

Certificate number: CM40411

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THIS IS TO CERTIFY THAT

NASAHI® Low Rise Vertical External Wall Cladding System

Type and/or use of product:

A system for use on Low Rise External & Zero lot walls in load-bearing and non-load bearing applications.

Description of product:

Low-Rise External Wall and Zero lot comprising several proprietary components including non-load bearing steel reinforced Autoclaved Aerated Concrete (AAC) panels installed in a vertical configuration. Refer A2 below.

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

BCA 2022

	Volume One	Volume Two
Performance Requirement(s):	F8P1 Condensation and water vapour management - Subject to <i>limitation and condition 9</i>	H4P7 Condensation and water vapour management - Subject to <i>limitation and condition 9</i>
Deemed-to-Satisfy Provision(s):	B1D4(b)(ii) Structural provisions. Refer <i>Limitation and Condition 2</i> .	H1D7(4)(a) Structural provisions. Refer <i>Limitation and Condition 2</i> .
	C2D2(2) Fire Resistance and Stability – FRL varies, dependant of the configuration of the wall. Refer <i>Limitation and Condition 5</i> .	H2D6(4) Wall Cladding (Weatherproofing)
	C2D10 Non-combustible building elements – Refer A3.	H3D3 Fire Resistance and Stability – FRL varies, dependant of the configuration of the wall. Refer <i>Limitation and Condition 5</i> .
	C2D11(1)(g) & (i) Fire hazard properties – Subject to <i>Limitation and Condition 6 & 7</i> .	H4D9 Condensation Management – Subject to <i>limitation and condition 8</i> .
	F3D5(1)(b) Wall Cladding (Weatherproofing)	H6D2(1)(b) Energy Efficiency – External Walls. Must be used in conjunction with other building elements to achieve a Total R Value.
	F8D3 Condensation Management – Subject to <i>limitation and condition 8</i> .	H7D4 Construction in bushfire prone areas – Subject to <i>limitation and condition 10, 11, & 12</i> .
	G5D3 Construction in bushfire prone areas – Subject to <i>limitation and condition 10, 11, & 12</i> .	
	J3D8 External walls of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building	
	J4D6(4) Energy Efficiency – External Walls. Must be used in conjunction with other building elements to achieve a Total R Value.	
State or territory variation(s):	NT B1D4, QLD B1D4, WA B1D4, G5D3 (NSW), J4D6 (NSW)	TAS H4D9, NSW H7D4, QLD H7D4, AS H7D4, NSW H6D2

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



Richard Donarski – CMI



Don Grehan – Unrestricted Building Certifier

Date of issue: 17/12/2024

Date of expiry: 17/12/2027



Certificate of Conformity

Limitations and conditions:

1. Construction shall be in strict accordance with the [Nasahi Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024](#). Refer A5.
2. In all cases, it is a requirement that the NASAHI® Low Rise Vertical External Wall System incorporates;
 - a. A timber frame constructed in accordance with AS 1684-2010 series; or
 - b. A cold-formed steel frame constructed in accordance with AS 3623-1993 (R2018), or
 - c. A supporting Structure compliant with other standards as applicable.

