

Certificate number: CM40369

**Certification Body:**



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**Certificate Holder:**



**Simpler, Faster, Better**  
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**THIS IS TO CERTIFY THAT**

## Eco Block Wall Systems

**Type and/or use of product:**

The Eco Block Wall System uses an Insulating Concrete Form (ICF) which is used as a stay in place formwork for structural concrete, load bearing and non-load bearing, below grade and above grade walls.

**Description of product:**

The Eco Block Wall System is a Permanent formwork product made from H Grade EPS which is held in place by high density polypropylene web and connectors up to 203mm. When connectors are required for widths 305 to 610mm wide, ABS splice connectors are used between the EPS outer edges. The internal space is filled with concrete. Refer A2 Below.

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

**BCA 2022**

	Volume One	Volume Two
<b>Performance Requirement(s):</b>	B1P1(1),(2)(a)(b)(c) Structural reliability subject to <i>limitation and condition 3</i>	H1P1(1),(2)(a)(b)(c) Structural reliability and resistance subject to <i>limitation and condition 3</i>
<b>Deemed-to-Satisfy Provision(s):</b>	C2D2(2) Fire Resistance and Stability – Subject to <i>limitation and condition 4 &amp; 5</i>	H3D3 Construction of external walls – Subject to <i>limitation and condition 4 &amp; 5</i>
	F7D6 Sound insulation rating of walls	H4D8 Sound insulation
	G5D3 Construction in bushfire prone areas (BAL FZ) – Subject to <i>limitation &amp; conditions 7, 8 &amp; 9</i>	H6D2(1)(b)(i) Energy efficiency – Refer A3 for R-values.
	J4D6(4) Energy efficiency – Refer A3 for R-values.	H7D4 Construction in bushfire prone areas (BAL FZ) – Subject to <i>limitation &amp; conditions 7, 8 &amp; 9</i>
<b>State or Territory variation(s):</b>	G5D3 (NSW), J4D6 (NSW)	H7D4 (NSW, QLD & SA)

**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 [Eco Block Wall Systems Technical Installation Manual](#) dated 30/06/2023.
- This product has not been tested to AS 1530.1-1994 and cannot be considered a non-combustible product.
- Structural Certification is only for the cladding fixings into the Eco-block wall, certification for the external face cladding is outside of the scope of certification.

**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:** 20/07/2023

**Date of expiry:** 20/07/2026



# Certificate of Conformity

4. Compliance with FRL is dependent on the system components being as specified in A3. Any deviation from the tested specimen does not form part of this certificate of conformity.
5. Minimum wall thickness of the concrete core to be as per the table in A3 or the requirements of AS 3600:2018
6. Final cladding must be fixed with the nominated specifications (fixing size / type & spacings) within the letter of certification.
7. The Eco Block Wall System is suitable for use in BAL 12.5 – BAL FZ. Refer A3.  
Compliance with BAL should be reviewed with the respective BAL requirements of AS 3959 by Building Designers & Authorities having jurisdiction as each building may require specific design or construction requirements outside of the specific wall material.
8. Compliance with BAL-FZ is limited to the requirements of Section 9.1 of AS 3959:2018 and requires a minimum distance of 10m from the edge of any classified vegetation. This product is not suitable to be installed where the 10m setback distance between the building and the edge of the classified vegetation cannot be achieved and/or maintained in perpetuity.
9. For compliance with a BAL rating, the external wall cladding is to be either non-combustible or are unlikely to contribute to fire spread over the wall.
10. In the absence of a site-specific performance solution, the EcoBlock Wall system is unable to be used for the external wall of a Type A or B construction building. It is up to the building designer and authority having jurisdiction to ensure that any state or territory legislation in relation to the use of EPS is adhered to.
11. This certificate is limited to the details within this certificate including the above compliance elements, product description, purpose or use.
12. 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.

**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](http://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

As per page 1.

