NBRSARCHITECTURE.

DESIGN STATEMENT
WALL CLADDING COMBUSTIBILITY + WATER TIGHTNESS

Marsden Park Public School Development

Marsden Park Public School

ISSUE A

DATE 9TH JULY 2020

PROJECT 19154

NBRS&PARTNERS PTY LTD

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Nominated Architects
Andrew Duffin: Reg No. 5602;

ISSUED	REVIEW	ISSUED BY
Date. 9th July 2020	Issue A	Elias Khamis (Reviewed by Trevor Eveleigh)

1.0 INTRODUCTION

1.1 GENERAL

NBRS Architecture has been engage by ADCO Construction Pty Ltd to develop the design for the proposed Marsden Park Public School for Schools Infrastructure NSW. As part of the SSD conditions for the development a Design statement has been requested to confirm both fire compliance & watertightness of the proposed cladding system. This report has been prepared to accompany the Crown works Certificate Application.

2.0 BCA REQUIREMENT

2.1 FAÇADE NON-COMBUSTIBILITY

The external Façade non-combustibility requirements are set out within Clause C1.9 of the BCA, which is as follows:

BCAQ C1.9 Non-combustible building elements

(a)In a building required to be of Type A or B construction, the following building elements and their components must be non-combustible:

(i)External walls and common walls, including all components incorporated in them including the façade covering, framing and insulation.

(ii)The flooring and floor framing of lift pits.

(iii)Non-loadbearing internal walls where they are required to be fire-resisting.

2.2 FAÇADE WATERTIGHTNESS

The external façade watertightness requirements are set out within Performance Requirement FP1.4 of the BCA which is as follows:

BCA FP1.4

A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause—

(a) unhealthy or dangerous conditions, or loss of amenity for occupants; and

(b) undue dampness or deterioration of building elements.

It is noted that part F1 does not include any Deemed to Satisfy Provisions to cover the Watertightness Performance Requirement of FP1.4 as highlighted in Clause F1.0.

BCA *F1.0*

Deemed-to-Satisfy Provisions

(a) Performance Requirement FP1.4, for the prevention of the penetration of water through external walls, must be complied with.

There are no Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls.

(b) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements FP1.1 to FP1.3 and FP1.5 to FP1.7 are satisfied by complying with F1.1 to F1.13.

(c) Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2.2(3) and A2.4(3) as applicable.

3.0 PROPOSED DESIGN - MATERIAL SELECTION

The following table sets out the façade materials specified for Marsden Park Public School and the corresponding compliance to the requirements of for Non-combustibility and watertightness.

Table 1- Materials Selection

Specified Materials	BCA 2019 Façade Requirements	
Material	Non-combustibility (C1.9)	Watertightness FP1.4
Cemintel Barestone	As Fibre cement is considered to be acceptable under C1.9 (e)	Codemark CM20198 shows compliance to FP1.4 See attachments
Prefinished Vitra-panel with Exotec substrate	As Fibre cement is considered to be acceptable under C1.9 (e)	Codemark CM40221-I01-R03 shows compliance to FP1.4 See attachments for certificate & reference documents confirming that Vitra-panel is an approved prefinished coating for the Exotec cladding system.
Profiled sheet metal MC1& MC2 Bluescope Colorbond, Lysaght Trim-dek profile 0.48 BMT	Steel cladding is deemed Non-combustible	No- Codemark available for watertightness to FP1.4. Performance Solution has been prepared for the use of the metal cladding Refer to separate Metal cladding Performance Solution report.
Profiled sheet metal MC4 - Bluescope Colorbond, Lysaght Span-dek profile 0.48 BMT	Steel cladding is deemed Non-combustible	No- Codemark available for watertightness to FP1.4. Performance Solution has been prepared for the use of the metal cladding Refer to separate Metal cladding Performance Solution report.

4.0 CONCLUSION

The information provided above shows the compliance status of the façade materials selected for the project in line with the Building Code of Australia 2019 Clause C1.9 for Non-combustibility and Performance Requirement FP1.4 for Watertightness.

Elias Khamis
Registered Architect #10994
NBRSARCHITECTURE

5.0 ATTACHMENTS - CERTIFICATE SECTIONS

Certificate of Conformity

Certification Body:

SAI GLOBAL

SAI Global Certification Services Pty Limited

(ACN 108 716 669) Trading as "SAI Global"

JAS-ANZ Accreditation No. Z1440295AS

Address: 680 George St, Sydney, NSW 2000

Website: www.saiglobal.com

Certificate Holder:

CSR Building Products Limited
(Trading as CSR Cemintel)
Triniti 3, 39 Delhi Road,
North Ryde, NSW, 2113, Australia
Phone: 1800 633 826
Website:
https://www.csr.com.au/About-Us/Contact-Us

Certificate number: CM20198

THIS TO CERTIFY THAT

CEMINTEL® BARESTONE Walling System

Type and/or use of product:

CEMINTEL® Barestone is an external walling system for residential and commercial buildings. Suitable for use on all building classes where metal top hats can be fixed either to steel stud framing, timber stud framing, or to masonry and concrete substrates.

For Class 2 to Class 9 buildings, CEMINTEL® Barestone walling system is suitable for only Type C Fire-Resisting Construction when fixed to timber stud framing.

CEMINTEL® Barestone panels are also used as internal wall lining.

