5 minutes	
	165 to 330 Pa Duration: 5 minutes	

Source: Ian Bennie and Associates Test Report No. 2018-047-S5 dated 16/05/2019.

Non-Combustibility The Zerobound Magnesium Oxide Panel has been tested in accordance with AS 1530.1:1994 and the material is NOT deemed combustible – Limited to the Zerobound Magnesium Oxide Panel only.

Source: CSIRO Assessment Number FCO-3201; Fire performance of magnesium oxide panels when tested to AS 1530.1 dated 22/07/2016

Fire Resistance Levels: The Zerobound Fire Rated Boundary Wall System as detailed in [Zerobound Zero Allotment Boundary Wall Installation Guide Version 4.30](#), achieves a FRL of 60/60/60 (14mm panel) and 90/90/90 (22mm panel).

Source: Warringtonfire Australia Pty Ltd Report No. FAS180463.1, determination of FRL in accordance with AS 1530.4-2014 dated 15/02/2019 and Report No. FAS220193 RIR1.2; Fire testing to AS 1530.4-2014 – assessment undertaken to determine the expected fire resistance level (FRL) dated 09/11/2022.

Thermal Performance

Zerobound Fire Rated Boundary Wall System contributes to the overall energy efficiency of the building as indicated by the Thermal Calculations tabled below.

System	Wallframe	Overall Total R-value R_T ($m^2.K/W$)	
		Winter	Summer
14/22mm Zerobound Magnesium Oxide Panel, Breathable Wall Wrap, R2.5 Glasswool Batt Insulation (90mm, R2.5), 10mm Plasterboard lining	70x35x0.8mm BMT	1.9	1.8
14/22mm Zerobound Magnesium Oxide Panel, Breathable Wall Wrap, R2.7 Glasswool Batt Insulation (90mm, R2.7), 10mm Plasterboard lining	70x35x0.8mm BMT	1.9	1.9
14/22mm Zerobound Magnesium Oxide Panel, Breathable Wall Wrap, R2.5 Glasswool Batt Insulation (90mm, R2.5), 10mm Plasterboard lining	90x45mm Timber	2.3	2.2
14/22mm Zerobound Magnesium Oxide Panel, Breathable Wall Wrap, R2.7 Glasswool Batt Insulation (90mm, R2.7), 10mm Plasterboard lining	90x45mm Timber	2.4	2.4

Notes:

- Wall outer and inner surfaces are determined as the relevant isothermal planes without immediate thermal bridging paths.
 - Calculations based upon AS/NZS 4859 Parts 1 & 2:2018, Thermal insulation materials for buildings incorporating the effects of thermal bridging.
 - AIRAH Technical Handbook, Edition 5 2013, pp. 62-73 – Thermal Properties of Building and insulating Material.
- Test Reports(s) from an Accredited Testing Laboratory for Material R-value and emittance of IR Reflective Surfaces where applicable.
- Elements of construction varying from that described may, as a result, produce a difference thermal resistance.

Source: Acronem Consulting Australia Pty Ltd, Report ACA-190716 dated 07/03/2023 (Wall Calculations W200417a and W200417b dated 23/04/2020 & W221216a and W221216b dated 16/12/2022).

A4 Manufacturer and manufacturing plant(s)

This field is optional. Contact the Certificate Holder for details.

A5 Installation requirements

Installation of Zerobound Fire Rated Boundary Wall System must be in accordance with [Zerobound Zero Allotment Boundary Wall Installation Guide Version 4.30](#).

A6 Other relevant technical data

Acoustic Performance

The Zerobound Fire Rated Boundary Wall System below achieved the following results: $R_w(C; C_{tr}) = 43(-4; -9)$ dB

- 90 x 45 mm timber frame construction, with
- 14 mm Zerobound cladding on exterior face, with
- 13mm CSR Soundchek plasterboard on interior face, and
- 90 mm thick Bradford Gold R2.5 batts in the wall cavities.

Source: CSIRO; Report No. TL629-03-1 dated 08/11/2017.

Asbestos

Testing conducted by Sharp and Howells Pty Ltd to identify the presence of asbestos - No asbestos was detected in the Zerobound Magnesium Oxide Panel.

Source: Sharp and Howell, Test Report 20-0063B dated 24/03/2020.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

1. Fire Safety Provisions A5G3(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.
2. Energy Efficiency Provisions A5G3(1)(e). Reports from a professional engineer.
3. Structural Resistance Provisions A5G3(1)(e). Reports from a professional engineer.
4. Weatherproofing and Damp Rising Provisions A5G3(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.

B2 Reports

1. Acronem Consulting Australia Pty Ltd, Report ACA-190716; External Wall System NCC 2019 BCA Vol 2 Appraisal; Dated 07/03/2023. Report provides evidence for compliance with H1P1(2)(c), H2P2, H2P3, H3D2, H3D3 & H6D2(1)(b)(i).
2. CSIRO; NATA Accreditation No. 165; Report No. FCO-3201; Fire Performance to AS1530.1-1994; Dated 27/07/2016. Report confirms that Zerobound panel is non-combustible and complies with H3D2.
3. Ian Bennie & Associates; NATA Accreditation No. 2371; Report No. 2018-047-S5; Zerobound External Wall System 14mm panel; Dated 19/05/2019. Report provides evidence for compliance with H2P2.
4. Ian Bennie & Associates; NATA Accreditation No. 2371; Report No. 2018-047-S8; Zerobound External Wall System 14mm Direct Fixed; Dated 29/06/2019. Report provides evidence for compliance with H1P1(2)(c) and H2P2.
5. Ian Bennie & Associates; NATA Accreditation No. 2371; Report No. 2022-100-S1; Testing in accordance with AS4040.2-1992 (R2016) of 14mm panels with 2 types of fixings; Dated 30/11/2022. Report provides evidence for compliance with H2P2.
6. Warringtonfire Australia Pty Ltd; NATA Accreditation No. 3277; Report No. FAS180463.1; Fire testing to AS 1530.4-2014 – Determination of FRL; Dated 15/02/2019. Report confirms FRLs of the system for compliance with H3D3.
7. Warringtonfire Australia Pty Ltd; NATA Accreditation No. 3277; Report No. FAS220193 RIR1.2; Fire testing to AS 1530.4-2014 – assessment undertaken to determine the expected fire resistance level (FRL); Dated 09/11/2022. Report confirms FRLs of the system for compliance with H3D3.

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