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Certificate Holder:



Stoddart Group Pty Ltd
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Certificate number: CM40286 Rev1

THIS IS TO CERTIFY THAT

STAAC Wall 50® Vertical External Wall Cladding System

Type and/or use of product:

House/dwelling, low-rise multi-residential external façade wall system.

Description of product:

STAAC Wall 50® Vertical External Wall Cladding System comprises a steel reinforced 50mm autoclaved aerated concrete (AAC) 510kgm³ panel that is installed vertically across horizontal top hats with top hats fixed to steel or timber stud framing with proprietary components.

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

BCA 2022

	Volume One	Volume Two
Performance Requirement(s):	B1P1(1), (2)(a), (b), (c) & (d) Structural reliability	H1P1(1), (2)(a), (b), (c) & (d) Structural reliability and resistance
	F3P1 Weatherproofing – Refer <i>Limitation and condition 6</i>	H2P2 Weatherproofing – Refer <i>Limitation and condition 6</i>
Deemed-to-Satisfy Provision(s):	C2D2(2) Fire resistance and stability – Subject to <i>Limitation and condition 2</i> . Refer A3 for FRLs achieved.	H3D2 Non-combustible building elements – Limited to the STAAC Wall 50® panel only
	C2D10 Non-combustible building elements – Limited to the STAAC Wall 50® panel only	H3D3 Fire separation of external walls – Subject to <i>Limitation and condition 2</i> . Refer A3 for FRLs achieved.
	F8D3 Condensation management - Pliable building membrane. Refer <i>Limitation and condition 9</i>	H4D9 Condensation management - Pliable building membrane. Refer <i>Limitation and condition 9</i>
	G5D3 Construction in bushfire prone areas – BAL-FZ	H7D4 Construction in bushfire prone areas – BAL-FZ
	J4D6 Energy efficiency - Walls – Refer A3	H6D2(1)(b)(i) Energy Efficiency – External walls – Refer A3
State or territory variation(s):	G5D3 (NSW)	H4D9 (Tas), 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:

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: 13/09/2023

Date of expiry: 19/06/2026



Certificate of Conformity

1. For Type A & B construction, the use of the STAAC Wall 50[®] System must be supported by a site-specific Performance Solution where the BCA requires building elements and/or ancillary elements to be non-combustible. Acceptance or otherwise of the site-specific Performance Solution is at the discretion of the appropriate Authority subject to the regulatory framework of the relevant State or Territory.
2. 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.
3. The scope of this Certification does not include penetrations. Any proposed penetrations must be referred to the Certificate Holder.
4. Construction methods for external walls required to be fire resisting in relation to Class 1 and 10 buildings and structures must comply with Part 9.2.3 of the ABCB Housing Provisions.
5. The installation of STAAC Wall 50[®] external wall cladding system must not deviate from the contents of the [Houses and Low Rise Multi Residential 50mm External Walls Design and Installation Guide Version July 2023](#).
6. To satisfy F3P1 & H2P2 via verification, limited to N1 – N3, the relevant design is required to meet the criteria of F3V1 and/or V2.2.1 to the satisfaction of the Appropriate Authority as defined by the NCC. The site specific building must;
 - (a)(i) have a risk score of 20 or less, when the sum of all risk factor scores is determined in accordance with Table F3V1a/H2V1a; and
 - (a)(ii) not be subjected to an ultimate limit state wind pressure of more than 2.5kPa; and
 - (a)(iii) include only windows that comply with AS 2047.

Compliance with Weatherproofing is limited to the tested specimen detailed in A3, deviations from this specimen, is subject to site specific design and approval by the regulatory authority.
7. STAAC Wall 50[®] Vertical External Wall Cladding System is subject to design and certification of the stud frame by a qualified professional structural engineer and must be constructed in accordance with AS 5146.3:2018.
8. STAAC Wall 50[®] External Walls have not been tested and certified for impact loading from windborne debris in Region C and D as denoted in AS/NZS 1170.2:2011 (R2016). The building designer should take into consideration internal pressure resulting from dominant openings.
9. Where used in external walls, the AAC panels must be separated from water sensitive framing materials by a pliable building membrane that complies with AS/NZS 4200.1 and that is installed in accordance with AS 4200.2. Such membrane must be vapour permeable for installations in climate zones 6, 7 and 8.
10. In all installations the minimum clearance between the underside of panel and the adjoining surface level below must comply with the specification in Part 7.5.7 of the ABCB Housing Provisions.
11. This certification is limited to low rise construction of maximum two storeys.
12. The STAAC Wall 50[®] Vertical External Wall Cladding System is suitable for use bushfire prone areas up to and including BAL - FZ. Refer FRL outlined in 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.
13. 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.
14. 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.
15. 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.