Description of product:

CEMINTEL® Barestone panels are prefinished, square edged, compressed fibre cement panels trimmed and sealed in a standard 1200mm x 2400mm x 9mm or 1200mm x 3000mm x 9mm size. The panels are available in a range of colours featuring a sanded textured finish.

The wall system components & accessories are detailed in the Cemintel Design and Installation Guide – Barestone Series – External Installation dated 03/2020 and for internal applications Internal Design and Installation Guide dated 03/2020.

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

BCA 2019

	Volume One		Volume Two	
Performance Requirement(s)	**BP1.1(a) limited to (b)(i)(ii) & (iii)**	**Structural reliability**	**P2.1.1(a) limited to (b)(i), (ii), & (iii)**	**Structural stability and resistance**
	FP1.4	**Weatherproofing**	**P2.2.2**	**Weatherproofing**
Deemed-to-Satisfy Provision(s):	**C1.1(b) & Spec C1.1 Clause 3**	**Fire Resistance –** Type A Fire-Resisting Construction (120/120/120, or -/180/180 when used in a system with Fyrchek MR	**3.7.1.1(d)**	**General concession — non-combustible materials**
			3.7.2.4(b)(i)	**Fire separation of external walls – Construction of external walls (FRL 60/60/60)**

SAI Global Certification Services

Heather Mahon
Global Head of Technical Services
SAI Global Assurance

Quintin Kleyn – Unrestricted Building Certifier

Date of issue: 17 March 2020

Date of expiry: 16 March 2023

		plasterboard, refer to the Design and Installation Guide)	**3.10.5.0(c)**	**Construction in bushfire prone areas**
	C1.9(e)(iv)	**General concession — Materials deemed to be non-combustible**		
	C1.10(a)(ii) & Spec C1.10 Clause 4	**Fire hazard properties – Wall and ceiling linings**		
	G5.1 & G5.2	**Construction in bushfire prone areas – (**up to and including BAL 40)		
State or territory variation(s):	**NSW G5.2**	**Construction in Bushfire Prone Areas –** Protection.	**NSW 3.10.5.0**	**Construction in bushfire prone areas**
			QLD 3.10.5.0	**Construction in bushfire prone areas**
	QLD G5.1	**Construction in Bushfire Prone Areas –** Construction Requirements		

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. Barestone Walling System with Fyrchek MR Plasterboard can be used where the required Fire Resistance Levels (FRLs) does not exceed 120/120/120, or -/180/180 as specified in the NCC 2019 BCA Volume One specification C1.1. The installation must be in accordance with the relevant details contained within the System Engineering section of Cemintel Design and Installation Guide – Barestone Series – External Installation dated 03/2020 for system No. CSR5874 (FRL 120/120/120) and system No. CSR5349 (120/120/120, or -/180/180)
2. For Class 2 to Class 9 buildings, CEMINTEL® Barestone walling system is suitable for only Type C Fire-Resisting Construction when fixed to timber stud framing.
3. For type C Fire-Resisting Construction, Barestone Walling System has not been assessed against the requirements of Specification C1.1 Clause 5.1(c) of a fire wall or an internal wall bounding a sole-occupancy unit or separating adjoining units.
4. Barestone Walling System achieves a Group Number 1 and Smoke Growth Rate Index ($SMOGRA_{RC}$ 0.2 m^2s^2x1000) as determined in accordance with AS 5637.1:2015
5. The following were the only wall wraps assessed against the requirements of C1.9(e)(vi) for sarking-type material:
    a) Bradford Thermoseal™ Wall Wrap
    b) Enviroseal ProctorWrap Commercial Wall (CW)
    c) Enviroseal ProctorWrap Residential Wall (RW)

Building classification/s:

Volume 1 – Class 2 to Class 9 buildings

Volume 2 – Class 1 and Class 10(a) buildings

6. The following were the only insulations assessed against the requirements of C1.9(a) for non-combustible building elements:
    a) 75 Gold Batts R1.5 at 8.76kg/m^3 density
    b) 75 Gold Batts R2.0 at 6.3kg/m^3 density
    c) 90 Gold Batts R2.0 at 10.5kg/m^3 density
    d) 90 Gold Batts R2.5 at 21.2kg/m^3 density
    e) 75 Acoustigard R1.7 at 11.0kg/m^3 density
    f) 90 Acoustigard R2.2 at 14.0kg/m^3 density
    g) 90 Acoustigard R2.5 at 20.0kg/m^3 density
7. Barestone Walling System shall be used for its intended purpose. For further information on limited applications of the product, refer to Cemintel Design and Installation Guide – Barestone Series as relevant:
    a) External Installation dated 03/2020
    b) Internal Installation dated 03/2020
8. Barestone Walling System has been tested for weatherproofing requirements and achieved serviceability limit state wind pressures up to ±2.5kPa water penetration for the cavity system using Cemintel rigid air barrier (typically 6mm thick fibre cement sheet). Construction details and fixing must follow the relevant details contained within the System Engineering section of Cemintel Design and Installation Guide – Barestone Series – External Installation dated 03/2020.
9. Barestone Walling System has been evaluated for use in all Australian wind zones up to and including N6 and Cyclonic C4 in accordance with AS 4055 and for ultimate wind pressures up to 7.0 kPa under AS 1170.2 including cyclonic zones when fixed to steel framing with Cemintel Rigid Air Barrier.
10. The Barestone Walling System is not certified for either energy efficiency or acoustic performance.
11. Site environmental factors such as wind and corrosivity zones need to be considered to determine its suitability for a particular environment.
12. Barestone Walling System is suitable for use on buildings constructed in accordance with AS 3959:2018 that are have a Bushfire Fire Attack Level up to and including BAL 40
13. All flashing including inter-storey junction must be metal flashing.

