

Certification Body:



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:



BGC Fibre Cement
121 Bannister Rd,
Canning Vale, WA 6155
Phone: (08) 9374 2900
Website:

<https://bgcinnovadesign.com.au/contact-us/>

Certificate number: CM20255

THIS TO CERTIFY THAT

NULINE™ PLUS WEATHERBOARD-STYLE CLADDING SYSTEM

Type and/or use of product:

BGC NULINE™ PLUS weatherboard-style is a fibre cement external wall cladding system (direct fixed) for residential and commercial buildings. Suitable for use on all building classes.

Description of product:

BGC NULINE™ PLUS weatherboard is a 14mm thick compressed autoclaved cellulose fibre cement plank. NULINE™ PLUS has a tongue and groove end joining system. It is prefinished, trimmed and factory acrylic sealed. Available in a range of sizes. Refer below to A3 Product specifications.

The cladding system components & accessories are detailed in the Technical Brochure – NULINE™ PLUS Weatherboards, dated October 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)(iii)	Structural reliability	P2.1.1(a) limited to (b)(iii)	Structural stability and resistance
	FP1.4	Weatherproofing	P2.2.2	Weatherproofing
Deemed-to-Satisfy Provision(s):	C1.1 including Spec C1.1	Fire Resistance – Refer to Limitations and Conditions below for achieved FRLs	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 (Refer to Limitations and Conditions below for achieved FRLs)

SAI Global Certification Services



Heather Mahon
Global Head of Technical Services
SAI Global Assurance



Quintin Kleyn – Unrestricted Building Certifier

Date of issue: 25 November 2020

Date of expiry: 24 November 2023



Certificate of Conformity

State or territory variation(s):

C1.8(a)(i)
including
Spec C1.8
Clause 3.4

Lightweight construction – Walls generally

3.10.5.0(c)

Construction in bushfire prone areas

C1.9(e)(iv)

Non-combustible building elements

3.12.1.1(a)

Building Fabric – Building fabric thermal Insulation (as much as it can be used as part of a system contributing towards the Total R-Value as outlined in clause 3.12.1.4 External Walls) subject to state and territory variations

C1.10(a)(ii)
including
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)

J1.2(a)

Building Fabric – Thermal Construction – general (as much as it can be used as part of a system contributing towards the Total R-Value as outlined in J1.5 Walls and glazing) subject to state and territory variations

SA C1.1(a)(iv)
and (v); and
SA C1.1(c)
and (d)

Type of construction required

NSW 3.10.5.0

Construction in bushfire prone areas

QLD 3.10.5.0

Construction in bushfire prone areas

NSW 3.12

Energy Efficiency
In New South Wales, Part 3.12 does not apply.
Note: The New South Wales Additions contain energy efficiency measures that apply in New South Wales to support and complement BASIX

NSW G5.1 &
G5.2

Construction in Bushfire Prone Areas – Protection

QLD G5.1

Construction in Bushfire Prone Areas – Construction Requirements

VIC 3.12.0(a)

3.12.0(a) is replaced in Victoria

NSW Section J

Section J is replaced with NSW Section J which consists of two (2) subsections:

NT 3.12

In the Northern Territory, Part 3.12 is replaced with BCA 2009 Part 3.12

SA 3.12

In South Australia, for the purposes of this Part, a sunroom or the like is deemed to be a Class 10a building and must comply with 3.12.1.6

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NT Section J For a Class2 building and a Class4 part of a building, Section J is replaced with Section J of BCA 2009. Section J does not apply to Class 3 and 5-9 buildings

QLD Section J In Queensland, for a Class 2 building, Section J is replaced with Section J of BCA 2009

QLD 3.12

In Queensland, building work for the energy efficiency of Class 1 buildings is also regulated by the Building Act 1975 and the Queensland Development Code MP 4.1—Sustainable buildings

ACT 3.12

In the Australian Capital Territory, see the ACT Appendix for further information on application to building work on new buildings and additions to existing buildings in the ACT

