Certificate of Conformity

Certification Body:

CMI CERTIFICATION
ABN: 81 663 250 815
JAS-ANZ Accreditation No. Z4450210AK
PO Box 273,
Palmwoods Qld 4555
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Certificate Holder:

Ritek Systems Pty Ltd
ABN: 18 642 239 585
29 Junction Drive,
Coolum Beach QLD
4573 Australia
1300 152 857
www.ritek.com.au

Certificate number: CM40374

THIS IS TO CERTIFY THAT

Ritek® XL Wall System

Type and/or use of product:

Prefabricated permanent formwork to be used wherever a wall is required not to be non-combustible but have a fire rating.

Description of product:

Prefabricated panels of fibre cement sheeting and aluminium and plastic spacers. Horizontal and vertical reinforcement steel is placed, and panels are core filled with concrete.

COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S) **BCA 2022**

	Volume One		Volume Two	
Performance Requirement(s):	Not Applicable		Not Applicable	
Deemed-to-Satisfy Provision(s):	C2D2(2)	Type of construction required – *See limitation and condition 1*	H3D3	Fire separation of external walls - *See limitation and condition 1*
	F7D6	Sound insulation rating of walls	H4D8	Sound insulation
	G5D3	Construction in bushfire prone areas – *subject to limitation and condition 3, 4 & 5.*	H6D2(1)(b)(i)	Building fabric – Contributes to Total R-Value
	J4D6(4)	Walls and glazing – Contributes to Total R-Value	H7D4	Construction in bushfire prone areas - *subject to limitation and condition 3, 4 & 5.*
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. Compliance with FRL is dependent on the system components being as specified in A3. Any deviation from the tested specimen or the variations outlined in A3 do not form part of this Certificate of Conformity.
2. The installation of the systems must be in accordance with the Ritek® XL Systems Design and Installation Manual – Version 2023 as outlined in A5 Installation requirements of this Certificate of Conformity.
3. The Ritek® XL Wall System is suitable for use in BAL 12.5 – BAL FZ. Refer A3.
4. 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.

Building classification/s:

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

Richard Donarski - CMI

Don Grehan – Unrestricted Building Certifier

Date of issue: 02/11/2023

Date of expiry: 02/11/2026

5. 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.
6. Structural compliance is outside of the scope of certification. The structural support/fixings/bracing etc are designed and engineered separately as per project requirements by building designers and engineers.
7. Other than the BCA provisions and State or Territory variation(s) listed in this certificate, the remainder of the information contained in the product's literature is outside the scope of this certification.
8. 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.

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 Ritek® XL Wall system is a prefabricated permanent formwork that comes in the following wall thicknesses:

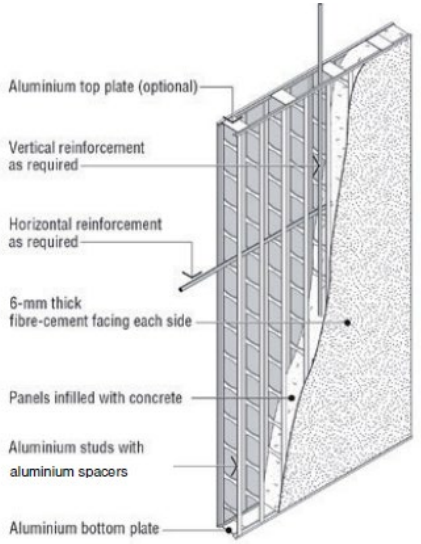
Ritek® XL Wall System						
XL Wall Panel Thickness	Concrete Core	Surface Density	Panel Components	Internal Finish	External Finish	Typical Panel Weight
115mm	103mm	>220kg/m²	6mm Fibre-cement sheeting bonded to Aluminium Studd	Set joints and apply a standard pant finish	Set joints and apply a standard texture coating system finish	20kg/m²
135mm	123mm	>220kg/m²				21kg/m²
150mm	138mm	>220kg/m²				23kg/m²
165mm	153mm	>220kg/m²				24kg/m²
200mm	188mm	>220kg/m²				26kg/m²
265mm	253mm	>220kg/m²				28kg/m²