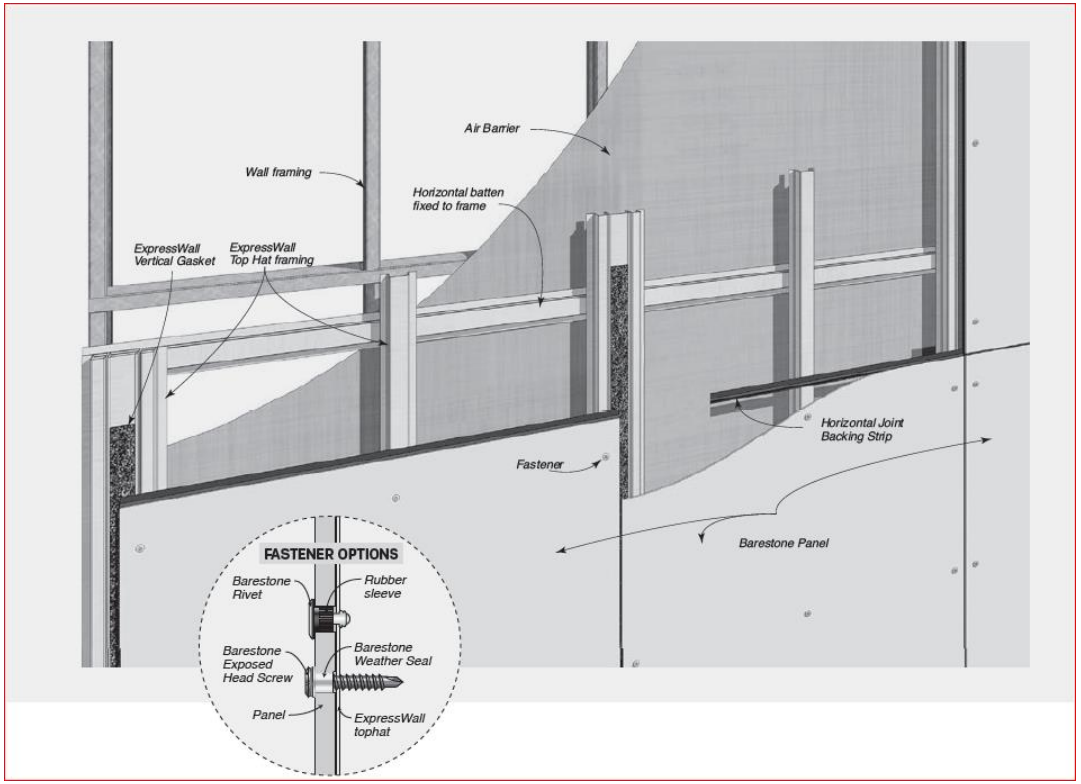
APPENDIX A – PRODUCT TECHNICAL DATA

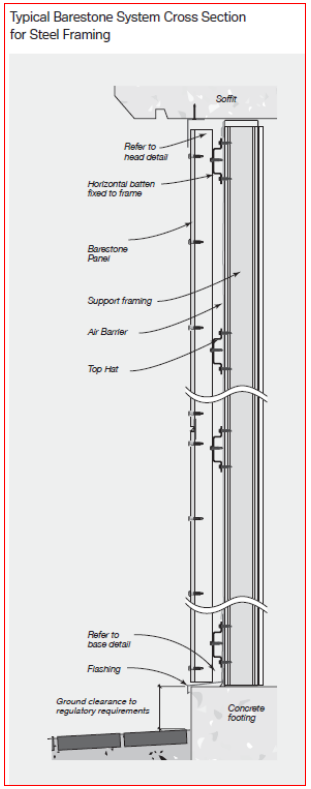
A1 Type and intended use of product

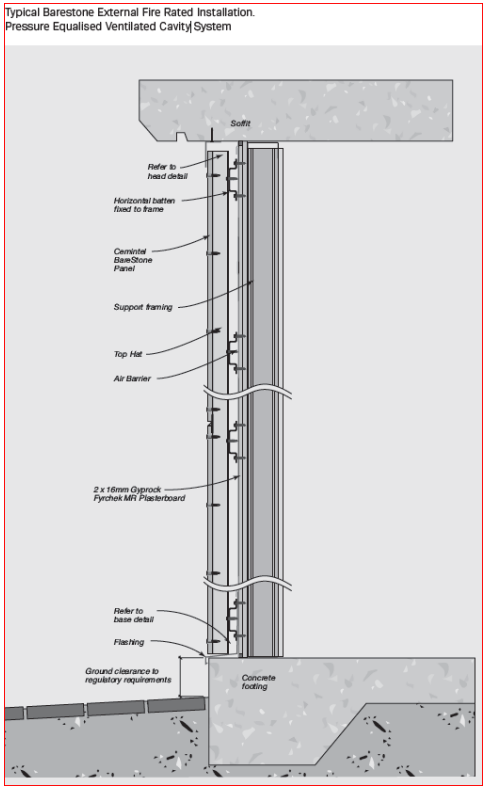
Refer to Page 1 of this certificate.

A2 Description of product

Refer to Page 1 of this certificate and the below diagrams.