The structural support members are designed and engineered separately as per project requirements by building designers and engineers.
3. The Nasahi® Low-Rise External Wall System has not been tested and certified for impact loading from windborne debris in Region C and D as denoted in AS 1170.2:2021. The building designer should take into consideration internal pressure resulting from dominant openings.
4. Where the NCC requires building elements and/or ancillary elements to be non-combustible or achieve specific fire resisting performance requirements, the NASAHI® Low-Rise External Wall Cladding System must be constructed to satisfy such requirements as relevant to the determined building class(es).
5. 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.
6. Nasahi® Low-Rise External Wall Cladding System must only incorporate sarking-type materials that comply with the requirements of AS/NZS 4200.1:2017, including an AS 1530.2-1993 Flammability Index not greater than 5. Sarking type material that meets this specification complies with Table S7C7 requirement to have a Flammability Index not exceeding 5.
7. Where required, NASAHI® Low Rise Vertical External Wall System must only incorporate insulation materials that conform with the requirements of AS/NZS 1530.3:1999, with a Spread of Flame Index not greater than 9, and Smoke Development Index not greater than 8 if the Spread of Flame is more than 5. Where required to be non-combustible; the insulation must comply with AS 1530.1-1994.
8. When being installed as an External Wall configuration, compliance for Part F8D3 of Vol 1 & H4D9 of Vol 2 of the 2022 BCA for Condensation management requires 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. Refer A3 & A5 Installation requirements.
9. When being installed in a Zero Lot configuration, compliance with F8P1 & H4P7 Condensation and water vapour management is satisfied via verification method F8V1 & H4V5, refer A3.
10. The NASAHI® Low Rise Vertical External 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.
11. 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. In order to maintain compliance with BAL, it is the responsibility of the Building Designer to ensure compliance is achieved in accordance with AS 3959:2018.
12. In order to comply with the NSW provisions of G5D3, a site-specific performance solution is to be prepared in line with the Planning for Bush Fire Protection 2019 guidance document.
13. 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.

Building classification/s:

Class 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. 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.



Certificate of Conformity

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

Nasahi® Low-Rise Vertical External Wall System is an aerated autoclaved concrete (AAC) lightweight precast panel, non-loadbearing ventilated cavity system suitable for external wall cladding and Zero lot boundary configurations. Installed vertically and mechanically fixed directly to the outer face of suitable wall framing by others, the system consists of Super⁵⁰ 50mm or Super^{75LD} 75mm Nasahi® AAC panels laid vertically that are screw fixed through steel battens into a steel or timber stud frame. For External cladding configurations the frame is lined with a wall wrap on the cavity side and typically has plasterboard on the inside face and bulk insulation between the studs. Once installed, a durable weatherproof coating system is applied to the external face of the Nasahi® AAC panels.

Panel thickness	50mm	75mm
Panel width	600mm	600mm
Panel lengths	2,400 mm, 2,700 mm, 2,850 mm and 3,000 mm	2,400 mm, 2,700 mm, 2,850 mm, 3,000 mm and 3,300 mm
AAC dry density	525 kg/m ³	435 kg/m ³
AAC working density	590 kg/m ³ (at 20% moisture content)	490 kg/m ³ (at 12.4% moisture content)
AAC Characteristic Compressive Strength	3.1 MPa	2.15 MPa
AAC Characteristic Flexural Strength	0.5 MPa	0.31 MPa

A3 Product specification

Fixing Requirements

Fixing details and Design Serviceability Limit State Wind Pressures, and span tables have been prepared in accordance with AS 5146.1, AS 5146.2 & AS 5146.3 and accepted engineering practice as detailed in *Nasahi® Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024*, page 18 - 21. [Nasahi Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024](#)

Source: Clarkson Consulting Services Pty Ltd, Report No. NAS_24Span_75_v1.0, Dated 4/9/2024 & Clarkson Consulting Services Pty Ltd, Report No. NAS_24Span_50_v2.0, Dated 3/9/2024

Wind Actions

Non-cyclonic wind regions N1, N2, N3, N4, N5 & N6 plus Cyclonic wind regions C1 and C2 as defined in AS/NZS 1170.2 and AS 4055 have been used in the fixing guide and span tables detailed in [Nasahi Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024](#).

