



# Certificate of Conformity

Certificate number: CM40232 Rev1

**Certification Body:**

**CertMark**  
International  
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JAS-ANZ Accreditation  
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**Certificate Holder:**

**Hebel®**  
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**THIS TO CERTIFY THAT**

## Litecrete™ External Wall System

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

Autoclaved aerated concrete (AAC) panel used for external wall cladding.

**Description of product:**

Litecrete™ External Wall Cladding system comprising of panels horizontally installed on battens over timber stud or steel framing.

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

**BCA 2016**

	Volume One (Amdt. 1)	Volume Two
<b>Performance Requirement(s)</b>	BP1.1(a) Structural reliability - Up to N5, C3 & (b)(i), (ii) & (iii) FP1.4 Weatherproofing – Up to N3 GP5.1 Bushfire construction in bushfire prone areas – BAL FZ - limited to external wall cladding	P2.1.1 (a) & (b)(i),(ii) & (iii) Structural stability and resistance – Up to N5, C3 P2.2.2 Weatherproofing – up to N3 P2.3.1 Protection from the spread of fire (90/90/90 from panel side only) P2.3.4 Fire Safety - Bushfire areas BAL-FZ - limited to external wall cladding
<b>Deemed-to-Satisfy Provision(s):</b>	Spec C1.1 Fire resisting construction (90/90/90 from panel side only) J1.5 Walls – 50mm panel only R0.313m <sup>2</sup> .K/W - Can be used in conjunction with other building elements to achieve a Total R-Value	3.12.1.4 Energy Efficiency - External Walls – 50mm panel only R0.313m <sup>2</sup> .K/W - Can be used in conjunction with other building elements to achieve a Total R-Value
<b>State or territory variation(s):</b>	NSW GP5.1 Qld GP5.1 Tas GP5.1	NSW, NT and S.A Part 3.12, TAS P2.3.4

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

**John Thorpe - CMI**

**Don Grehan – Unrestricted Building Certifier**

**Date of issue: 26/10/2018**

**Date of expiry: 17/10/2021**



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## Limitations and conditions:

1. Litecrete™ External Wall Systems are subject to design and certification of the stud frame by a qualified structural engineer.
2. Only to be installed in accordance with the Litecrete™ design drawings LP-001 to LP-027 Available from CSR Hebel. Refer A5 below.
3. Litecrete™ Wall System is suitable for wind categories from N1 to N3 for Weatherproofing and N1 to N5 & C1 to C3 for Structure. Consult Litecrete™ construction details (05.10.2018) for relevant construction requirements.
4. Litecrete™ Wall Systems are subject to design and certification of the stud frame by a qualified structural engineer.
5. The Thermal R values of the AAC Litecrete™ Wall System will vary with installation configurations refer Litecrete™ construction details. Refer A5 below.
6. The Litecrete™ Wall System is only to be installed by a suitably qualified tradesperson or a builder.
7. Litecrete™ Wall Systems contribute to satisfying the NCC Performance Requirements for the construction of buildings in bushfire prone areas up to BAL FZ. It is the responsibility of the Building Designer to ensure the overall compliance of the building is achieved in accordance with AS 3959-2009.
8. The waterproofing systems for all panels is dependent on window, door and other penetration frames being designed, constructed and installed in accordance with manufacturers recommendations to enable adequate flashing and sealing to the building.
9. As per NCC Verification Method V2.2.1, compliance with P2.2.2 for the weatherproofing of an external wall is verified that—has a risk score of 20 or less, as determined in accordance with Table V2.2.1a; and is not subjected to an ultimate limit state wind pressure of more than 2.5 kPa; and includes only windows that comply with AS 2047-2014 – Windows and external glazed doors in buildings.
10. Litecrete™ Wall systems are suitable for use in designated bushfire prone areas that require a BAL-FZ or less, when installed in accordance with the Litecrete™ construction details (05.10.2018) and all exposed core material is encapsulated with a non-combustible covering.
11. In the absence of a site-specific performance solution, this system is not suitable for use in or on Class 2 to 9 of Type A & B construction, where the NCC requires buildings and/or Ancillary Elements to be non-combustible.
12. 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.
13. This Certificate is issued based on the evidence of compliance as detailed herein. Any deviation from the specifications contained in this Certificate is outside of this document's scope and the installation of the certified product/system will not be covered by this CodeMark certification. This may result in the product being classified as a non-conforming building product/system.