A3 Product specification

Below are some physical properties of fibre cement and system specifications

Product Specifications

Property	Specification	Manufacturing Tolerance	Relevant Standard
Panel Width	1200mm	+ 0 / - 2.0mm	AS 2908.2
Panel Length	2400 and 3000mm	+ 0 / - 2.0mm	AS 2908.2
Panel Thickness	9mm	+ 0.45 / - 0mm	AS 2908.2
Panel Weight (EMC)	17.8kg/m²		AS 2908.2

System Solutions

Fire Resistance Level (FRL)	Up to 120/120/120, -/180/180 when used in a system with Gyprock fire grade plasterboard	Refer to System Engineering section or the "The Red Book™
Bushfire Construction	BAL 40 (Construction for Bushfire Attack Level 40 for an external wall)	AS 3959 – 8
Weatherproofing	Suitable for a serviceability wind pressure of +2.50 kPa when installed as a pressure equalised system.	AS 4284
Wind actions (including Cyclonic)	Suitable for ultimate wind loads up to 7.0 kPa with Cemintel Rigid Air Barrier, including cyclonic conditions, and up to 2.5 kPa with Enviroseal ProctorWrap CW-IT	AS 4040.3

A4 Manufacturer and manufacturing plant(s)

A5 Installation requirements

Refer to Page 3 of this certificate and the following:

1. Cemintel Design and Installation Guide – Barestone Series – External Installation dated 03/2020
2. Cemintel Design and Installation Guide – Barestone Series – Internal Installation dated 03/2020

A6 Other relevant technical data

- Technical Datasheets for Bradford Thermoseal™ Wall Wrap, Enviroseal ProctorWrap (CW) Wall Wrap, and Enviroseal ProctorWrap (RW) Wall Wrap with nominal thickness <1.0mm for all three products.
- Technical Datasheet for Bradford Acoustigard partition rolls

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

The system has been assessed as complying with the identified Performance Requirements of the NCC 2019 BCA Volumes 1 and 2. This involved a review of product specifications, test reports, installation manuals, and associated documentation.

1. **Structural assessment:**
   - Volumes 1 & 2 – A2.2(2) / A5.2(1)(d) & (e) – A report issued by an Accredited testing Laboratory – Cyclone Testing Station, James Cook University (NATA accreditation No. 14937) and a report from a professional engineer

2. **Weatherproofing assessment:**
   - Volumes 1 & 2 – A2.2(2) / A5.2(1)(d) & (e) – A report issued by an Accredited testing Laboratory – Ian Bennie and Associates (NATA accreditation No. 2371) and a report from an appropriately qualified person

3. **Fire Resistance assessment:**
   - Volumes 1 & 2 – A2.3(2) / A5.2(1)(d) – An assessment report issued by an Accredited testing Laboratory – BRANZ Ltd (IANZ accreditation No. 37)

4. **Non-Combustibility (General Concessions):**

   A. Sarking-type material
   - Volumes 1 & 2 – A2.3(2) / A5.2(1)(d) – A report issued by an Accredited testing Laboratory – Insulation Research Laboratory (NATA accreditation No. 993)
   - Volumes 1 & 2 – A2.3(2) / A5.2(1)(d) – A report issued by an Accredited testing Laboratory – AWTA Product Testing (NATA accreditation No. 1356)

   B. Insulation material
   - Volumes 1 & 2 – A2.3(2) / A5.2(1)(e) – An assessment report from an appropriately qualified person – CSIRO
   - Volumes 1 & 2 – A2.2(2) / A5.2(1)(d) – A report issued by an Accredited testing Laboratory – Insulation Research Laboratory (NATA accreditation No. 993)

5. **Fire Hazard Properties assessment:**
   - Volume 1 – A2.3(2) / A5.2(1)(e) – An assessment report from an appropriately qualified person – Warrington Australia Pty Ltd
   - Volume 1 – A2.3(2) / A5.2(1)(d) – A report issued by an Accredited testing Laboratory – Insulation Research Laboratory (NATA accreditation No. 993)
   - Volume 1 – A2.3(2) / A5.2(1)(d) – A report issued by an Accredited testing Laboratory – AWTA Product Testing (NATA accreditation No. 1356)

6. **Resistance to Bushfire Attack assessment:**
   - Volumes 1 & 2 – A2.3(2) / A5.2(1)(f) – Another form of documentary evidence (assessment against specifications in referenced document – AS 3959:2018)

B2 Reports

Evaluation methods	Related Supporting Evidence as listed below
Structural Assessment	Numbers 1, 2, 3, 4, & 5
Weatherproofing Assessment	Numbers 6 & 7
Fire Resistance assessment	Numbers 8 & 9
Non-Combustibility (General Concession)	Numbers 10, 11, 12, 13, & 14
Fire Hazard Properties assessment	Numbers 10, 11, 12, & 15
Resistance to Bushfire Construction assessment	Number 16