Source: Clarkson Consulting Services Pty Ltd, Report No. NAS_24Span_75_v1.0, Dated 4/9/2024 & Clarkson Consulting Services Pty Ltd, Report No. NAS_24Span_50_v2.0, Dated 3/9/2024

Weatherproofing

The Nasahi® Low-Rise External Wall Cladding System using the Super⁵⁰ or Super^{75LD} Nasahi® AAC panels comply with the requirements of AS 5146.1, AS 5146.2 & AS 5146.3, and as such meet the weatherproofing requirements of F3D5 and H6D2 of the NCC 2022 Volumes 1 & 2

Source: Clarkson Consulting Services Pty Ltd, Report No. NAS_24Span_75_v1.0, Dated 4/9/2024 & Clarkson Consulting Services Pty Ltd, Report No. NAS_24Span_50_v2.0, Dated 3/9/2024



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Non-combustibility

Test for Combustibility for Materials in accordance with AS 1530.1:1994 for Nasahi® 50mm Autoclaved Aerated Concrete (AAC). The material is NOT deemed combustible - Limited to the panel only.
Source: Exova Warringtonfire, Test Report No. 365312-00.1 dated 25/08/2015.

Compliance with C2D10 is limited to the AAC panel as tested in accordance with AS 1530.1-1994 and other elements of the Nasahi® Low-Rise External Wall Cladding System including:

- gaskets, caulking, sealants, damp-proof courses, that are addressed in C2D10(4) are not required to be non-combustible; and,
- plasterboard, and sarking-type materials that do not exceed 1mm in thickness and have a flammability index of not greater than 5, that are addressed in C2D10(6) may be used wherever a non-combustible material is required.
- Installation of coating systems to the external face of an external wall must be in accordance with [Nasahi Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024.](#)

Bushfire performance

The Nasahi® Low-Rise External Wall Cladding System using the Super⁵⁰ or Super^{75LD} Nasahi® AAC panel achieves a minimum FRL of 30/30/30 as part of an external wall to achieve a bushfire resistance performance of BAL – FZ. Installation for bushfire resistance must be in accordance with the FRL constructions outlined in the [Nasahi Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024.](#)

Source: Assurance Construction Testing and Certification Pty Ltd, Report No. ACTC-8363-99R I02R00, Dated 20/11/2024

Fire resistance and stability – Nasahi® External Wall – FRL from outside

Exposed side cladding	Batten	Wall framing	Unexposed side cladding	FRL	Imposed Load (on Panel)
Nasahi® Super ⁵⁰ Panel or Nasahi® Super ^{75LD} Panel	Steel Batten	Min. 70 mm deep timber or min. 76 mm deep steel studs	10 mm thick or great Standard grade plasterboard	120/120/120	34.6 kN

Fire resistance and stability – Nasahi® External Wall – FRL from both sides

Construction Arrangement from outside to inside	FRL From outside (Exposed cladding)	Internal Lining / Plasterboard	FRL from inside
- Nasahi® Panel (Super ⁵⁰ or Super ^{75LD})	120/120/120	10 mm Standard Plasterboard	-/-/-
- Steel Battens		The FRL from the internal side of the wall system can be provided from an existing proprietary system which achieves the required FRL.	30/30/30
- Min 70mm deep timber or min 76mm deep steel stud wall framing.		The proprietary wall system is required to have sufficient evidence to achieve the required FRL.	60/60/60
- Internal Plasterboard			90/90/90
		Nasahi® Panel (50mm, 62 or 75 mm)	120/120/120

*Note: The following table establishes the effective FRL of the wall system in both direction with the internal side having a proprietary wall system that achieves the required FRL installed.

The following application is to be verified with any proposed proprietary fire grade wall system to be installed to establish the required Fire Resistance Level.