### A2 Description of product

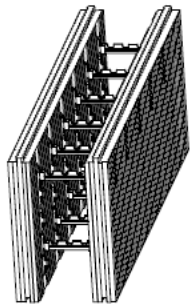
A Permanent formwork product made from H Grade EPS which is held in place by high density polypropylene web and connectors up to 203mm. When connectors are required for widths 305 to 610mm wide, ABS splice connectors are used between the EPS outer edges. The internal space is filled with concrete.

The Eco Block Wall system is an Insulating Concrete Form (ICF) and is used as a stay in place formwork for structural concrete, load bearing and non load bearing, below grade and above grade walls. The forms are used in construction of plain and reinforced concrete beams, lintels, exterior and interior walls, and foundation walls and retaining walls. The forms remain in place after placement and curing of concrete and must be covered with approved interior and external finish material.

The Eco Block Wall system are manufactured to the following specifications.

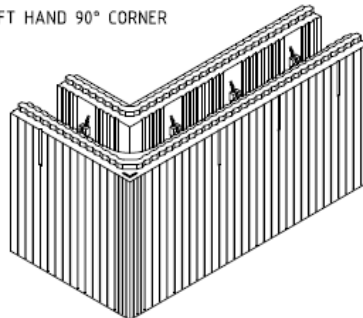
Component	101mm Cavity Block	151mm Cavity Block	203mm Cavity Block
Block Dimensions (Standard Block)	1219 x 409 x 229mm	1219 x 409 x 229mm	1219 x 409 x 229mm
Concrete Thickness	101 mm	151 mm	203 mm
Concrete Volume per block	0.05 m <sup>3</sup>	0.07 m <sup>3</sup>	0.1 m <sup>3</sup>
EPS Thickness	127 mm	127 mm	127 mm
Wall Surface Areas per block	0.5 m <sup>2</sup>	0.5 m <sup>2</sup>	0.5 m <sup>2</sup>
Block Dimensions (90 degree corner)	Long side: 813 mm Short side: 406 mm	Long side: 813 mm	Long side: 813 mm

**Straight Panel**



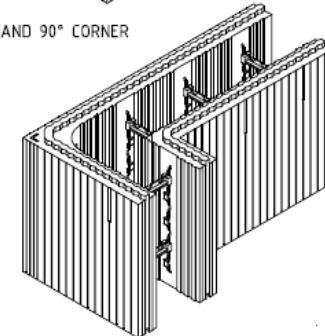
**90 Degree Corner Panel (Left)**

LEFT HAND 90° CORNER



**90 Degree Corner Panel (Right)**

RIGHT HAND 90° CORNER



## A3 Product specification

### Structure

Compliance is based on the following specifications:

- 10 Gauge screws, (grade 3)
- Screws must be sufficient length so as to penetrate through the external cladding, as well as the Eco-Block expanded polystyrene foam outer-shell and into the vertical stud channel.
- Screws to be fixed to every second vertical stud channel (i.e. approximately 400mm horizontal centres.)
- Screws to be spaced at maximum 400mm vertical centres.

The certified structural performance of the nominated cladding fixings into the Eco-Block wall are as follows:

- Wind loadings, derived from design wind classifications **N1 to N5** as well as **C1 to C3** (in accordance with AS 4055 -2012) and
- Design Ultimate Wind Pressures (as derived from AS 1170.2 of **7.18 kPa** or less.

*Source: Newport Consulting Engineers, Eco Block Certification Letter, Dated 22/05/2023.*

### Fire Resistance and Stability / Construction of external walls

It is considered that a concrete wall manufactured using the ECO-Block form system would provide at least the fire resistance in accordance with AS 1530.4:2014 as given in AS 3600:2018, the Concrete code, for the appropriate concrete core thickness as shown in table below:

Minimum ECO-Block core thickness (mm)	Fire Resistance Level (FRL)
101	90/90/90
152	180/180/180
203	240/240/240

Testing undertaken by Omega Point Laboratories demonstrated that the plastic web **was not detrimental** to the fire resistance of the wall for the corresponding fire resistance as specified in AS 3600. These results show that when failure occurred it did so at times in excess of the fire resistance level given in AS 3600:2018.