Structure

1. **Test Report from a NATA accredited testing laboratory (Accreditation No: 14937) for Connection Testing Cyclic Simulated Wind Load Strength Testing and Assessment of the Cyclic Wind Load Capacity of CSR Cemintel Creative Façade System from James Cook University, Report No. TS1055 Revision A (dated: 26 April 2017)**
   This document contains the test results of a Cemintel Creative Façade (8mm & 9mm nominal thickness) sample for resistance to simulated cyclic wind load, carried out in accordance with AS 4040.3.
2. **Test Report from a NATA accredited testing laboratory (Accreditation No: 14937) for Assessment of the Cyclonic Wind Load Capacity of CSR ExpressWall Façade System from James Cook University, Report No. TS584 (dated 4 August 2003)**
   This document contains the test results of a Cemintel Creative Façade (9mm nominal thickness) sample for resistance to simulated cyclic wind load, carried out in accordance with AS 4040.3. Reappraisal Test Report Summary from a NATA accredited testing laboratory (Accreditation No: 14937) for Assessment of the Cyclonic Wind Load Capacity of CSR Express Wall Façade System from James Cook University, Report No. TS584 (dated 31 December 2016). This document contains the re appraisal test results of a CSR ExpressWall Façade (9mm nominal thickness) sample for resistance to simulated cyclic wind load, carried out in accordance with AS 4040.3.
3. **Certification of CSR ExpressWall Façade System by David Beneke Consulting, Report 2013-28-LO-1001 Revision 9 (dated 28 June 2019)**
   This document certifies the maximum top hat spans and spacings of ExpressWall façade system (with either ExpressWall panels or Barestone pre-coated panels) in accordance with normal engineering practice and principals, test methods and the relevant Australian Standards.
4. **Durability opinion of CSR ExpressWall Metal Components from Branz, Report No. DZ0073 (dated 20 September 2004)**
   This document contains the opinion of the likely resistance of the ExpressWall system components in relation to durability and Category 4 (Severe Marine) or less, for a minimum service life of 15 years.

5. **Test Report for Simulated Wind Load Component Testing of Screws used in CSR ExpressWall Façade System from James Cook University, Report No. TS923 (dated 9 October 2013)**
   This report provides an assessment for the capacity of the screw connections used in the CSR ExpressWall Façade system by undertaking cyclic pull-out load testing on the exposed head screw connections between the fibre cement cladding and the supporting battens.

Weatherproofing

6. **Test Report for Air Infiltration, Water Penetration and Structural ULS of Cemintel Creative Façade System, Report No. 2016-108-S1 (dated 24 February 2017 amended 28 March 2017)**
   This document contains the test results of the Cemintel Creative Façade System for Water Penetration, carried out in accordance with AS 4284:2008.
7. **Report from AECOM consultancy advice pertaining to the Cemintel Creative Facade System (for various rain screen materials including Barestone) (dated 07 June 2019).**
   This advice confirms the compliance of this product with AS 4284:2008, based on the test results of Report No. 2016-108-S1, by Ian Bennie and Associates.

Fire Resistance

8. **Test Report for Fire Resistance of CSR Steel Framed Wall Systems from Branz, Report No. FAR 2357 Issue 12 (dated: 06 July 2017)**
   This document contains the test results of the CSR steel framed system for resistance to fire, carried out in accordance with AS 1530.4:2014.
9. **Test Report for Fire Resistance of CSR Timber Framed Walls from Branz, Report No. FAR 2303 Issue 3 (dated: 24 December 2015)**
   This document contains the test results of the CSR timber framed system for resistance to fire, carried out in accordance with AS 1530.4:1997.

Non-Combustibility (General Concession)

A. Sarking-type material

10. **Test Report for Flammability Index of Bradford Thermoseal™ Wall Wrap from Insulation Research Laboratory, Report No. NR-17201 (dated: 1 May 2017)**
    The report provides the results to testing to AS1530.2:1993 and returns a result of Flammability index 1 for the Bradford Thermoseal wall wrap.
11. **Test Report for Flammability Index of Enviroseal ProctorWrap (CW) Wall Wrap from AWTA, test No. 16-006359 (dated: 12 December 2016)**
    The report provides the results to testing of Proctorwrap commercial wall (CW) for AS1530.2:1993 and returns a result of flammability index of 1.
12. **Test Report for Flammability Index of Enviroseal ProctorWrap (RW) Wall Wrap from AWTA, test No. 17-000553 (dated: 17 February 2017)**
    The report provides the results to testing of Proctorwrap residential wall (RW) for AS1530.2:1993 and returns a result of flammability index of 1.

B. Insulation

13. **Assessment Report for combustibility of Bradford Glasswool insulation batts from CSIRO, Report No. FCO-2812a (dated: 19 November 2015)**
    This document provides an assessment of Bradford Glasswool insulation batts and were not deemed combustible when tested to the requirements of AS 1530.1:1994.
14. **Test Report for combustibility of Bradford Acoustigard from Insulation Research Laboratory, Report No. NR-17002 (dated: 22 March 2017)**
    This report contains the results of Bradford Acoustigard insulation batts carried out in accordance with AS 1530.1:1994 and were not deemed combustible.