## Building classification/s:

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

**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.

**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.

## APPENDIX A – PRODUCT TECHNICAL DATA

### A1 Type and intended use of product

As per page one

### A2 Description of product

Product	Description
Hebel®	The Litecrete™ panel is an AAC panel external wall cladding element installed horizontally on timber or steel framed buildings.
Cavity Battens	The Cavity Battens are used to fix the Litecrete™ panel to the structural support framing. There are three batten types being timber, steel or expanded polystyrene (EPS) cavity battens.
Fasteners & Fixing	Fixing of cavity battens to timber stud frame; 12-11x35mm Hex Head Type 17 screw.
	Fixing of cavity battens to steel framing; 10-16x16mm Hex Head Tek screw.
	Fixing of Litecrete™ panels to cavity battens from outside of buildings; 1. 14-10x100mm bulge head type 17 screws into batten and into framing. 2. 14-10x125 bulge head type 17 screws or 14-10 x150 hexagonal head screw into frame through battens.
Hebel® Mortar	Hebel® Mortar (supplied in 20kg bags) when required is used as a thick bed mortar base to provide a level base for Litecrete™ installation.
Hebel® Adhesive	Hebel® Adhesive (supplied in 20kg bags) is used for gluing the Litecrete™ panels together at vertical and horizontal joints.
Hebel® Patch	Minor chips or damage to Litecrete™ panels are to be repaired using Hebel® Patch (supplied in 10kg bags).
Hebel® Anti Corrosion Protection Paint	To coat reinforcement steel that has been exposed during cutting of the panels.
Acrylic coating system	Designed as primary coat system complying with C1 2.8.4 of AS 5146.3:2015 or as a comparable and approved acrylic coating system.
Single Foil	Single sided reflective foil.
Double Foil	Double sided reflective foil. Refer to DWG LP-003, Rev C Dated 24/09/2018.
R2.0 Batt	CSR Bradford Insulation.
10mm Plasterboard	CSR Gyprock Plasterboard.

### A3 Product specification

Nominal AAC Dry Density	510kg/m <sup>3</sup>
Panel Length	2000mm and 2200mm
Panel Width	600mm
Panel Thickness	50mm

### Thermal

Contact certificate holder for further information on tested systems.

### Bushfire

The Bushfire Attack Level BAL-FZ, is achieved by:

- AS 3959:2009 – ‘Construction of buildings in bushfire prone areas’ section 9.4.1 ‘External Walls’ states; ‘Walls shall be one of the following’ clause 9.4.1(c) ‘A system with an FRL of 30/30/30 or -/30/30 when tested from the outside’; and



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- NCC 2016 Building Code of Australia - Construction Requirements for Bushfire Attack Level; Table SA 3.7.4.1 states: 'The exposed components of external walls must comply with clauses 9.4.1 and 9.4.2 of the BAL — FZ requirements of AS 3959 and any sarking-type material must have a Flammability Index of not more than 5.'

## A4 Manufacturer and manufacturing plant(s)

CSR Hebel  
112 Wisemans Ferry Rd,  
Somersby NSW 2250.

## A5 Installation requirements

Only to be installed in accordance with the [Litecrete™ construction details LP-001 to LP-027](#) as listed below:

LP-001 – 05/10/2018	LP-002 – 24/10/2018	LP-003 – 24/09/2018	LP-004 – 24/09/2018	LP-005 – 24/09/2018	LP-006 – 24/09/2018	LP-007 – 24/09/2018	LP-008 – 24/09/2018	LP-009 – 24/09/2018	LP-010 – 24/09/2018
LP-011 – 24/09/2018	LP-012 – 24/09/2018	LP-013 – 24/09/2018	LP-014 – 24/09/2018	LP-015 – 24/09/2018	LP-016 – 24/09/2018	LP-017 – 24/10/2018	LP-018 – 24/09/2018	LP-018 – 24/09/2018	LP-020 – 24/09/2018
LP-021 – 24/09/2018	LP-022 – 24/09/2018	LP-023 – 24/09/2018	LP-024 – 24/09/2018	LP-025 – 24/09/2018	LP-026 – 24/09/2018	LP-027 – 24/09/2018			

**Source:** Certificate Holder

## A6 Other relevant technical data

No other relevant technical data.

## Weatherproof coating

AS 5146.3:2015 Section 2.8.4 sets out the characteristics of external coating systems that will provide weatherproofing in accordance with the BCA requirements and durability in accordance with AS 5146.3:2015 Table 2.5. These characteristics are:

External coating systems shall-

1. be water-resistant;
2. be vapour-permeable;
3. be capable of bridging up to a 1mm crack in the substrate; and
4. consist of a base levelling coat, and texture and finish coats.