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. Installation shall be in accordance with the Technical Brochure – NULINE™ PLUS Weatherboards, dated October 2020.
2. For Class 2 to Class 9 buildings, BGC NULINE™ PLUS weatherboard-style cladding system is suitable for only Type C Fire-Resisting Construction when fixed to timber stud framing.
3. For Type A and Type B construction, sarking-type materials must comply with clause C1.9(e)(vi) of NCC 2019 BCA Volume 1 and the thermal insulation must be of non-combustible material.
4. For timber and steel framing applications, the wall system only achieves an FRL 60/60/60 when 14mm BGC NULINE™ PLUS weatherboard-style cladding is installed in conjunction with 1 layer of 16mm GTEK™ Fire and Wet Area Plasterboard on the external fire side. On the internal side, with 1 layer of BGC 10mm GTEK™ Plasterboard to be installed as the internal wall lining.
5. For timber and steel framing applications, the wall system only achieves an FRL 90/90/90 when 14mm BGC NULINE™ PLUS weatherboard-style cladding is installed in conjunction with 2 layers of 16mm GTEK™ Fire and Wet Area Plasterboard on the external fire side where joints in the second layer are to be staggered relative to joints in the first layer or ensuring that the joints in the first layer of plasterboard are lapped by the second sheet. On the internal side, with 1 layer of 10mm GTEK™ Plasterboard to be installed as the internal wall lining.
6. NULINE™ PLUS weatherboard-style cladding system must be constructed from either:
 - a) A timber frame constructed in accordance with AS 1684 or AS 1720.1 (MGP10 grade or higher with minimum dimensions 90 mm x 45 mm & 600mm maximum stud spacing for FRL applications); or
 - b) A cold-formed steel frame constructed in accordance with NASH Standard for Residential and Low-rise Steel Framing, Part 1: Design Criteria, or AS 3623 Domestic Metal Framing (with minimum stud specification of 0.75 mm BMT, G550, and 600mm maximum stud spacing for FRL applications).

Building classification/s:

Volume 1 – Class 2 to Class 9 buildings
Volume 2 – Class 1 and Class 10(a) buildings

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7. NULINE™ PLUS weatherboard-style cladding system has been tested for weatherproofing requirements and achieved serviceability limit state wind pressures up to +820Pa and -1230Pa water penetration for the cladding fixed directly to the wall studs utilising a flexible vapour permeable building wrap as an air barrier and water control layer.
8. BGC Plasterboard (10mm and 13mm thick gypsum-based plaster core) when tested to AS 3837 achieved a Group Number 1 and an Average specific extinction area (ASEA) of 12.8m²/kg in accordance with AS 5637.1:2015.
9. NULINE™ PLUS weatherboard-style cladding System is suitable for use on buildings constructed in accordance with AS 3959:2018 that have a Bushfire Fire Attack Level up to and including BAL 40.
10. NULINE™ PLUS weatherboard-style cladding were not assessed for use in internal applications.
11. Site environmental factors such as wind and corrosivity zones need to be considered to determine its suitability for a particular environment.
12. All flashing including inter-storey junction must be metal flashing.

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.

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.