Source: Assurance Construction Testing and Certification Pty Ltd, Report No. ACTC-8363-99R I02R00, Dated 20/11/2024

Energy Efficiency

NASAHI® AAC - 50mm Cladding System									
STRUCTURAL FRAME		TOP HAT BATTEN DEPTH	SARKING / WALL WRAP TYPE	BULK INSULATION R VALUE	INTERNAL LINING	INSULATION PATH R VALUE (m2.K/W)		TOTAL WALL R VALUE (m2.K/W)	
TYPE & SPACING	STUD SIZE					Winter	Summer	Winter	Summer
Timber at 600mm Centres	70x35	15-35mm	At Stud Frame	-	10mm Plasterboard	R1.316	R1.306	-	-
			Foil Vapour Barrier	-		R1.386	R1.276	R1.380	R1.279
			Vapour Permeable	-		R0.956	R0.936	R0.989	R0.970
			Vapour Barrier or Permeable	R1.5		R2.286	R2.276	R2.197	R2.187
				R2.0		R2.786	R2.776	R2.652	R2.642
	90x45		At Stud Frame	-		R1.468	R1.458	-	-
			Foil Vapour Barrier	-		R1.386	R1.276	R1.396	R1.297
			Vapour Permeable	-		R0.956	R0.936	R1.016	R0.997
			Vapour Barrier or Permeable	R2.0		R2.786	R2.776	R2.632	R2.622
				R2.5		R3.286	R3.276	R3.074	R3.064
		R3.0	R3.786	R3.776	R3.515	R3.505			
Timber at 450mm Centres	70x35	15-35mm	At Stud Frame	-	10mm Plasterboard	R1.316	R1.306	-	-
			Foil Vapour Barrier	-		R1.386	R1.276	R1.378	R1.279
			Vapour Permeable	-		R0.956	R0.936	R0.996	R0.977
			Vapour Barrier or Permeable	R1.5		R2.286	R2.276	R2.179	R2.169
				R2.0		R2.786	R2.776	R2.64	R2.614
	90x45		At Stud Frame	-		R1.468	R1.458	-	-
			Foil Vapour Barrier	-		R1.386	R1.276	R1.398	R1.302
			Vapour Permeable	-		R0.956	R0.936	R1.028	R1.009
			Vapour Barrier or Permeable	R2.0		R2.786	R2.776	R2.601	R2.591
				R2.5		R3.286	R3.276	R3.031	R3.021
		R3.0	R3.786	R3.776	R3.460	R3.450			
Steel at 600mm Centres with R0.2 Thermal Break Tape	76x35x0.55 BMT	15-35mm	At Stud Frame	-	10mm Plasterboard	R1.069	R1.059	-	-
			Foil Vapour Barrier	-		R1.386	R1.276	R1.357	R1.252
			Vapour Permeable	-		R0.956	R0.936	R0.966	R0.947
			Vapour Barrier or Permeable	R1.5		R2.286	R2.276	R2.175	R2.165
				R2.0		R2.786	R2.776	R2.629	R2.619
	92x45x0.55 BMT		At Stud Frame	-		R1.084	R1.074	-	-
			Foil Vapour Barrier	-		R1.386	R1.276	R1.351	R1.252
			Vapour Permeable	-		R0.956	R0.936	R0.971	R0.952
			Vapour Barrier or Permeable	R2.0		R2.786	R2.776	R2.588	R2.578
				R2.5		R3.286	R3.276	R3.029	R3.019
		R3.0	R3.786	R3.776	R3.471	R3.461			

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NASAHI® AAC - 50mm Cladding System									
STRUCTURAL FRAME		TOP HAT BATTEN DEPTH	SARKING / WALL WRAP TYPE	BULK INSULATION R VALUE	INTERNAL LINING	INSULATION PATH R VALUE (m2.K/W)		TOTAL WALL R VALUE (m2.K/W)	
TYPE & SPACING	STUD SIZE					Winter	Summer	Winter	Summer
Steel at 450mm Centres with R0.2 Thermal Break Tape	76x35x0.55 BMT	15-35mm	At Stud Frame	-	10mm Plasterboard	R1.069	R1.059	-	-
			Foil Vapour Barrier	-		R1.386	R1.276	R1.351	R1.252
			Vapour Permeable	-		R0.956	R0.936	R0.968	R0.950
			Vapour Barrier or Permeable	R1.5		R2.286	R2.276	R2.152	R2.142
				R2.0		R2.786	R2.776	R2.597	R2.587
	92x45x0.55 BMT		At Stud Frame	-		R1.084	R1.074	-	-
			Foil Vapour Barrier	-		R1.386	R1.276	R1.344	R1.248
			Vapour Permeable	-		R0.956	R0.936	R0.974	R0.955
			Vapour Barrier or Permeable	R2.0		R2.786	R2.776	R2.547	R2.537
				R2.5		R3.286	R3.276	R2.977	R2.967
		R3.0	R3.786	R3.776	R3.406	R3.396			