AS 5146.3:2015 Section 2.8.4 also provides the following coating system that complies with coating requirements of AS 5146.3 Table 2.5(A):

- i. Surface preparation: Clean, patch and remove any dags. Remove all surface contaminants such as oil, grease, dust (including salt residue in coastal areas) by hosing down with fresh potable water before application of the coating system. AAC substrate shall be allowed to reach equilibrium moisture content prior to application of the coating.
- ii. Base levelling coat: Temper dry the AAC substrate with a light spray to reduce excessive suction. Apply the base-levelling coat with a hawk and stainless steel trowel evenly over the surface to a thickness not less than 2mm and up to 6mm to level irregularities. Render shall not cover control joints. Follow up with a poly float to level out the product. Dry for at least 6 h to 8 h before application of the first coat.

**NOTE:** The base levelling coat may be omitted in circumstances when aesthetic considerations do not demand a smooth surface.

- iii. First (texture) coat: Apply with a 12mm nap roller over the surface ensuring a wet edge is maintained over the application area. Protect from rain in first 24 h.

- iv. Second (finish) coat: Apply with a 12mm nap roller over the surface ensuring a wet edge is maintained over the application area. Protect from rain in first 24 h. Ensure adequate batch tint lots to achieve coverage over single elevations to ensure colour consistency.

## Minimum coating specification

In addition to the requirements of AS 5146.3:2015 Section 2.8.4, the coating system must meet the following minimum specifications for application over the Litecrete™ external wall cladding:

- Base levelling coat must have embedded fibreglass reinforcing mesh with maximum aperture of 10 mm by 10 mm and minimum weight of 145g per m<sup>2</sup>. The embedded fibreglass mesh reinforcing coat must be applied over the entire wall. Base levelling coat and mesh must not cover control joints;
- The first (texture) coat and second (finish) coats must be acrylic latex coatings complying with relevant parts of AS/NZS 4548 Guide to long-life coatings for concrete and masonry;
- The coatings must be suitable for and compatible with Hebel AAC substrate. The coating must adhere to the Hebel AAC substrate with priming if so specified by the coating manufacturer;
- The coatings, either combined first (texture) coat and second (finish) coats, or the second (finish) coat alone must meet the following minimum specifications:
  - Water transmission to AS/NZS 4548.5 Appendix B must be less than 10 grams/m<sup>2</sup>/24hr at the nominated minimum coating dry film thickness;
  - Water vapour transmission to AS/NZS 4548.5 Appendix C must give S<sub>d</sub> value (equivalent air layer thickness) less than 4m at the nominated minimum coating dry film thickness;
  - Crack bridging to AS/NZS 4548.5 Appendix F must show crack bridging capability greater than 1mm at the nominated minimum coating dry film thickness;
  - The coating manufacturer must specify the minimum coating dry film thickness to achieve the above specifications.

*Source: The Coating Consultancy Pty Ltd expert opinion 29 August 2018*

## APPENDIX B – EVALUATION STATEMENTS

### B1 Evaluation methods

CMI has followed procedures for certifying Litecrete™ External Wall System that are based on evidence established by:

- a. Testing and assessment of Litecrete™ External Wall System;
- b. Review of engineering reports supplied by suitably qualified individuals and organisations;
- c. Assessing a quality plan for AAC Litecrete™ External Wall Cladding System that conforms to ISO 10005 and the CodeMark scheme rules;
- d. By reviewing testing of samples supplied to ascertain whether the product meets the performance requirements specified on this certificate; and
- e. Conducting site audits of the factory to verify compliance of Litecrete™ External Wall System.

### B2 Reports

- a. Aecom Australia Pty Ltd; Hebel 50mm Weatherproofing, expert opinion extrapolating weather performance from 75mm to 50mm panels; Dated 06/09/2018.
- b. Bemac Laboratories; NATA Accreditation No. 1393; Report No. 10953; Full panel bending to AS 5146.2:2015; Dated 06/03/2017.
- c. CSIRO; NATA Accreditation No. 165; Report No. DTF1021; Water penetration testing to FV1 & V2.2.1 of the 75mm panel wall system; Dated 27/01/2015.
- d. CSIRO; NATA Accreditation No. 165; Report No. FCO-3241; Fire resistance of CSR Hebel PowerPanel<sup>50</sup> external wall system; Dated 07/08/2017.
- e. PACE Structural; Report No. PS18109; Structural design certificate; Dated 15/10/2018.
- f. James M Fricker Pty Ltd; Report No. i107f; Thermal performance calculations; Dated 24/07/2018.

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