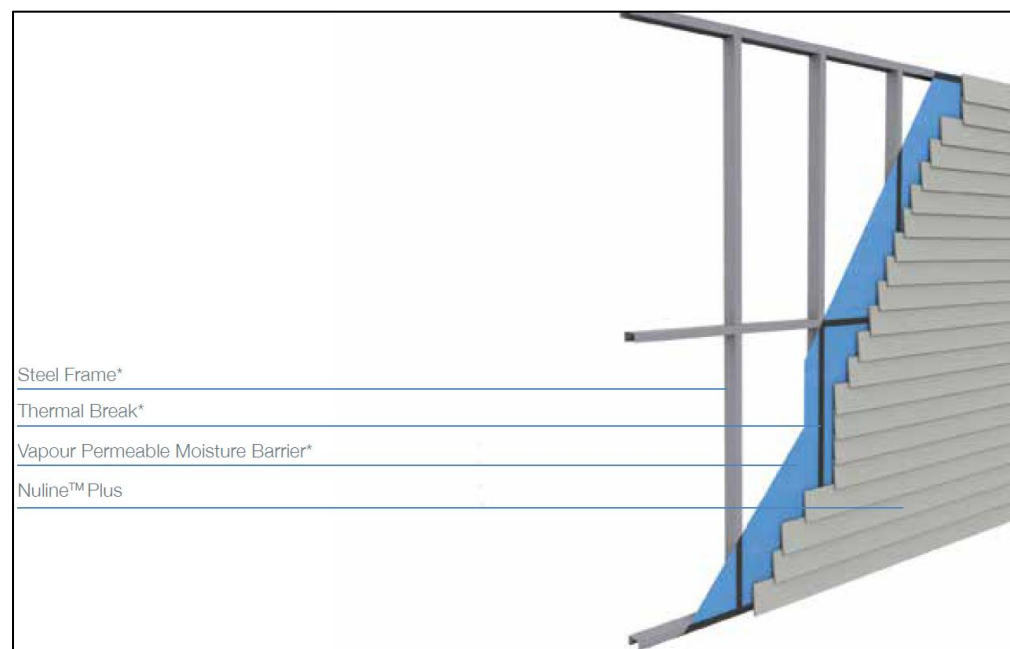
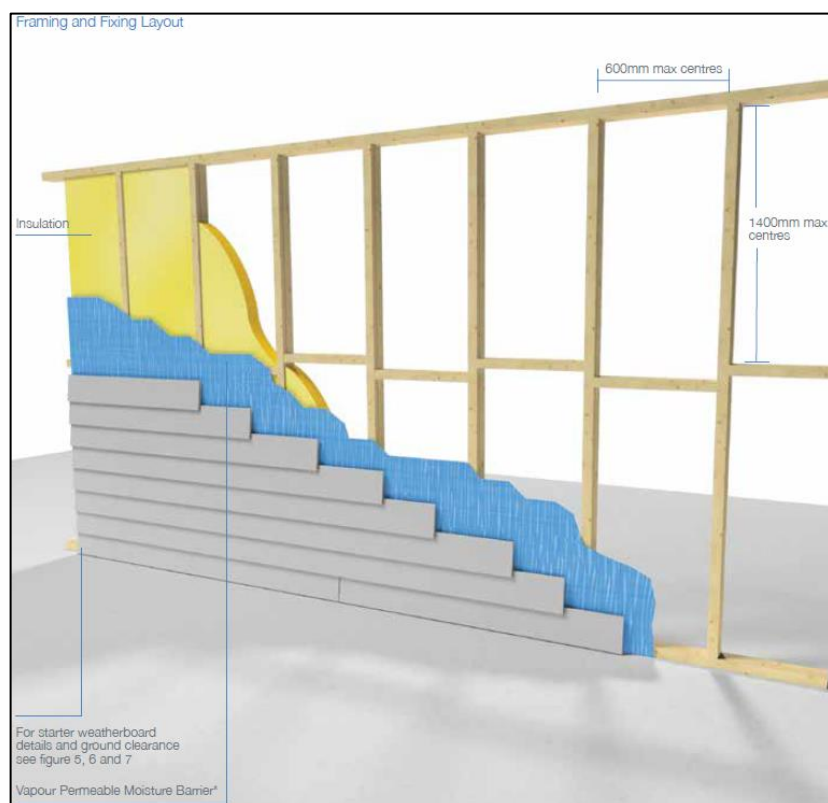
APPENDIX A – PRODUCT TECHNICAL DATA

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.