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.

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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 one.

A2 Description of product

STAAC Wall 50® Panel Physical Properties

Thickness:	50mm, tolerance: ±1.5mm
Standard Width:	600mm, tolerance: ±1.5mm
Standard Length:	2000, 2200, 2400, 2550, 2700, 2750, 2850, 3000mm, tolerance: ±5mm
Edge Straightness Deviation (max.):	±1.5mm
Reinforcement:	5 x 4mm diameter steel bars for 2400-2700mm long panels. 5x 5mm diameter bars for 2850 and 3000mm panels
Nominal Dry Density:	510 kg/m ³
Average working density:	689 kg/m ³ at 35% moisture content
Average service life density:	561 kg/m ³ at 10% moisture content

System Components

STAAC Wall 50® panel	Length (mm)	Width (mm)
	2000	600
	2200	600
	2400	600
	2550	600
	2700	600
	2750	600
	2850	600
	3000	600
Steel Battens	Perforated steel top hat battens in 24mm and 35mm depth to provide immediate support to STAAC Wall 50® panels.	
Fasteners & Fixings	<ul style="list-style-type: none"> - Internal fixing of top hat to timber stud frame; 12-11x35mm hex head type 17 screw. - Fixing of top hat to steel framing; 10-16x16mm hex head self-drilling screw. - Face fixing of STAAC Wall 50® panels to top hat 14-10x65mm bugle head type 17 screw. 	
Hebel® Mortar	Hebel® Mortar (supplied in 20kg bags) when required is used as a thick bed mortar base to provide a level base for STAAC Wall 50® installation as well as providing acoustic and fire protection at the base of the panels.	
Hebel® Adhesive	Hebel® Adhesive (supplied in 20kg bags) is used for gluing the STAAC Wall 50® panels together at vertical and horizontal joints.	
Hebel® Patch	Minor chips or damage to STAAC Wall 50® panels are to be repaired using Hebel® Patch (supplied in 10kg bags).	
Anti-Corrosion Protection Paint	To coat exposed reinforcement during cutting.	

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A3 Product specification

Non-combustibility

The certificate holder has provided the Certificate of Test for Combustibility for Materials in accordance with AS 1530.1:1994 for STAAC Wall 50® – Autoclaved Aerated Concrete (AAC) of density 510kg/m³. **The material is NOT deemed combustible - Limited to the panel only.**

Source: CSIRO; NATA Accreditation No. 165; Report No. FNC12427B dated 30/07/2019.

FRL Systems -CSIRO Report FCO-3241

Contact the Certificate Holder for construction details and drawings to achieve Fire-resistance level (FRL) - 90/90/90 from panel side only.