NASAHI® AAC - 75mm Cladding System									
STRUCTURAL FRAME		TOP HAT BATTEN DEPTH	SARKING / WALL WRAP TYPE	BULK INSULATION R VALUE	INTERNAL LINING	INSULATION PATH R VALUE (m2.K/W)		TOTAL WALL R VALUE (m2.K/W)	
TYPE & SPACING	STUD SIZE					Winter	Summer	Winter	Summer
Timber at 600mm Centres	70x35	15-35mm	At Stud Frame	-	10mm Plasterboard	R1.647	R1.637	-	-
			Foil Vapour Barrier	-		R1.717	R1.607	R1.710	R1.609
			Vapour Permeable	-		R1.287	R1.267	R1.319	R1.300
			Vapour Barrier or Permeable	R1.5		R2.616	R2.606	R2.528	R2.518
				R2.0		R3.117	R3.107	R2.982	R2.972
	90x45		At Stud Frame	-		R1.798	R1.788	-	-
			Foil Vapour Barrier	-		R1.717	R.607	R1.726	R1.628
			Vapour Permeable	-		R1.287	R1.267	R1.346	R1.327
			Vapour Barrier or Permeable	R2.0		R3.117	R3.107	R2.963	R2.953
				R2.5		R3.617	R3.607	R3.405	R3.395
		R3.0	R4.116	R4.106	R3.846	R3.836			
Timber at 450mm Centres	70x35	15-35mm	At Stud Frame	-	10mm Plasterboard	R1.647	R1.637	-	-
			Foil Vapour Barrier	-		R1.717	R1.607	R1.709	R1.610
			Vapour Permeable	-		R1.287	R1.267	R1.326	R1.307
			Vapour Barrier or Permeable	R1.5		R2.616	R2.606	R2.510	R2.500
				R2.0		R3.117	R3.107	R2.955	R2.945
	90x45		At Stud Frame	-		R1.798	R1.788	-	-
			Foil Vapour Barrier	-		R1.717	R.607	R1.728	R1.632
			Vapour Permeable	-		R1.287	R1.267	R1.359	R1.340

