



CERTIFICATE OF CONFORMITY

This is to certify that
Loxo Cladding System



Product Description

The Loxo Cladding System is a lightweight steel reinforced autoclaved aerated concrete (AAC) building panel that is constructed of aerated concrete.

Panel dimension: 2200mm x 600mm x 50mm and 75mm in thickness

Product Purpose or Use

Certified for use as an internal bounding or external wall system (incorporating timber or steel framing) in loadbearing or non-loadbearing applications or floor system where an FRL of up to 120/120/90 minutes is required. (The AAC will also contribute, together with insulating material, to providing acoustic attenuation).

Certificate Holder

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Certification Body

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Complies with the National Construction Code – Volume One - Building Code of Australia 2015:

1. Specification A2.3 where an FRL of 120/120/120 is required subject to the installation conditions
2. BP1.1, BP1.2
 - a. BV1, B1.2
3. CP1 and CP2
 - a. C1.1 – Type of construction required (including SA C1.1)
 - i. Specification C1.1 – Fire-Resisting Construction where an FRL of no more than 120/120/120 is required
4. FP1.4
5. FP1.5 (including SA FP1.5)
6. FP5.2 (including NT FP5.2)
 - a. F5.5 Sound insulation rating of walls (including NT F5.5)
7. GP5.1 (including NSW and QLD GP5.1, Tas GP5.1(a))
 - a. G5.2 Protection (including NSW G5.2, SA G5.2, SA G5.3)
8. JP1 (including NSW J(A)P1), in NT and QLD Section J is replaced by BCA 2009 Section J
 - a. J1.5 – Energy Efficiency of Walls

Complies with the National Construction Code – Volume Two - Building Code of Australia 2015:

1. P2.1.1 Structural stability and resistance to actions
 - a. Part 3.3.2 Reinforced masonry
2. P2.2.2 Weatherproofing
 - a. Part 3.3.4 Weatherproofing of Masonry
3. P2.2.3 Dampness
 - a. Part 3.2.5 Footing and Slab Construction
4. P2.3.1 Protection from the spread of fire (including SA P2.3.1)
 - a. Part 3.7.1 Fire Separation
5. P2.3.4 Bushfire areas (including Tas P2.3.4)
 - a. Part 3.7.4 Bushfire areas
6. P2.4.6 Sound insulation (including NT P2.4.6 (a))
 - a. Part 3.8.6 Sound insulation
7. P2.6.1 Energy Efficiency Building (in NSW Part 2.6 does not apply, in NT Part 2.6 is replaced by BCA 2009 Part 2.6, Vic P2.6.1)
 - a. Part 3.12.1.4 External walls

Subject to the following Conditions & Limitations:

- a. This certificate is limited to the details within this certificate including the above compliance elements, product description, purpose or use as well as the attached Schedule of Product Compliance. This certification and the Schedule of Product Compliance is to be read, considered and used as a whole document.
- b. The Loxo cladding system is to be designed and constructed in accordance with the Loxo 50mm and 75mm External Wall AAC Panel System Design and Installation Manual, September Edition 2015, Loxo 50mm AAC Party Wall System Design and Installation Manual, September Edition 2015, Loxo 50mm and 75mm AAC Floor System Design and Installation Manual, September Edition 2015
- c. Compliance with Volume One FP1.5 and Volume Two P2.2.3 in respect of damp-proofing for external walls, if provided with damp-proof courses complying with AS 3700–2011 Clauses 4.7.3, 11.6, and 12.4.16.
- d. This certification includes the weather-proofing and damp-proofing requirements of the AAC walls and flooring, but does not apply to:
 - Control of condensation, which requires additional consideration; nor
 - Weatherproofing of windows, doors or other items built into the walls. For these, frames must drain to the outside of the building (not into the cavity), frames must be properly sealed and properly flashed.

John Thorpe
 CertMark International Pty Ltd

Don Grehan
 Unrestricted Building Certifier

06/10/2015
Date of Issue

06/10/2018
Date of Expiry

CMA-CM40159
Certificate Number

• This Certificate of Conformity is issued by an accredited certification body under arrangement with JAS-ANZ. The ABCB does not in any way warrant, guarantee or represent that the Product subject of this Certificate of Conformity conforms to the BCA, nor accepts any liability arising out of the use of the Product. The ABCB disclaims 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.
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Schedule of Product Compliance

The following table details the relevant clauses of the BCA related to the compliance of this product. Sections detailed as not relevant are excluded from evaluation under this certificate. These sections will need to be evaluated independently of this certificate.

Volume One

Section A – General Provisions

Specification A2.3 Fire-Resistance of Building Elements has been satisfied through CSIRO testing to AS1530.4:2005 where an FRL of 120/120/120 is required subject to the conditions of this certificate and the Loxo design and installation manuals.