System Components

Component	Detail	Description
AAC Panel	Name	STAAC Wall 50®
	Material	AAC as tested 682kg/m ³ 600mm wide, 50mm thick and 2400mm to 3000mm long. Manufacturer states Dry Density to be 510kg/m ³
	Installation	Installed vertically and laterally supported by aluminium clips at the top and bottom that are fixed to the structural frame. Vertical joints clued together with CSR Hebel Adhesive. Panels may be filled at the bottom with Hebel Mortar or with CSR Hebel Adhesive.
Furring Channel and Fixing	Name	Tophat and clips
	Product	Tophat - RONDO #303 with RONDO 311D direct fixing clip Tophat – 24mm deep (min) steel tophat screw fixed to framing
	Material	Galvanised mild steel.
	Installation	The RONDO #303 tophat is screw fixed to the STAAC Wall 50® with a 12-11 x 35 type 17 hex head screw and clip fixed to the RONDO 311D direct fixing clip. RONDO 311D direct fixing clip is screw fixed to timber frame with 2/12-11x35 type 17 hex head screws or for steel frame 2/10-16x16 Hex Tek screws. The STAAC Wall 50® is screw fixed to the 24mm deep (min) steel top hat with a 14-10 x 65mm bugle head screw. The tophat is screw fixed to timber frame with 2/12-11x35 type 17 hex head screws or for steel frame 2/10-16x16 Hex Tek screws.
Structural Timber Frame	Name	Timber wall and floor framing
	Material	Structural timber designed in accordance with AS 1684 or AS 1720.1.
	Installation	Installed in accordance with above standards or project engineer's specifications.
Structural Steel Frame	Name	Steel wall and floor framing
	Material	Light gauge structural steel frame designed in accordance with "AS/NZS 4600" or "Residential and low-rise steel framing: NASH Standard – Residential and Low-Rise Steel Framing, Part 1 or Part 2"
	Installation	Installed in accordance with above standards or project engineer's specifications.
Wall Linings	Name	Internal Wall Linings
	Material	Material Specification
		Plasterboard 10mm Gyprock plus
		Plasterboard Any other standard grade, water grade, acoustic grade, fire grade plasterboard manufactured in accordance with AS 2589 and with a density greater 5.7kg/m ² .
		Fibre Cement Any 6mm fibre cement manufactured in accordance with AS 2908.2 and greater than 6mm in thickness with or without tiles.
	Installation	Linings may be fixed with "screw and glue" installation methods in accordance with manufacturer's specifications. Lining joints shall be taped and set in accordance with manufacturer's specifications.
Insulation	Name	Wall Insulation
	Material	Polyester, glasswool or Rockwool or no insulation may be installed in wall cavities without detrimentally affecting their FRL.

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Vertical and horizontal panel join filling	Installation	Installed in accordance with project specifications.
	Name	Joint Sealant.
	Material	CSR FireSeal™ sealant over PE backing rod.
	Installation	CSR FireSeal™ sealant shall be installed in gaps up to 10mm wide and 10mm deep over PE backing rod.

Source: CSIRO; NATA Accreditation No. 165; Assessment Report No. FCO-3241 Rev B, dated 25/11/2022.

Thermal calculations

STAAC Wall 50® (dry density 510 kg/m³) Wall Systems – Determinations based upon AS/NZS 4859:2018, Thermal insulation materials for buildings, including thermal bridging from framing.

JMF Cal	Description	Insulation Path		Overall (Pine Framing 2.3% area))		Overall (Steel framing 9.5% area)	
		Total R _{TI} m² K/W		Total R, m² K/W		Total R, m² K/W	
		Summer	Winter	Summer	Winter	Summer	Winter
107w26011n	STAAC Wall 50® (4% M.C.), 24+64=88mm unventilated unreflective air space, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R0.70	R0.72	R0.74	R0.76	R0.69	R0.70
107w26011	STAAC Wall 50® (4% M.C.), 24mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP Plus e=R0.09*R1.36/R0.05, 64mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.63	R1.62	R1.66	R1.71	R1.55	R1.60
107w26021	STAAC Wall 50® (4% M.C.), 24mm unventilated semi-reflective air space, Bradford Polyair Performa 4.0 XHD eR0.05/R0.03, 64mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.89	R1.93	R1.92	R1.96	R1.81	R1.85
107w26031	STAAC Wall 50® (4% M.C.), 24mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.84	R2.98	R2.68	R2.80	R2.44	R2.56
107w26041	STAAC Wall 50® (4% M.C.), 24mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.50	R2.64	R2.33	R2.45	R2.00	R2.11
107w26051n	STAAC Wall 50® (4% M.C.), 35+64=99mm unventilated unreflective air space, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R0.70	R0.72	R0.74	R0.76	R0.69	R0.70
107w26051	STAAC Wall 50® (4% M.C.), 35mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP Plus e=R0.09*R1.36/R0.05, 64mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.63	R1.68	R1.66	R1.71	R1.55	R1.60
107w26061	STAAC Wall 50® (4% M.C.), 31mm unventilated semi-reflective air space, Bradford Polyair Performa 4.0 XHD eR0.05/R0.03, 64mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.89	R1.93	R1.92	R1.96	R1.81	R1.85
107w26071	STAAC Wall 50® (4% M.C.), 35mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.84	R2.98	R2.68	R2.80	R2.44	R2.56
107w26081	STAAC Wall 50® (4% M.C.), 35mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.50	R2.64	R2.33	R2.45	R2.00	R2.11
107w27051n	STAAC Wall 50® (4% M.C.), 16+64=80mm unventilated unreflective air space, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R0.70	R0.72	R0.74	R0.76	R0.69	R0.70
107w27051	STAAC Wall 50® (4% M.C.), 16mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP Plus e=R0.09*R1.36/R0.05, 64mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.56	R1.60	R1.59	R1.63	R1.49	R1.53
107w27061	STAAC Wall 50® (4% M.C.), 12mm unventilated semi-reflective air space, Bradford Polyair Performa 4.0 XHD eR0.05/R0.03, 64mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.70	R1.72	R1.72	R1.74	R1.61	R1.63
107w27071	STAAC Wall 50® (4% M.C.), 16mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.77	R2.91	R2.61	R2.72	R2.36	R2.46
107w27081	STAAC Wall 50® (4% M.C.), 16mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.49	R2.63	R2.32	R2.44	R1.99	R2.09
107w2601n	STAAC Wall 50® (4% M.C.), 24+70=94mm unventilated unreflective air space, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R0.70	R0.72	R0.74	R0.76	R0.69	R0.70