A3 Product specification

Fire Resistance and stability / Construction of external walls

The following configurations have been tested in accordance with AS 1530.4:2014

Specimen Details	The specimen comprised a reinforced concrete filled wall system measuring 2980-mm high x 2980-mm wide x 150-mm thick. The specimen walls comprised three Ritek 115XL & 150XL pre-fabricated permanent formwork panels, screw fixed together and filled with concrete after panel assembly.
Specimen components	The 1200-mm wide Ritek 115XL & 150XL pre-fabricated permanent formwork panels comprised two 6-mm thick fibre cement sheets bonded using industrial strength adhesive to anodised aluminium extrusions separated with plastic joiners at nominally 200-mm vertical centres, to form a stud assembly.
Stud Spacing	The studs were equally spaced over the width of the panel at nominally 164-mm centres. The aluminium joiners incorporated galvanised steel inserts (rebar chairs) for provision of horizontal reinforcing bars.
Fixings	The pre-fabricated wall panels were installed vertically and fastened together using 8g x 25-mm long CSK screws at nominally 300-mm vertical centres. The screws were fixed into a 1.2-m thick x 40-mm wide aluminium strip located on the inside of the panel fibre cement sheeting.
Reinforcement	The wall assembly was reinforced using N12 reinforcing bars at 400-mm centres, both horizontally and vertically prior to being filled with 32 MPa concrete.
Core Filling	The concrete was pumped in through the top openings in 1500-mm high layers and trowelled off level when completely filled. The concrete mix comprised 10-mm coarse aggregate with a 160-mm slump measured at the time of core filling.



Wall Type	115	135	150	165	200	265
Wall Thickness (mm)	115	135	150	165	200	265
Concrete Core Thickness (mm)	103	123	138	153	188	253
Reinforcement layers	Single	Single	Single	Single	Double	Double
Fire Resistance Level	FRL 240/240/180		FRL 240/240/240			

- 115mm & 135mm **FRL 240/240/180**
- 150mm, 165mm, 200mm & 265mm **FRL 240/240/240**

Source: *CSIRO, Report No. FSV 1980 (Revision B), Fire-resistance test on a load-bearing vertical separating element, Dated 24/03/2021, CSIRO, Report No. FCO 3519, Fire-resistance test on a load-bearing vertical separating element, Dated 18/08/2023.*

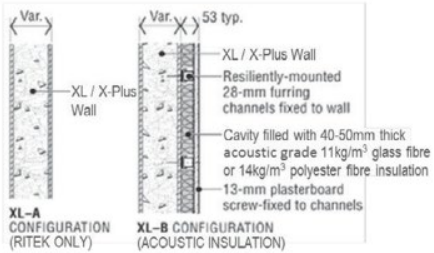
Bushfire Attack Level

The Ritek® XL-Wall System is considered to comply with the requirements of AS 3959:2018 for the requirements of external cladding where applicable to BAL 12.5 to BAL FZ as the panels have been tested to AS 1530.4 and achieve a FRL greater than 30/30/30.
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.

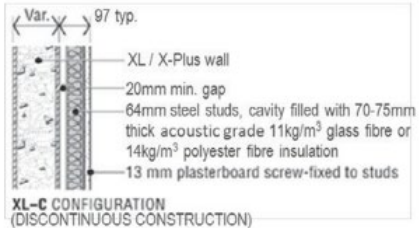
Source: *CSIRO, Report No. FSV 1980 (Revision B), Fire-resistance test on a load-bearing vertical separating element, Dated 24/03/2021, CSIRO, Report No. FCO 3519, Fire-resistance test on a load-bearing vertical separating element, Dated 18/08/2023.*

Acoustic Performance

XL Wall Type	Total Wall Thickness, mm	Sound Insulation Rating, Rw, dB	Sound Insulation Rating, Rw + Ctr, dB
115XL-A	115	48	43
135XL-A	135	50	45
150XL-A	150	51	47
165XL-A	165	50*	50*
200XL-A	200	54	50
265XL-A	265	57	52
115XL-B	168	54	44
135XL-B	188	54	47
150XL-B	203	55	48
165XL-B	218	56	49
200XL-B	253	57	51
265XL-B	318	59	52