Section B – Structure

Table 1		Property	Value	Units
		Ambient Density[1], ρ_{amb}	520	kg/m ³
		Dry[2] Density, ρ_{dry}	500	kg/m ³
		Working[3] Density, ρ_{design}	610	kg/m ³
		Permanent Action, G	0.3	kN/m ²
		Characteristic Unconfined Compressive Strength, f_{uc}	1.1	MPa
		Modulus of Rupture, f_{ut}	0.73	MPa
		Design Ultimate Limit State Bending Capacity, ϕM	0.12	kNm
		Design Serviceability Limit State Deflection Limit, δ_{max}	SPAN/240	
		Coefficient of contraction	0.4	Mm/min
		Coefficient of thermal expansion	10	X10 ⁻⁶ /°C

Notes:

- Ambient density is that achieved by the product when it has reached equilibrium at 23C, 50% RH. The moisture content by mass in this state is typically between 2% and 5%
- Dry density is the manufacturer's reported density, the typical frame of reference for grading AAC material. It is achieved by oven drying specimens so that the moisture content is 0%
- Working density is to be used for calculation of effects due to permanent actions.

Table 2 Fixing Specification

Wind Class	Max Horizontal Spacing for Battens and Panel Screws		Max. Panel Screw Spacing Vertically	
	Corner Zone	Typical Zone	Corner Zone	Typical Zone
N1, N2, N3, C1	600	900	500 (2 screws/600mm)	500 (2 screws/600mm)
N4, C2	600	600	250 (3 screws/600mm)	500 (2 screws/600mm)
N5, C3	450	450	250 (3 screws/600mm)	250 (3 screws/600mm)

Screw size should be No. 14 as specified

Section C – Fire Resistance

The product has been tested by the CSIRO to AS1530.4:2005 where an FRL of 120/120/120 is achieved. The product is permitted to be used where an FRL of no more than 120/120/120 is required subject to the following detail.

- External wall exposed to fire source outside with 10mm internal plasterboard lining: 120/120/90
- External wall exposed to fire source outside with 13mm internal fire-grade plasterboard lining: 120/120/120
- Party wall exposed to fire source either side with 10mm plasterboard lining both sides: 90/90/90

Section D – Access and Egress – Not Relevant

Section E – Services and Equipment – Not Relevant

Section F – Health and Amenity

Weatherproofing

Compliance with Volume One FP1.5 and Volume Two P2.2.3 in respect of damp-proofing for external walls, if provided with damp-proof courses complying with AS 3700–2011 Clauses 4.7.3, 11.6, and 12.4.16.

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This certification includes the weather-proofing and damp-proofing requirements of the AAC walls and flooring, but does not apply to:

- Control of condensation, which requires additional consideration; nor
- Weatherproofing of windows, doors or other items built into the walls. For these, frames must drain to the outside of the building (not into the cavity), frames must be properly sealed and properly flashed.

Acoustic

Compliance with FP5.2 with respect of acoustic performance of walls separating units, when detailed and constructed in accordance with:

Table 3, Acoustic Insulation		Acoustic Rating	
Loxo System	System Details	R _w	R _w +C _{tr}
70mm timber frame	• 1 layer of 10mm plasterboard both sides	63	53
90mm timber frame	• 1 layer of R2.0 insulation against the plasterboard on both sides	65	55
76mm steel frame	• Minimum 10mm cavity both sides of Loxo panel	64	53
92mm steel frame		65	55

Section G – Ancillary Provisions - Bushfire

With respect of buildings constructed in a designated bushfire prone area, when designed and constructed in accordance with the fire-rated construction specifications and details in the Loxo 50mm AAC Panel System Design and Installation Manual, September Edition 2015, and the requirements of AS 3959–2009, is acceptable for use in all bushfire attack levels including BAL–FZ.

Section H – Special Use Buildings – Not Relevant

Section I - * * * * * – Not Relevant

Section J – Energy Efficiency

The product achieves a Total R-value of at least 2.94 for winter, 2.72 for summer and up to 3.47 for winter and 3.21 for summer depending on the wall design. Refer to the relevant installation manual for applicable value.

With respect of energy efficiency of walls when designed and constructed in accordance with:

Table 4, Thermal Insulation		Total R-Value (m ² .k/W)	
Loxo System	System Details	Summer	Winter
5070-02 NS and 5090-02 NS	Based on: 10mm plasterboard lining 20-40mm cavity, no sarking, 70mm or 90mm frame, R2.0 glasswool insulation	2.63 (min.)	2.84 (min.)
5090-03 NS	20-40mm cavity, no sarking, 90mm frame, R2.5 glasswool insulation	3.11 (min.)	3.24 (min.)
5090-01 DS	40mm cavity, double-sided anti-glare foil sarking, 90mm frame, R2.5 glasswool insulation	3.49	3.83

The above figures refer to a system R-Value (i.e. including air films, cavity and other components)

In applications where complying thermal resistances of walls or floors are to be calculated, a thermal resistance of R 0.336 m².k/W shall be used for 50mm thick Loxo AAC panels.

End of Schedule

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