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107w2601	STAAC Wall 50° (4% M.C.), 24mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP Plus e=R0.09*R1.36/R0.05, 70mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.63	R1.68	R1.66	R1.71	R1.55	R1.60
107w2602	STAAC Wall 50° (4% M.C.), 20mm unventilated semi-reflective air space, Bradford Polyair Performa 4.0 XHD eR0.05/R0.03, 70mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.89	R1.93	R1.92	R1.96	R1.81	R1.85
107w2603	STAAC Wall 50° (4% M.C.), 24mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.97	R3.13	R2.78	R2.97	R2.53	R2.65
107w2604	STAAC Wall 50° (4% M.C.), 24mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.63	R2.79	R2.43	R2.54	R2.08	R2.19
107w2605n	STAAC Wall 50° (4% M.C.), 35+70=105mm unventilated unreflective air space, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R0.70	R0.73	R0.74	R0.77	R0.69	R0.71
107w2605	STAAC Wall 50° (4% M.C.), 35mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP Plus e=R0.09*R1.36/R0.05, 70mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.62	R1.68	R1.66	R1.71	R1.55	R1.60
107w2606	STAAC Wall 50° (4% M.C.), 31mm unventilated semi-reflective air space, Bradford Polyair Performa 4.0 XHD eR0.05/R0.03, 70mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.89	R1.93	R1.92	R1.96	R1.81	R1.85
107w2607	STAAC Wall 50° (4% M.C.), 35mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.95	R3.13	R2.77	R2.93	R2.51	R2.67
107w2608	STAAC Wall 50° (4% M.C.), 35mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.61	R2.82	R2.41	R2.58	R2.06	R2.21
107w2705n	STAAC Wall 50° (4% M.C.), 16+70=86mm unventilated unreflective air space, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R0.70	R0.73	R0.74	R0.77	R0.69	R0.71
107w2705	STAAC Wall 50° (4% M.C.), 16mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP Plus e=R0.09*R1.36/R0.05, 70mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.56	R1.60	R1.59	R1.63	R1.49	R1.53
107w2706	STAAC Wall 50° (4% M.C.), 12mm unventilated semi-reflective air space, Bradford Polyair Performa 4.0 XHD eR0.05/R0.03, 70mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.70	R1.72	R1.72	R1.74	R1.61	R1.63
107w2707	STAAC Wall 50° (4% M.C.), 16mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.90	R3.06	R2.71	R2.84	R2.44	R2.56
107w2708	STAAC Wall 50° (4% M.C.), 16mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford New Generation SoundScreen R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.63	R2.78	R2.42	R2.55	R2.07	R2.18
107w2609n	STAAC Wall 50° (4% M.C.), 24+90=114mm unventilated unreflective air space, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R0.70	R0.73	R0.74	R0.77	R0.69	R0.71
107w2609	STAAC Wall 50° (4% M.C.), 24mm unventilated semireflective air space, Bradford Thermoseal Wall Wrap XP Plus e=R0.09*R1.36/R0.05, 90mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.63	R1.68	R1.66	R1.71	R1.55	R1.60
107w2610	STAAC Wall 50° (4% M.C.), 20mm unventilated semi-reflective air space, Bradford Polyair Performa 4.0 XHD eR0.05/R0.03, 90mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.89	R1.93	R1.82	R1.96	R1.81	R1.85
107w2611	STAAC Wall 50° (4% M.C.), 24mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford Gold Wall Batts R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.95	R3.13	R2.77	R2.93	R2.51	R2.67
107w2612	STAAC Wall 50° (4% M.C.), 24mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford Gold Wall Batts R2.5, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R3.11	R3.31	R2.78	R2.93	R2.32	R2.46
107w2613	STAAC Wall 50° (4% M.C.), 24mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford Polymax Wall Batt R2.5, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R3.11	R3.31	R2.78	R2.93	R2.32	R2.46
107w2614	STAAC Wall 50° (4% M.C.), 24mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford Gold Wall Batts R2.7 HP, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R3.32	R3.51	R2.91	R3.06	R2.42	R2.55
107w2615n	STAAC Wall 50° (4% M.C.), 35+90=125mm unventilated unreflective air space, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R0.70	R0.73	R0.74	R0.77	R0.69	R0.71
107w2615	STAAC Wall 50° (4% M.C.), 35mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP Plus e=R0.09*R1.36/R0.05, 90mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.63	R1.68	R1.66	R1.71	R1.55	R1.60
107w2616	STAAC Wall 50° (4% M.C.), 31mm unventilated semi-reflective air space, Bradford Polyair Performa 4.0 XHD eR0.05/R0.03, 90mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.89	R1.93	R1.92	R1.96	R1.81	R1.85