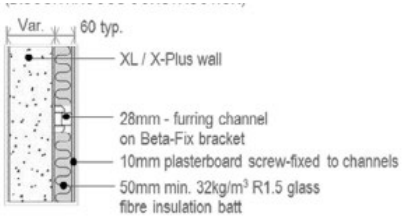


115XL-C	212	62	54
135XL-C	232	62	56
150XL-C	247	63	57
165XL-C	262	64	57
200XL-C	297	66	59
265XL-C	362	67	60



XL-C CONFIGURATION
(DISCONTINUOUS CONSTRUCTION)

115XL-D	175	53	43
135XL-D	195	53	47
150XL-D	200	54	47
165XL-D	225	55	48
200XL-D	260	56	50
265XL-D	325	58	51



XL-D CONFIGURATION
(50MM R1.5 INSULATION BATT)

*Rating not determined, system is considered equivalent to BCA Deemed-to-Satisfy 150mm concrete panel.
Note that the XL and X-Plus wall systems are acoustically equivalent.
Source: *SLR Consulting Australia Pty Ltd, Report No. AI-1976, ACOUSTIC OPINION - REF023 Ritek XL and X-Plus Wall Systems, Dated 2/10/2020.*

Energy Efficiency (Thermal Performance)

SUMMARY OF RESULTS		Total R		Total U	
JMF Calc.	**XL WALL SYSTEMS**	**Summer**	**Winter**	**Summer**	**Winter**
215w29Ax	115XL WALL SYSTEM - (no insulation) 103mm concrete core	R0.28	R0.28	3.577	3.577
	135XL WALL SYSTEM - (no insulation) 123mm concrete core	R0.29	R0.29		
	150XL WALL SYSTEM - (no insulation) 138mm concrete core	R0.30	R0.30		
	165XL WALL SYSTEM - (no insulation) 153mm concrete core	R0.31	R0.31		
	200XL WALL SYSTEM - (no insulation) 188mm concrete core	R0.34	R0.34		
	265XL WALL SYSTEM - (no insulation) 253mm concrete core	R0.38	R0.38		
215w30Ax	115XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 400mm centres)	R1.36	R1.43	0.736	0.700
	135XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 400mm centres)	R1.37	R1.44		
	150XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 400mm centres)	R1.38	R1.45		
	165XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 400mm centres)	R1.39	R1.46		
	200XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 400mm centres)	R1.42	R1.49		
	265XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 400mm centres)	R1.46	R1.53		