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STRUCTURAL FRAME		TOP HAT BATTEN DEPTH	SARKING / WALL WRAP TYPE	NASAHI® AAC - 75mm Cladding System		INSULATION PATH R VALUE (m2.K/W)		TOTAL WALL R VALUE (m2.K/W)	
TYPE & SPACING	STUD SIZE			BULK INSULATION R VALUE	INTERNAL LINING	Winter	Summer	Winter	Summer
Steel at 600mm Centres with R0.2 Thermal Break Tape	76 x 35 x 0.55 BMT	15-35mm	Vapour Barrier or Permeable	R2.0	10mm Plasterboard	R3.117	R3.107	R2.931	R2.921
				R2.5		R3.617	R3.607	R3.361	R3.351
				R3.0		R4.116	R4.106	R3.791	R3.781
			At Stud Frame	-		R1.399	R1.389	-	-
			Foil Vapour Barrier	-		R1.717	R1.607	R1.688	R1.587
			Vapour Permeable	-		R1.287	R1.267	R1.297	R1.278
	92 x 45 x 0.55 BMT	15-35mm	Vapour Barrier or Permeable	R1.5	R2.616	R2.606	R2.505	R2.495	
				R2.0	R3.117	R3.107	R2.960	R2.950	
			At Stud Frame	-	R1.414	R1.404	-	-	
			Foil Vapour Barrier	-	R1.717	R1.607	R1.681	R1.583	
			Vapour Permeable	-	R1.287	R1.267	R1.301	R1.283	
				R2.0	R3.117	R3.107	R2.918	R2.908	
Steel at 450mm Centres with R0.2 Thermal Break Tape	76 x 35 x 0.55 BMT	15-35mm	Vapour Barrier or Permeable	R2.5	10mm Plasterboard	R3.617	R3.607	R3.360	R3.350
				R3.0		R4.116	R4.106	R3.801	R3.791
			At Stud Frame	-		R1.399	R1.389	-	-
			Foil Vapour Barrier	-		R1.717	R1.607	R1.682	R1.583
			Vapour Permeable	-		R1.287	R1.267	R1.299	R1.280
			Vapour Barrier or Permeable	R1.5		R2.616	R2.606	R2.483	R2.473
	92 x 45 x 0.55 BMT	15-35mm	Vapour Barrier or Permeable	R2.0	R3.117	R3.107	R2.928	R2.918	
			At Stud Frame	-	R1.414	R1.404	-	-	
			Foil Vapour Barrier	-	R1.717	R1.607	R1.674	R1.578	
			Vapour Permeable	-	R1.287	R1.267	R1.305	R1.286	
				R2.0	R3.117	R3.107	R2.877	R2.867	
			Vapour Barrier or Permeable	R2.5	R3.617	R3.607	R3.307	R3.297	
	R3.0	R4.116	R4.106	R3.737	R3.727				

Source: Clarkson Consulting Services Pty Ltd, Report No. NAS_24_50mm Therm01_v2.1, Dated 10/9/2024 & Clarkson Consulting Services Pty Ltd, Report No. NAS_24_75mm Therm01_v1.0, Dated 3/7/2024.

Condensation Management

When used in a Dual Zero Lot configuration -

Speckel Consulting has been appointed by AAC Building Products Pty Ltd to undertake a 1D hygrothermal assessments of typical and dual zero boundary wall systems in Sydney, Melbourne, Darwin and Hobart. The primary aim of this assessment is to compare the annual moisture profiles in 1D modelling to align a level of condensation risk against 'worst case' external and internal moisture scenarios.

	Climate Zone	Locality	Wall Type	Panel Thickness	Mould Growth Index < 3.0
A typical 3 bedroom Class 1 of 260 m³	5	Sydney, Perth	Boundary	37 mm – 75 mm	Pass
			Typical External		Pass
	6	Melbourne, Perth	Boundary		Pass
			Typical External		Pass
	7	Hobart, Canberra	Boundary		Pass
			Typical External		Pass
	1, 2 & 3	Darwin (Brisbane and Alice Springs)	Boundary		Pass
Typical External			Pass		

	Climate Zone	Locality	Wall Type	Panel Thickness	Mould Growth Index < 3.0
A typical 2 bedroom Class 2 of 168 m³	5	Sydney, Perth	Boundary	37 mm – 75 mm	Pass
			Typical External		Pass
	6	Melbourne, Perth	Boundary		Pass
			Typical External		Pass
	7	Hobart, Canberra	Boundary		Pass
			Typical External		Pass
	1, 2 & 3	Darwin (Brisbane and Alice Springs)	Boundary		Pass
Typical External			Pass		

Source: Speckle Consulting Pty Ltd, Report 0259(02); Dated 27/11/2024.

When used in an External Wall configuration –

Wall wrap in accordance with AS/NZS 4200.1:2017 must be used with the Nasahi[®] External Wall System to ensure a cavity is maintained between the Nasahi[®] Panel and insulation, which further improves the energy efficiency of the system.

The wall wrap must comply with relevant condensation management provisions of the NCC and be installed in accordance with AS 4200.2:2017 including taping at all joins and edges.