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107w2617	STAAC Wall 50® (4% M.C.), 35mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford Gold Wall Batts R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.95	R3.13	R2.77	R2.93	R2.51	R2.67
107w2618	STAAC Wall 50® (4% M.C.), 35mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford Gold Wall Batts R2.5, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R3.11	R3.31	R2.78	R2.93	R2.32	R2.46
107w2619	STAAC Wall 50® (4% M.C.), 35mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford Polymax Wall Batt R2.5, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R3.11	R3.31	R2.78	R2.93	R2.32	R2.46
107w2620	STAAC Wall 50® (4% M.C.), 35mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford Gold Wall Batts R2.7 HP, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R3.32	R2.62	R2.91	R3.06	R2.42	R2.55
107w2715n	STAAC Wall 50® (4% M.C.), 16+90=106mm unventilated unreflective air space, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R0.70	R0.73	R0.74	R0.77	R0.69	R0.71
107w2715	STAAC Wall 50® (4% M.C.), 16mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP Plus e=R0.09*R1.36/R0.05, 90mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.56	R1.60	R1.59	R1.96	R1.49	R1.53
107w2716	STAAC Wall 50® (4% M.C.), 12mm unventilated semi-reflective air space, Bradford Polyair Performa 4.0 XHD eR0.05/R0.03, 90mm unventilated reflective air space (stud frame), 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R1.70	R1.72	R1.72	R1.74	R1.61	R1.63
107w2717	STAAC Wall 50® (4% M.C.), 16mm unventilated semi-reflective air space, Bradford Thermoseal Wall Wrap XP e=R0.09*R1.36/R0.87, Bradford Gold Wall Batts R2.0, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R2.89	R3.08	R2.70	R2.85	R1.43	R2.57
107w2718	STAAC Wall 50® (4% M.C.), 16mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford Gold Wall Batts R2.5, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R3.11	R3.30	R2.77	R2.91	R2.31	R2.44
107w2719	STAAC Wall 50® (4% M.C.), 16mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford Polymax Wall Batt R2.5, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R3.11	R3.30	R2.77	R2.91	R2.31	R2.44
107w2720	STAAC Wall 50® (4% M.C.), 16mm unventilated nonreflective air space, Bradford Enviroseal ProctorWrap RW, Bradford Gold Wall Batts R2.7 HP, 10mm Gyprock Plasterboard Plus (5.7kg/m²)	R3.31	R2.50	R2.91	R3.04	R2.41	R2.53

NOTES:

- Above calculations all include 10mm Gyprock Plasterboard Plus (5.7 kg/m² density) indoor lining. Assumes Bradford Polyair Performa 4.0 XHD is compressed at fixings, so air space adjacent it is reduced by its 4mm thickness.
- Assumes thermal resistance of STAAC Wall 50® (dry density 510kg/m³) is R0.313 m².K/W for 4.0% M.C..
- Pine framing assumed to be 45mm wide and studs 600mm centres + top and bottom plates and one noggin.
- Steel framing assumed to be 35mm thick and studs 600mm centres + top and bottom plates and one noggin. (No thermal break present.)
- Updated 16/06/2020 with thermally bridged results (this replace prior reports). For 6mm skim render, add R0.04m².K/W.
- Total R-values apply to installation of both vertically and horizontally orientated 50mm thick Hebel panels when fixed to the structural frame variety of battens/top hats as a cladding system.

