



Certificate of Conformity

Certificate number: CM40371

Certification Body:



ABN: 81 663 250 815
JAS-ANZ Accreditation
No. Z4450210AK
PO Box 273,
Palmwoods Qld 4555
Australia
P: +61 7 5445 2199
www.cmicert.com.au
office@cmicert.com.au

Certificate Holder:



HEMPBLOCK™
AUSTRALIA

GeoSIP Pty Ltd
t/a

HempBLOCK Australia Pty Ltd
ABN: 85 627 111 862
11 Beech Street
Maleny, QLD 4552 Australia
<https://hempblockaustralia.com/>

THIS IS TO CERTIFY THAT

HempBLOCK Wall Systems

Type and/or use of product:

The HempBLOCK Wall System is an interlocking hempcrete block that creates a walling structure that functions as inside and outside cladding, infill and insulation at the same time.

Description of product:

The HempBLOCK wall system consists of interlocking blocks with a tongue and groove all round and consist of a number of block profiles. Refer A2 Below.

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

BCA 2022

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

1. Installation must be in accordance with the [HempBLOCK Installation Manual Version 1 – August 2023](#).
2. Compliance with FRL is for Integrity and Insulation only and 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. FRL for Structural adequacy is outside the Scope of this Certification.
3. The structural support members are designed and engineered separately as per project requirements by building designers and engineers. Designs incorporating the HempBLOCK Wall system must be certified by a Registered Professional Engineer for structural compliance. Refer A3 for Table 1 and Table 2 which provide spans limited by serviceability deflection for a maximum wall height 2900mm.

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: 29/09/2023

Date of expiry: 29/09/2026



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4. No assessment has been undertaken for weatherproofing compliance under F3P1 or H2P2 of the NCC. The adequacy of the HempBLOCK Wall Systems weatherproofing is outside the scope of this Certificate of Conformity.
5. It is the responsibility of the building designer to ensure this product is fit for purpose and approved for use with the other proposed components of the building.
6. The HempBLOCK 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.
7. 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.
8. This certificate is limited to the details within this certificate including the above compliance elements, product description, purpose or use.
9. 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. 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

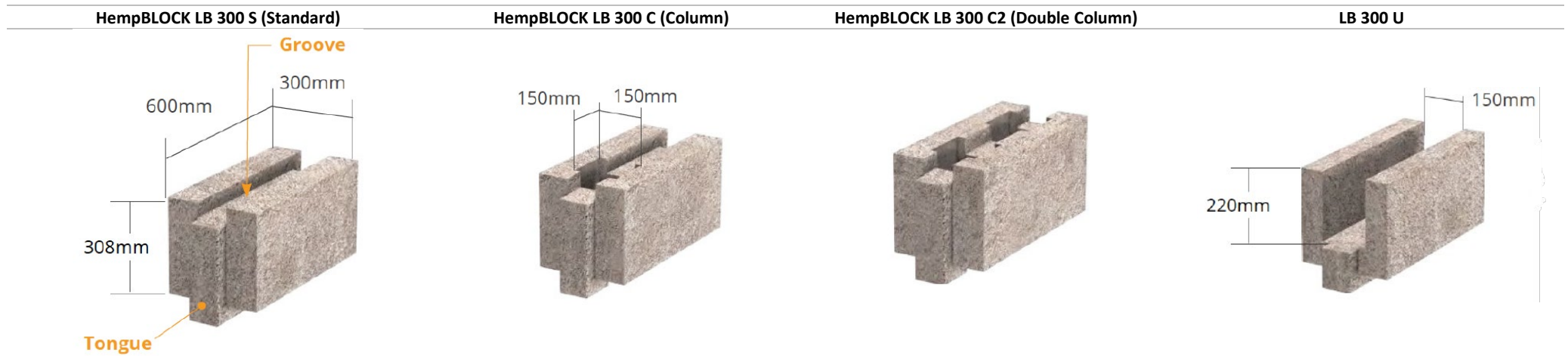
As per page 1.

A2 Description of product

The HempBLOCK Wall System consists of the LB 300 series of interlocking hempcrete blocks that creates a walling structure that functions as inside and outside cladding, infill and insulation at the same time. The walls encase a load bearing post and beam system that is separately engineered. The walls are to be rendered with a lime render with one embedded layer of a fiberglass mesh.

The HempBLOCK Wall system is manufactured to the following specifications.

Component	LB 300 S	LB 300 C	LB 300 C2	LB 300 U
Block Dimensions	600 x 300 x 308mm	600 x 300 x 308mm	600 x 300 x 308mm	600 x 300 x 308mm
Average weight	18 Kg	18 Kg	18 Kg	18 Kg
Spacing for 150x150 column	0	1	2	0





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A3 Product specification

Structural resistance – Wind actions

Maximum spans of the Hemp Block system spanning between vertical columns for wind load categories N2, N3 and N4 are to be as per Table 1 and Table 2 below (spans limited by serviceability deflection).