Fire Hazard Properties

10. **Test Report for Flammability Index of Bradford Thermoseal™ Wall Wrap from Insulation Research Laboratory, Report No. NR-17201 (dated: 1 May 2017)**
    The report provides the results to testing to AS1530.2:1993 and returns a result of Flammability index 1 for the Bradford Thermoseal wall wrap.
11. **Test Report for Flammability Index of Enviroseal ProctorWrap (CW) Wall Wrap from AWTA, test No. 16-006359 (dated: 12 December 2016)**
    The report provides the results to testing of Proctorwrap commercial wall (CW) for AS1530.2:1993 and returns a result of flammability index of 1.
12. **Test Report for Flammability Index of Enviroseal ProctorWrap (RW) Wall Wrap from AWTA, test No. 17-000553 (dated: 17 February 2017)**
    The report provides the results to testing of Proctorwrap residential wall (RW) for AS1530.2:1993 and returns a result of flammability index of 1.
15. **Assessment Report for Group Number and Smoke Growth Rate Index (SMOGRARC) from Exova Warrington, Report No. 45759 Revision 10.1 (dated 15 November 2019)**
    This report shows the assessment undertaken to determine the likely fire hazard properties of the CSR wall and ceiling lining products if tested in accordance with AS ISO 9705:2003 (R2016) and AS5637.1:2015

Resistance to Bushfire Attack

16. **Cemintel® Construction Guide for Bushire Areas (dated October 2019)**
    This guide provides information on Cemintel® wall cladding products and systems to meet the requirements of each BAL when assessed against specifications in AS 3959:2018

Certificate of Conformity

Certification Body:

CertMark International
ABN: 80 111 217 568
JAS-ANZ Accreditation No. Z4450210AK
PO Box 7144, Sippy Downs
Qld 4556
+61 (07) 5445 2199
www.CertMark.org

Certificate Holder:

James Hardie Australia Pty Ltd
ABN: 12 084 635 558
10 Colquhoun St, Rosehill
NSW 2142
www.jameshardie.com.au

Certificate number: CM40221 Rev3

THIS IS TO CERTIFY THAT

Exotec™ Facade Panel and Fixing System

Type and/or use of product:

External Façade Panel and Fixing System.

Description of product:

The James Hardie Exotec™ Facade Panel and Fixing System is an express joint façade system comprising of compressed fibre cement (CFC) panels and the proprietary James Hardie top hat system. Panels are supplied as paintable or pre-finished.

COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S) **BCA 2019**

	Volume One		Volume Two	
Performance Requirement(s):	FP1.4	Roof and external walls must prevent the penetration of water	P2.2.2	Weatherproofing
Deemed-to-Satisfy Provision(s):	B1.2	Determination of individual actions	3.5.4.3(a)	Wall cladding boards – Fibre-cement
	B1.4	Determination of structural resistance of materials and forms of construction	3.5.4.4(a)	Sheet wall cladding
	C1.9(a)(i), (d)&(e)(iv) &(vi)	Non-combustible building elements	3.5.4.5	Eaves and soffit linings
	G5.2	Construction in bushfire prone areas (BAL Low-40)	3.10.5.0	Bushfire areas (BAL Low-40)
	J1.5	Walls (9mm - R-Value 0.015 - Contributes to the overall performance of the building envelope)	3.11.2	Resistance to actions
			3.11.3	Determination of individual actions
			3.11.6	Determination of structural resistance of materials and forms of construction
			3.12.1.4	Building fabric thermal insulation (9mm - R-Value 0.015 - Contributes to the overall performance of the building envelope)
State or territory variation(s):	G5.2 (NSW & SA), G5.3 (SA), J1.5(QLD)		3.10.5.0 (NSW & QLD)	

John Thorpe - CMI

Don Grehan – Unrestricted Building Certifier

Date of issue: 02/07/2019

Date of expiry: 13/04/2021

Certificate of Conformity

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. A qualified Structural Engineer must design the substructure and the connection between the substructure and the top hats.
2. The ExoTec™ Façade Panel and Fixing system must be installed in accordance with the relevant James Hardie technical literature. Where ExoTec™ Façade Panel is to be painted on-site or finished with a factory applied coating, the panels must be specified and installed in accordance with the ExoTec™ Façade Panel and Fixing System Installation Guide (May 2019) and ExoTec™ Façade Panel and Fixing System Technical Specification (May 2019). Where the ExoTec™ RAW Façade Panel is to be used, refer to the ExoTec™ RAW Façade Panel and Fixing System (May 2019).
3. It is the responsibility of the Project Engineer to determine the appropriate wind pressure for the project and specify the fixing of the top hats to the structure. The Engineer must limit deflection of the supporting structure to span/250 for Serviceability Wind Load in accordance with AS 1170.2:2011 'Structural design actions Wind actions'.
4. The Exotec™ Façade Panel, as certified, will contribute to the overall thermal performance of the building; however, the performance values are for guidance only and must be verified by a suitably qualified person(s). It is the responsibility of the building designer to ensure the minimum thermal requirements for the building envelope is achieved.
5. A suitable weather barrier must be installed behind Exotec™ Façade Panel and Fixing System in accordance with the relevant requirements of the BCA and AS/NZS 4200.2:2017 'Pliable building membranes and underlays Installation. Where a combustible weather barrier is proposed, it must be assessed independent of this certificate. Refer A6 – Other relevant technical data.
6. 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:

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.

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. This may result in the product being classified as a non-conforming building product.