Source: James M Fricker; Report No. i107g; Determination of R values by calculation in accordance with AS/NZS 4859 Parts 1&2:2018; Dated 21/06/2019.

A4 Manufacturer and manufacturing plant(s)

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

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A5 Installation requirements

The installation of the STAAC Wall 50® Vertical External Wall Cladding System must not deviate from the contents of the [Houses and Low Rise Multi Residential 50mm External Walls Design and Installation Guide Version July 2023](#).

1. Only to be installed by a suitably qualified tradesperson in accordance with the design and installation guide [Houses and Low Rise Multi Residential 50mm External Walls Design and Installation Guide Version July 2023](#).
2. The walls are constructed in accordance with AS 5146.3:2018.
3. Stud wall support frame to be designed and certified by others.

Where weatherproofing is required:

1. External coating system to be in accordance with AS 5146.3:2018 and comply with AS/NZS 4548.5:1999 and must be suitable and compatible with AAC substrate (with priming where required).
2. External coating system shall contain an embedded fibreglass mesh reinforcing coat with maximum aperture of 10 mm by 10 mm and minimum weight of 145 g/m² (incorporated in the base levelling coat) and 200mm wide positioned centrally over panel adhesive joints for vertically orientated panels.
3. The first (texture) coat and second (finish) coats must be acrylic latex coatings complying with AS/NZS 4548.1:1999.
4. The coatings must be suitable and compatible with AAC STAAC Wall 50® substrate (with priming where required).
5. Coatings to comply with AS/NZS 4548.5:1999.
6. Coating manufacturer to specify minimum coating dry film thickness to comply with AS/NZS 4548.5:1999.
7. The following External coating systems are acceptable for use with STAAC Wall 50®:
 - Rockcote Armorflex
 - Dulux AcraTex

A6 Other relevant technical data

Acoustic Properties Predicted Rating: RW = 67; Ctr-15, RW+ Ctr=52

Source: Acoustic Logic Consultancy Report 20140366.35/0202A/R6/GW dated 02/02/2018.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

1. Energy Efficiency Provisions A5G3(1)(e). A report issued by a professional engineer.
2. Fire Safety Provisions A5G3(1)(d)&(e). A report issued by an Accredited Testing Laboratory & a report from a professional engineer.
3. Structural Resistance Provisions A5G3(1)(e). A report issued by a professional engineer.
4. Weatherproofing Provisions A5G3(1)(d)&(e). A report issued by an Accredited Testing Laboratory & a report from a professional engineer or other appropriately qualified person.

B2 Reports

1. AECOM; Expert opinion on the weathertightness testing to the Verification Methods FV1 & V2.2.1: Dated 02/04/2020. Report provides professional opinion that Performance Requirements for weatherproofing have been met based on previous testing of Hebel AAC systems (F3P1 and H2P2).
2. James M Fricker; Report No. i107f; Determination of R values by calculation in accordance with AS/NZS 4859.1:2018; Dated 16/06/2020. Report confirms R-value achieved by the STAAC Wall Systems (J4D6 & H6D2(1)(b)(i)).
3. CSIRO; NATA Accreditation No. 165; Report No. FCO-3241 Rev B; Fire resistance in accordance with AS1530.4:2014; Dated 25/11/2022. Report provides Compliance with C2D2(2) H3D3.
4. PACE Structural; Report Number. PS23051; Structural design certificate of STAACWall50 Houses and Low Rise Multi Residential 50mm External Walls; Dated 01/08/2023. Report confirms the structural design capacity calculations on the Stoddart Houses and Low Rise Multi Residential 50mm External Walls comply with B1P1(1), (2)(a), (b), (c) & (d) and H1P1(1), (2)(a), (b), (c) & (d).
5. Stoddart; Houses and Low Rise Multi Residential 50mm External Walls Design and Installation Guide, Condensation Management; July 2023. Manual provides details the requirements for installation of pliable building membrane that complies with AS/NZS 4200.1:2017 and that is installed in accordance with AS 4200.2:2017 and F8D3 & H4D9.

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