Source: Nasahi Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024.

A4 Manufacturer and manufacturing plant(s)

This field is optional. Contact Certificate Holder for details.

A5 Installation requirements

Only to be installed in accordance with the [Nasahi Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024](#).

When Nasahi[®] AAC products are installed with their base at or below grade, the following conditions must apply:

1. The maximum depth of embedment of Nasahi[®] AAC products below grade is 100mm (ie no more than 100mm above the lowest part of the Nasahi[®] AAC).
2. Nasahi[®] AAC products must not be used to retain garden beds, earth, soil or other organic matter, Nasahi[®] AAC is not to be used as any part of a retaining wall structure.
3. The base of the Nasahi[®] AAC product must be coated with "Nasahi Base Sealer" prior to installation.
4. The external vertical face of the Nasahi[®] AAC product must be coated with "Nasahi Base Sealer" up to 150mm above the exposed part of the panel (above pavement level and/or FGL) after installation but prior to render coating, covering the panel to panel joints.
5. To promote drying of the soil and subsurface adjacent to the external wall, drainage of the Finished Ground Level (and pavements) must fall away from the building at a minimum grade of 1:100.
6. Even when coated, the builder must ensure external walls are not constantly wet and all stormwater is directed away from the building and external AAC panels.
7. Details shown on Nasahi[®] drawing "Base Panel Details" Detail no 1.1, dated 22 May 2023 & "Slab Edge Details" (Vertical Panels), refer details 3.4, 3.5 and 3.6 shall apply.
8. DPC must be installed to maintain a continuous damp barrier around the perimeter of the building and the wall cavity must be closed.
9. Suitable Termite protection (ie reticulation system) must be installed in accordance with AS3660.1 and maintained in accordance with AS3660.2, all soil adjacent to any Nasahi[®] AAC panel below grade must be suitably treated for Termite control.

Installation when below grade to following the following technical details:

- [Nasahi Base Panel Details" Detail no 1.1 Dated 22/05/2023](#)
- Slab Edge Details" (Vertical Panels), refer details 3.4, 3.5 and 3.6 in [Nasahi Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024](#).

Source: Clarkson Consulting Services Pty Ltd, Report for Installation at or Below Grade; Dated 9/12/2024.

Damp Rising

The damp-proofing performance of the Nasahi[®] Low-Rise External Wall System to prevent unhealthy or dangerous conditions, or loss of amenity and undue dampness or deterioration of building elements is primarily achieved based on detailing that requires the Nasahi[®] Low-Rise External Wall System to be installed with a minimum **75mm** clearance to well drained open ground or finished ground level (Ref: AS 5146.3, Fig. 4.4.3(S)).

In addition, a damp proof course beneath the bottom of the panel "Damp-Proof Courses must comply with AS 2904 and be installed in accordance with NCC requirements.", and "Damp proof course min. height 150mm.", see the [Nasahi Low-Rise External Wall System, Vertical Design and Installation Guide, Super50 & Super 75LD, Edition: November 2024](#).

A6 Other relevant technical data

Wind Pressures

Based on Testing undertaken on the Nasahi® 50mm AAC cladding panel, the following wind pressures have been confirmed.

- The Nasahi® Super⁵⁰ AAC Cladding Panels when supported at 450mm stud spacing, pass the Strength Limit State test requirements of AS4040.2 up to the Strength Limit State Pressure of – 5.3 kPa for non-cyclonic wind regions.
- The Nasahi® Super⁵⁰ AAC Cladding Panels when supported at 600mm stud spacing, pass the Strength Limit State test requirements of AS4040.2 up to the Strength Limit State Pressure of – 3.4 kPa for non-cyclonic wind regions.