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, CertMark International 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

Components

Product	Description	Quantity / Size (Nominal)		
Exotec™ facade panel	Dense compressed panel. Square edge. Factory sealed on all six sides. The Nominal density of the 9mm board is 1550kg/m³. The Paintable panel has a distinctive white face, which accepts a wide range of paint finishes. The panel must be installed with the white side facing the exterior of the structure. The Pre-Finished Panel is pre-sealed by James Hardie to create a natural "raw" fibre-cement aesthetic with an optional pre-finish using factory applied coating via a third-party supplier.	Thickness (mm)	Width (mm)	Lengths (mm)
		9	900 200	1800, 2100, 2400, 2700 and 3000
		12	1200	2400 and 3000
Exotec™ Top Hat	A rolled metal section, for use with Exotec™ façade panel and fixing system, designed to span vertically across the building structure to support façade panels and isolate different movement of the panels from those of the structure.	0.75 gauge	124 wide x 35 deep	6000 and 7200
James Hardie Intermediate Top Hat	A metal top hat installed vertically for use with Exotec™ and ComTex façade panel and fixing system, for intermediate sheet support.	0.75 gauge	50 wide x 35 deep	6000 and 7200
Exotec™ Gasket Snap Strip	For use with the Exotec™ façade panel fixing system, this gasket snap strip is specially designed to clip into the Exotec™ Top Hat at vertical façade panel joins to cover fixings to the structure and to provide an initial weather seal and drainage using a neoprene gasket.	-	-	3620
James Hardie Backing Strip	A weather seal at horizontal panel joints for use with Exotec™ façade panel and fixing system.	-	-	1190, 2390 and 2990
James Hardie Façade Washers	Façade washers used for exposed fastener fixing with Exotec™ façade panel and fixing system.	-	-	-
James Hardie Base Coat	A water-resistant base coat compound used to finish over countersunk fasteners with epoxy.	-	-	-
James Hardie Joint Sealant	A general purpose, paintable, exterior grade polyurethane joint sealant.	-	-	-
HardieEdge™ Trim	An architectural slab edge solution fabricated from high-quality powder coated aluminium.	-	-	3950
HardieWrap™ Weather Barrier	A non-perforated, highly breathable and reflective safe-glare weather barrier.	<1mm	2750	30000/roll

A3 Product specification

Physical Property	Saturated Condition	Equilibrium Condition 23ºC – 50% RH	Standard
Average Bending Strength	> 7.0MPa	-	AS/NZS 2908.2:2000
Category	3		
Type	A		
Density in kg/m³ (Oven Dry)	1490	-	AS/NZS 2908.2:2000
Watertightness	-	Passes	AS/NZS 4284:2008 & AS/NZS 2908.2:2000
Dimensional Conformance	-	Passes	AS/NZS 2908.2:2000
Heat-Rain Durability			
Warm Water Resistance		Passes	AS/NZS 2908.2:2000
Freeze-Thaw Resistance			
Soak-dry			
Combustibility	Suitable where non-combustible materials are required in accordance with C1.9 of the BCA		Deemed to comply with BCA

Bushfire

Provided any joints are no greater than 3mm or appropriately sealed, compliance with AS 3959-2009 as well as the National Construction Code of Australia 2019 Volumes 1 and 2 for BAL-Low to BAL-40. BAL-FZ construction requires the ExoTec™ Façade Panel and Fixing System to be installed in conjunction with a suitable fire rated wall system with minimum 30 minute FRL – refer to the James Hardie Bush Fire Prone Areas Technical Supplement for more information, and James Hardie™ Fire and Acoustically Rated Walls Application Guide.

Thermal Properties

The ExoTec™ facade panels will contribute to the overall thermal performance of the building; however, it is the responsibility of the building designer to ensure the minimum thermal requirements for the building envelope is achieved.

When tested in accordance with ASTM C518, the 9mm panel achieves an R-Value of 0.015. It is the responsibility of the building designer to ensure the minimum R-Value for the building envelope is achieved.

A4 Manufacturer and manufacturing plant(s)

James Hardie Australia
1-35 Cobalt Street
Carole Park QLD 4300
Australia.

A5 Installation requirements

The ExoTec™ Façade Panel and Fixing system must be installed in accordance with the relevant James Hardie technical literature. Where ExoTec™ Façade Panel is to be painted on-site or finished with a factory applied coating, the panels must be specified and installed in accordance with the ExoTec™ Façade Panel and Fixing System Installation Guide (May 2019) and ExoTec™ Façade Panel and Fixing System Technical Specification (May 2019). Where the ExoTec™ RAW Façade Panel is to be used, refer to the ExoTec™ RAW Façade Panel and Fixing System (May 2019).

Failure to install, finish or maintain this product in accordance with applicable building codes, regulations, standards and James Hardie's written application instructions may lead to personal injury, affect system performance, violate local building codes, and void James Hardie's product warranty.

The builder must ensure the product meets aesthetic requirements before installation. James Hardie will not be responsible for rectifying aesthetic surface variations following installation.

A6 Other relevant technical data

Fire

Testing conducted by CSIRO on the James Hardie Cladding materials in accordance with AS/NZS 3837:1998 and are classified as conforming to Group 1 material. (Average Specific Extinction Area 55.1m^2/Kg).

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

1. Structural Provision – A5.2(1)(e). Reports from a professional engineer.
2. Characteristic Type Testing – A5.2(1)(d). Reports from Accredited Testing Laboratories.
3. Bushfire Assessment – A5.2(1)(e). Reports from a professional engineer.
4. Fire Assessment – A5.2(1)(d). Reports from Accredited Testing Laboratories.
5. Weatherproofing Assessment – A5.2(1)(d). Reports from Accredited Testing Laboratories.
6. Thermal Properties – A5.2(1)(e). Reports from an appropriately qualified person.