Maximum Column Spacings – Ultimate Load Capacity

The maximum column spacing for wall heights up to 2900mm using ultimate load capacity for wind load classifications N2 - N4 in accordance with AS4055-2021 (Standards Australia, 2021). The ultimate load capacity maximum column spacing can be seen in Table 1 below. Column spacing is based off the capacity of the HempBlock walls themselves and does not take into consideration the potential limiting factor of steel column moment connections.

Table 1 - Maximum Column Spacing for Ultimate Load Capacity

Maximum Column Spacing for wall height up to 2900mm.			
Wind Classification to AS4055-2012.	N2	N3	N4
Max. column spacing (mm).	2500	2000	1600

Maximum Column Spacings – Serviceability Load Capacity

The maximum column spacing has been determined for wall heights up to 2900mm using serviceability load capacity for wind load classifications N2 - N4 in accordance with AS4055-2021 (Standards Australia, 2021). The serviceability load capacity maximum column spacing can be seen in Table 2 below. Column spacing is based off the capacity of the HempBlock walls themselves and does not take into consideration the potential limiting factor of steel column moment connections.

Table 2 - Maximum Column Spacing for Serviceability Load Capacity.

Maximum Column Spacing for wall height up to 2900mm.			
Wind Classification to AS4055-2012.	N2	N3	N4
Max. column spacing (mm).	2100	1800	1400

Source: BSE Consulting Engineers Pty Ltd, Report No. GEO01 – 07 – Serviceability Study Iss. 01, Dated 28/02/2022 & Lucena Engineers Pty Ltd, Hemp Block Australia, HempBlock 300 System - Structural Adequacy in Accordance with the National Construction Code 2022, Dated 29/09/2023

Fire Resistance and Stability / Construction of external walls

The testing was undertaken in accordance with AS 1530.4:2014 with the exemption of the measurement of the heat flux. With the results as shown in table below:

Fire Resistance Level (FRL)
-/60/60

Source: Ignis Labs Pty Ltd, Report No. IGNL-6229-04R I01 R00, Dated 25/10/2022.

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. Ignis Labs assessment report number IGNL-6229-04R I01 R00 shows that the FRL achieved is -/60/60 which is 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 that are **either non-combustible** or are **unlikely to contribute to fire spread** over the wall.

Source: Ignis Labs Pty Ltd, Report No. IGNL-6229-04R I01 R00, Dated 25/10/2022.& AS 3959:2018 Construction of buildings in bushfire-prone areas.

Energy efficiency

For the tested samples, the average dry density was 281 kg/m³, and the average dry thermal conductivity was 0.0651 W/m.K at 10°C. (Note: moisture would raise the conductivity)

The author considers that for this product at this density and dryness, the thermal conductivity would be the same for different thicknesses of product, and at 23°C, thus the author believes the following table provides the thermal resistance for different thicknesses of Hemp block:

Thickness (mm)	Thermal resistance (dry)	
	m ² .K/W	Btu/h/ft/°F
300	4.61	26.2

Source: James M Fricker Pty Ltd; CERTIFICATION OF "HempBLOCK™" hempcrete walling block; Dated 25/05/2023.

Sound insulation rating of walls

Based on the information provided in the CSTB laboratory testing report, the evaluation method and calculations are equivalent to those used in Australia at the time of the testing. Therefore, the result provided in the CSTB report may be applied for use in Australia.

In summary, an acoustic rating of **Rw (C;Ctr) 43(-1;-2)** can be utilised for the tested wall system in Australia.

Source: Acoustic Works Pty Ltd; Acoustic Result of Laboratory Wall Testing 300mm Hempcrete Block Wall with Render; Dated 02/06/2023.

A4 Manufacturer and manufacturing plant(s)

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



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A5 Installation requirements

To be designed and installed in accordance with [HempBLOCK Installation Manual Version 1 – August 2023](#) and by HempBLOCK Master Builder trained installers.

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)(d). Reports from Accredited Testing Laboratories.
3. Fire Safety Provisions A5G3(1)(d). Reports from Accredited Testing Laboratories.
4. Structural Resistance Provisions A5G3(1)(e). Reports from a professional engineer.
5. Thermal Provisions A5G3(1)(e). Reports from Professional Engineers.

B2 Reports

1. Ignis Labs Pty Ltd, NATA Accreditation No. 20534, Report Number IGNL-6229-04R I01 R00, dated 02/10/2022, confirms how the Eco Block Wall System complies with the requirements of C2D2(2) & H3D3 for FRL's & G5D3 & H7D4 for Bushfire applications.
2. Acoustic Works Pty Ltd, Report No. 2021235 dated 02/06/2023, confirms how the Eco Block Wall system contributes to the compliance with F7D6 & H4D8.
3. James M Fricker Pty Ltd, Report No. 279i1dated 25/03/2023, provides the R values for the Eco Block Wall system for compliance with J4D6(4) & H6D2(1)(b)(i).
4. Lucena Engineers Pty Ltd, Hemp Block Australia, HempBlock 300 System - Structural Adequacy in accordance with the National Construction Code 2022; Dated 29/09/2023. This report confirms compliance with the performance requirements of B1P1(2)(c) & H1P1(2)(c).

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