215w301Ax	115XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 600mm centres)	R1.38	R1.45	0.727	0.692
	135XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 600mm centres)	R1.39	R1.46		
	150XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 600mm centres)	R1.40	R1.47		
	165XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 600mm centres)	R1.41	R1.48		
	200XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 600mm centres)	R1.43	R1.50		
	265XL WALL SYSTEM (internally insulated with R0.443 15mm FOILBOARD™) (furring channels at 600mm centres)	R1.48	R1.55		
215w31Ax	RENDERED EXTERNALLY INSULATED 115XL WALL SYSTEM (R1.37 50MM H CLASS EPS)	R1.63	R1.71	0.612	0.586
	RENDERED EXTERNALLY INSULATED 135XL WALL SYSTEM (R1.37 50MM H CLASS EPS)	R1.65	R1.72		
	RENDERED EXTERNALLY INSULATED 150XL WALL SYSTEM (R1.37 50MM H CLASS EPS)	R1.66	R1.73		
	RENDERED EXTERNALLY INSULATED 165XL WALL SYSTEM (R1.37 50MM H CLASS EPS)	R1.67	R1.74		
	RENDERED EXTERNALLY INSULATED 200XL WALL SYSTEM (R1.37 50MM H CLASS EPS)	R1.69	R1.77		
	RENDERED EXTERNALLY INSULATED 265XL WALL SYSTEM (R1.37 50MM H CLASS EPS)	R1.74	R1.81		
215w311Ax	RENDERED EXTERNALLY INSULATED 115XL WALL SYSTEM (R1.79 50MM XPS)	R2.05	R2.12	0.488	0.471
	RENDERED EXTERNALLY INSULATED 135XL WALL SYSTEM (R1.79 50MM XPS)	R2.06	R2.14		
	RENDERED EXTERNALLY INSULATED 150XL WALL SYSTEM (R1.79 50MM XPS)	R2.07	R2.15		
	RENDERED EXTERNALLY INSULATED 165XL WALL SYSTEM (R1.79 50MM XPS)	R2.08	R2.16		
	RENDERED EXTERNALLY INSULATED 200XL WALL SYSTEM (R1.79 50MM XPS)	R2.11	R2.18		
	RENDERED EXTERNALLY INSULATED 265XL WALL SYSTEM (R1.79 50MM XPS)	R2.15	R2.23		
215w32Ax	INTERNALLY R1.5 INSULATED 115XL WALL SYSTEM (furring channels at 400mm centres)	R1.45	R1.54	0.690	0.647
	INTERNALLY R1.5 INSULATED 135XL WALL SYSTEM (furring channels at 400mm centres)	R1.46	R1.56		
	INTERNALLY R1.5 INSULATED 150XL WALL SYSTEM (furring channels at 400mm centres)	R1.47	R1.57		
	INTERNALLY R1.5 INSULATED 165XL WALL SYSTEM (furring channels at 400mm centres)	R1.48	R1.58		
	INTERNALLY R1.5 INSULATED 200XL WALL SYSTEM (furring channels at 400mm centres)	R1.51	R1.60		
	INTERNALLY R1.5 INSULATED 265XL WALL SYSTEM (furring channels at 400mm centres)	R1.55	R1.65		
215w321Ax	INTERNALLY R1.5 INSULATED 115XL WALL SYSTEM (furring channels at 600mm centres	R1.55	R1.64	0.647	0.608
	INTERNALLY R1.5 INSULATED 135XL WALL SYSTEM (furring channels at 600mm centres)	R1.56	R1.66		
	INTERNALLY R1.5 INSULATED 150XL WALL SYSTEM (furring channels at 600mm centres)	R1.57	R1.67		
	INTERNALLY R1.5 INSULATED 165XL WALL SYSTEM (furring channels at 600mm centres)	R1.58	R1.68		
	INTERNALLY R1.5 INSULATED 200XL WALL SYSTEM (furring channels at 600mm centres)	R1.61	R1.70		
	INTERNALLY R1.5 INSULATED 265XL WALL SYSTEM (furring channels at 600mm centres)	R1.65	R1.75		

Source: *James M Fricker Pty Ltd, Report No. i215h, OVERALL "TOTAL R" (THERMALLY BRIDGED) THERMAL PERFORMANCE CALCULATIONS TO AS/NZS 4859 Parts 1 & 2:2018, Dated 27/2/2020.*

A4 Manufacturer and manufacturing plant(s)

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

A5 Installation requirements

To be designed and installed in accordance with the Ritek® XL Systems Design and Installation Manual – Version 2023

A6 Other relevant technical data

No other relevant technical data.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

1. Acoustic and Sound Provisions A5G3(1)(e). A certificate or report from a professional engineer or other appropriately qualified person.
2. Energy Efficiency Provisions A5G3(1)(e). A certificate or report from a professional engineer or other appropriately qualified person.
3. Fire Safety Provisions A5G3(1)(d). A report issued by an Accredited Testing Laboratory.

B2 Reports

1. CSIRO, Report No. FSV 1980 (Revision B), Fire-resistance test on a load-bearing vertical separating element, Dated 24/03/2021 provides the FRL testing results for the 115mm XL wall system for compliance with C2D2, H3D3, G5D3 & H7D4.
2. CSIRO, Report No FCO 3519, Fire-resistance test on a load-bearing vertical separating element, Dated 10/08/2023 provides the FRL testing results for the 150mm XL wall system for compliance with C2D2, H3D3, G5D3 & H7D4.
3. James M Fricker Pty Ltd, Report No. i215h, OVERALL “TOTAL R” (THERMALLY BRIDGED) THERMAL PERFORMANCE CALCULATIONS TO AS/NZS 4859 Parts 1 & 2:2018, Dated 27/2/2020, provides the thermal calculations which contribute towards compliance with J4D6(4) & H6D2(1)(b)(i).
4. SLR Consulting Australia Pty Ltd, Report No. AI-1976, ACOUSTIC OPINION - REF023 Ritek XL and X-Plus Wall Systems, Dated 2/10/2020 provides the acoustic calculations which contribute towards compliance with F7D6 & H4D8.

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