It is therefore considered that the **plastic webs and polystyrene** would **not be detrimental** to the fire resistance of the ECO-Block wall system for periods of at least those specified for corresponding concrete wall thicknesses as specified in AS 3600:2018

*Source: BRANZ, Report No. FAR 2251, Dated 30/11/2021.*

### Bushfire Attack Level

#### For BAL-FZ (as per AS 3959:2018 (Amdt.1 & 2))

The BAL-FZ specification of AS 3959:2018 (Amdt. 1 and 2), clauses 9.4 (c) for BAL-FZ requires that to comply with a BAL-FZ rating the wall must achieve an FRL of at least 30/30/30. BRANZ assessment report FAR 2251 Issue 3 considered that, as given in Table 1, an ECO-Block wall system with a nominal core thickness of 100 mm would achieve an FRL of at least 90/90/90. Consequently, an ECO-Block wall with a **core thickness of 100 mm** complies with the **BAL-FZ rating**, in that the wall was considered to achieve an FRL of at least 30/30/30. In accordance with Clause 9.1 of AS 3959:2018 (Amdt. 1 and 2) this applies to buildings with a setback from classified vegetation of at least 10 metres.

#### External Wall linings

For compliance with a BAL-FZ rating, there are no specific requirements for the external wall cladding. It is proposed to use materials such as cement modified polymer renders, steel (corrugated or similar 0.42 BMT thick), or at least 6 mm thick fibre cement board. These materials are **either non-combustible** or are **unlikely to contribute to fire spread** over the wall.

*Source: BRANZ, Report No. FC15559-01, Dated 09/12/2021 & AS 3959:2018 Construction of buildings in bushfire-prone areas.*

## Energy efficiency

Calculated R values for walls with the following configurations:

- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>• 10mm Render,</li> <li>• ECO-Block 64mm, H Grade EPS (24kg/m<sup>3</sup>, R1.45),</li> <li>• Reinforced Concrete 102mm,</li> <li>• ECO-Block 64mm, H Grade EPS (24kg/m<sup>3</sup>, R1.45),</li> <li>• 10mm Plasterboard Lining</li> </ul> | <ul style="list-style-type: none"> <li>• 10mm Render,</li> <li>• ECO-Block 64mm, H Grade EPS (24kg/m<sup>3</sup>, R1.45),</li> <li>• Reinforced Concrete 152mm,</li> <li>• ECO-Block 64mm, H Grade EPS (24kg/m<sup>3</sup>, R1.45),</li> <li>• 10mm Plasterboard Lining</li> </ul> | <ul style="list-style-type: none"> <li>• 10mm Render,</li> <li>• ECO-Block 64mm, H Grade EPS (24kg/m<sup>3</sup>, R1.45),</li> <li>• Reinforced Concrete 202mm,</li> <li>• ECO-Block 64mm, H Grade EPS (24kg/m<sup>3</sup>, R1.45),</li> <li>• 10mm Plasterboard Lining</li> </ul> |
|--|--|--|

System Name	Total R Value (m <sup>2</sup> .K/W)	
	Winter	Summer
230mm ECO-Block Wall System	3.29	3.12

System Name	Total R Value (m <sup>2</sup> .K/W)	
	Winter	Summer
280mm ECO-Block Wall System	3.32	3.15

System Name	Total R Value (m <sup>2</sup> .K/W)	
	Winter	Summer
280mm ECO-Block Wall System	3.35	3.19

*Source: Acronem Consulting Australia Pty Ltd; Wall Calculation W230306a, Wall Calculation W230306b & Wall Calculation W230306c; Dated 06/03/2023.*

## Sound insulation rating of walls

In the Australian National Construction Code (NCC) – Volume one, Part F7 Sound transmission and insulation section F7D6 (1) Sound insulation rating of walls, the airborne rating is specified in  $R_w + C_{tr}$  not less than 50.

In the same Part F7 under the Verification Methods F7V1 & F7V2, the airborne rating: a weighted standard level difference with spectrum adaptation term ( $D_{nT,w} + C_{tr}$ ) not less than 45 insitu measurements. From this it can be seen that the NCC acknowledge and accepts a 5dB lower rating from the laboratory measurement ( $R_w + C_{tr}$ ) to in-situ measurements ( $D_{nT,w} + C_{tr}$ ) for airborne transmission and thus can reasonably be applied to laboratory  $R_w$  data to achieve the equivalent  $D_{nT,w}$ .