B2 Reports

1. Cardno; Engineering Report S11713-LO-44A; Certification of James Hardie ExoTec™ Façade Panel and Fixing System - compliance to AS/NZS 1170.2-2002 Clause 2.5.5 & AS 4040.3-1992; Dated 18/08/2009.
2. David Beneke Consulting Pty Ltd; Report No. 2011-45-LO-05; Certification of James Hardie ExoTec™ Façade Systems in High Wind Applications; Dated 19/04/2011.
3. David Beneke Consulting Pty Ltd; Report No. 2011-45-LO-83; Structural Certification of the James Hardie Exotec™ Facade System - Revision 4; Dated 02/08/2018.
4. David Beneke Consulting Pty Ltd; Report No. 2011-45-LO-84; Structural Certification of The James Hardie Exotec™ Facade System used in Soffit Applications - Revision 2; Dated 02/08/2018.
5. James Hardie Australia Pty Ltd; NATA Accreditation No. 14220; Compliance Certificate ExoTec™ Façade Panel - Characteristic Type Tests required by AS/NZS 2908.2:2000; Dated July 2010.
6. CSIRO; NATA Accreditation No. 165; Certificate No.: 1126; Certificate of Assessment in accordance with AS/NZS 3837 Group Number 1 and Average specific extinction area: 55.1m^2/kg; Dated 28/08/2008.
7. Acronem Consulting Australia Pty Ltd; Thermal break requirements for Exotec™ on Metal Frames Single Stud; Dated 28/11/2017.
8. Facade Testing NZ Limited; IANZ Accreditation No. 1259; Report No. FT-R1005a; Testing in accordance with AS/NZS 4284:2008; Dated 08-09/05/2017.
9. BRANZ, Project Number: EC0712; Thermal Conductivity Measurement of Six Samples of Fibre Cement Board Products; Dated 17/10/2003.
10. Ignis Solutions Pty Ltd; Evaluation No. IGNS-6690-01 Issue 01 Revision 00[2018]; Compliance with AS 3959-2009 BAL Low-40; Dated 31/03/2018.

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

11th October 11, 2019

To Whom It May Concern,

James Hardie Australia confirms that Vitrapanel is a prefinished façade panel that utilises James Hardie 9mm ExoTec™ compressed Fibre cement as a base product.

Vitragroup process the ExoTec™ board, cut to size if required, coat on the face and edges with proprietary Vitreflon V700 based on 100% lumiflon fluoropolymer coating.

Vitrapanel must be installed and maintained strictly in accordance with the relevant James Hardie literature current at the time of installation and must be installed in conjunction with the components or products specified in the literature.

All certifications, compliance to relevant NCC and BCA requirements and approvals issued under ExoTec™ Façade Panels and Fixing Systems, equally applies to Vitrapanel cladding using ExoTec™ as the base panel this has been clearly outlined in the Exotec™ Codemark certification when referenced as pre-finished.

Regards,

Grant Crawford

James Hardie Building Products

VITRAGROUP
Architectural Facade Systems

Vitrapanel® Surface Fixed Façade

Vitraflon 700® (Fluropolymer Coating)

SPECIFICATION TEMPLATE

1. Cladding

- Proprietary item: VITRAPANEL® compressed fibre cement sheet as manufactured by VITRAGROUP Architectural Façade Systems 13 Bromley Rd., Emu Plains 2750 (ph:+61 2 47354122)
- Sheet thickness 9mm Otherwise nominated.

2. Cladding Types

2.1 Compressed Fibre Cement Cladding

Flat Panels

- *Generally*: Panels to have smooth even edges free of imperfections such as chips, cut to suite the layout, allowing for a joint gap of 10mm width between panels.
- *Preparation*: Panels to be machine sanded free of scale and slurry. Back seal panels with VC-9 or approved high build UV cured undercoat applied to a dry film thickness of 15-25 um, for warranty purposes.
- *First coat*: Undercoat face of panels with VC-10 or and approved high build UV cured undercoat applied to a dry film thickness of 30-50 um.
- *Top coat*: Machine sand face and edges of panels. Automatic machine apply *VITRAFLON 700® (100% Lumiflon based Fluropolymer coating)* topcoat in the selected colour.

3. Installation

- Framing shall be an approved installation system. James Hardie ExoTec® Façade Panel Fixing System. Incorporating ExoTec top hat, Intermediate JH top hat, ExoTec Gasket snap strip, ExoTec backing strip's and ExoTec façade washer. Install framing in strict accordance with the manufactures instructions.
- Fasteners shall be 10-16x30mm wafer head -Stainless Steel 410 , self drilling . Pre-finish screws to match colour and gloss of panels.
- Panels to be screw fixed to framing through pre-drilled holes. Drill with a 6mm masonry drill, which provides a 6.2mm to 6.3mm diameter hole.

4. Flashing/Cappings/Corner angles

- Standard: To AS/NZS 2904
- Material: Zinc Coated Steel/Aluminium/Colourbond – Colour matched to cladding or standard black.

5. Completion

Warranties
General: Name the Principal as warrantee. Register with the manufacturers as necessary. Retain copies delivered with components and equipment.

Commencement: Commence warranty periods at practical completion or at acceptance of installation, if acceptance is not concurrent with practical completion.

Installer : Vitragroup does not warrant or accept responsibility for the contractor's performance. The contractor must provide a separate installation warranty.

Warranty term: 15 years

Maintenance manual
Contents: Submit a maintenance manual containing technical specification of the cladding system, setting out the manufacture's recommendations on maintenance, to the Principal at Practical Completion.

Cleaning
Final Cleaning: When installation is complete, remove extraneous matter and marks.

Protection: Protect as necessary and leave the finished work undamaged on completion.