Nasahi® AAC External Wall Systems using Nasahi® 75mm AAC panels are likely to sustain higher wind pressures, however they have not been subject to weatherproofing testing and shall therefore be subject to the wind pressure limits of the as tested Nasahi® 50mm AAC External Wall Systems. The Nasahi® AAC External Wall Systems when installed and fixed in accordance with the technical literature provides a layer of protection preventing moisture transfer to any moisture sensitive materials, such as insulation, plasterboard & internal fixtures.

The Nasahi® AAC External Wall Systems, when constructed in accordance with the instructions contained within the technical literature and this report, will resist the penetration of moisture to any moisture sensitive materials contained within the construction, such as Insulation, Plasterboard and Internal Fixtures, under normal serviceability conditions.

For AAC External Wall systems compliant with the AS 5146 series of Standards on Autoclaved Aerated Concrete (AAC), a Deemed to Satisfy (DtS) compliance pathway is provided in BCA 2022 for Weatherproofing. The DtS pathway for Weatherproofing compliance is detailed in BCA 2022 Volume 1 F3D5 (1)(b) and BCA 2022 Volume 2 H2D6 (4) by reference to H1D7 (4), however in the event of the performance pathway being required, a Performance based Design Brief is available on request. Contact certificate holder for details.

Source: Clarkson Consulting Services Pty Ltd / Report No. V1.1_240530_EW, Dated 30/05/2024

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

1. Structural Provisions A5G3(1)(e). Reports from a professional engineer.
2. Fire Safety Provisions A5G3(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.
3. Thermal Provisions A5G3(1)(e). Reports from a professional engineer.
4. Weatherproofing Provision A5G3(1)(d)&(e). Reports from Accredited Testing Laboratories and a professional engineer.

B2 Reports

1. Clarkson Consulting Services Pty Ltd, Report No. NAS_24Span_75_v1.0, Dated 4/9/2024 The report provides compliance towards the following clauses: B1D4, H1D7, F3D5 & H2D6
2. Clarkson Consulting Services Pty Ltd, Report No. NAS_24Span_50_v2.0, Dated 3/9/2024. The report provides compliance towards the following clauses: B1D4, H1D7, F3D5 & H2D6.
3. Clarkson Consulting Services Pty Ltd, Report No. NAS_24_50mm Therm01_v2.1, Dated 10/9/2024. This report provides compliance with J3D8, J4D6 & H6D2
4. Clarkson Consulting Services Pty Ltd, Report No. NAS_24_75mm Therm01_v1.0, Dated 3/7/2024. This report provides compliance with J3D8, J4D6 & H6D2.
5. Exova Warringtonfire Aus Pty Ltd; Nata Accreditation No. 3277; Report No. 365312-00.1; Testing in accordance with AS1530.1-1994; Dated 25/08/2015. This report provides compliance with C2D10.
6. WarringtonFire Australia Pty Ltd, Nata Accreditation No. 3277, Report No. FRT240013, Dated 23/7/2024. This report provides compliance with C2D2, H3D3, G5D3 & H7D4.
7. WarringtonFire Australia Pty Ltd, Nata Accreditation No. 3277, Report No. FRT240161, Dated 16/8/2024. This report provides compliance with C2D2, H3D3, G5D3 & H7D4.
8. Assurance Construction Testing and Certification Pty Ltd, IAS accreditation TL-1162, Report No. ACTC-8363-99R I02R00, Dated 20/11/2024. This report provides compliance with C2D2, H3D3, G5D3 & H7D4.
9. Speckle Consulting Pty Ltd, Report 0259(02) - Hygrothermal Assessments; Dated 27/11/2024. This report provides compliance with F8P1 & H4P7 through the Verification method for Zero Lot configurations.
10. Clarkson Consulting Services Pty Ltd, Report No. V1.1_240530_EW, Dated 30/05/2024. This report provides compliance with data contained within A6.
11. Clarkson Consulting Services Pty Ltd, Report for Installation at or Below Grade; Dated 9/12/2024. This report provides compliance with data contained within A5.

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