*Source: Palmer Acoustics Australia Pty Ltd; Compliance Pathway Laboratory vs In-situ measurements report; Dated 26/05/2022.*

## Sound insulation rating of walls

Product	$D_{nT,w} + C_{tr} = R_w$
101 mm Cavity Block	45
	51
152 mm Cavity Block	51
	≥ 50
203 mm Cavity Block	51+
	≥ 50

*Source: Palmer Acoustics Australia Pty Ltd; Acoustic Opinion Report; Dated 20/09/2016.*

## A4 Manufacturer and manufacturing plant(s)

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

## A5 Installation requirements

To be designed and installed in accordance with [Eco Block Wall Systems Technical Installation Manual](#) dated 30/06/2023.

## A6 Other relevant technical data

No other relevant technical data.

## APPENDIX B – EVALUATION STATEMENTS

### B1 Evaluation methods

1. Acoustic Provisions A5G3(1)(e). Reports from Professional Engineers.
2. Bushfire Provisions A5G3(1)(e). Reports from Professional Engineers.
3. Fire Safety Provisions A5G3(1)(d)&(e). Reports from Accredited Testing Laboratories & Reports from Professional Engineers.
4. Structural Provisions A5G3(1)(d)(e)&(f). Reports from Accredited Testing Laboratories, Reports from Professional Engineers & Product Technical Bulletin.
5. Thermal Provisions A5G3(1)(e). Reports from Professional Engineers.

### B2 Reports

1. Advanced Materials Testing Services, NATA Accreditation No. 20414, Load Test Report; Dated 8/04/2019, contributes to the compliance of B1P1(1),(2)(a)(b)(c) & H1P1(1),(2)(a)(b)(c).
2. BRANZ, Report Number FAR 2251; IANZ Accreditation No. 37; Fire Assessment Report - Fire Resistance of Eco Block Wall Systems; Dated 30/11/2021, confirms how the Eco Block Wall System complies with the requirements of C2D2(2) & H3D3 for FRL's.
3. BRANZ, Report Number FC15559-01; IANZ Accreditation No. 37; Bushfire Assessment of Eco-Block Systems In Accordance With AS 3959:2018 (Amdt. 1 and 2); Dated 30/11/2021, confirms how the Eco Block Wall System complies with the requirements of G5D3 & H7D4.
4. Newport Consulting Engineers Pty Ltd; Eco Block Certification Letter; Dated 22/05/2023 contributes to the compliance of B1P1(1),(2)(a)(b)(c) & H1P1(1),(2)(a)(b)(c).
5. Eco Block LLC; Technical Bulletin "Fibre Cement Siding Attachment", contributes to the compliance of B1P1(1),(2)(a)(b)(c) & H1P1(1),(2)(a)(b)(c).
6. Palmer Acoustics Australia Pty Ltd; Advice Note ACOUSTIC OPINION; Dated 20/09/2016, confirms how the Eco Block Wall system contributes to the compliance with F7D6 & H4D8.
7. Palmer Acoustics Australia Pty Ltd; Compliance Pathway Laboratory vs In-situ measurements report; Dated 26/05/2022, provides a pathway of compliance between testing undertaken in a laboratory settings vs in-situ.
8. Acronem Consulting Australia Pty Ltd; Wall Calculation W230306a; Dated 6/03/2023, provides the R values for the Eco Block Wall system for compliance with J4D6(4) & H6D2(a)(b)(i).
9. Acronem Consulting Australia Pty Ltd; Wall Calculation W230306b; Dated 6/03/2023 provides the R values for the Eco Block Wall system for compliance with J4D6(4) & H6D2(a)(b)(i).
10. Acronem Consulting Australia Pty Ltd; Wall Calculation W230306c; Dated 6/03/2023 provides the R values for the Eco Block Wall system for compliance with J4D6(4) & H6D2(a)(b)(i).

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