Certificate of Conformity

External Corner Detail

Notes:

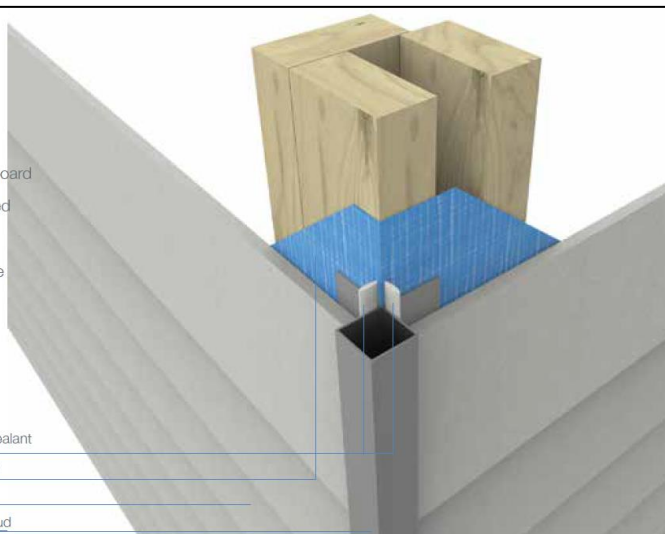
- / Secure the pre-formed aluminium corner moulding to corner stud prior to installing Nuline™ Plus weatherboards.
- / Install Nuline™ Plus weatherboard snug into aluminium corner, ensure bottom edge is covered by the moulding.
- / Tongue and groove ends will need to be removed to ensure complete cover at external and internal corners.

Continuous bead of polyurethane sealant

Vapour Permeable Moisture Barrier*

Nuline™ Plus

External Aluminium Corner Fix to stud



Internal Corner

Notes:

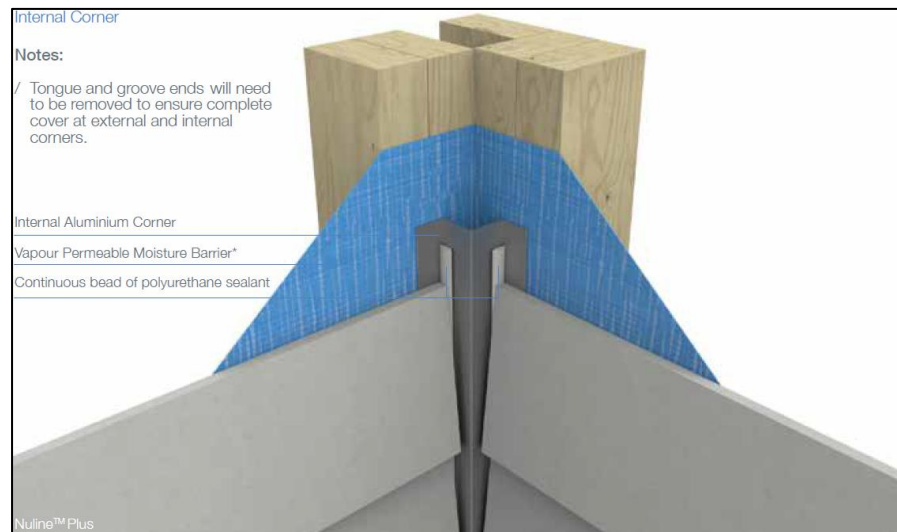
- / Tongue and groove ends will need to be removed to ensure complete cover at external and internal corners.

Internal Aluminium Corner

Vapour Permeable Moisture Barrier*

Continuous bead of polyurethane sealant

Nuline™ Plus



A3 Product specification

Below are some physical properties of NULINE™ PLUS fibre cement planks and accessories.

THICKNESS mm	WEIGHT* l/m	WIDTH mm	LENGTH mm
14	3.5	175	4200
	4.2	205	4200

* Weight is based on Equilibrium moisture Content.

Accessories available from BGC

INTERNAL ALUMINIUM CORNER	3000mm	BGC PRODUCT CODE INTONR36	
EXTERNAL ALUMINIUM CORNER	3000mm	BGC PRODUCT CODE EXTONR36	
ALUMINIUM J MOULD	2700mm	BGC PRODUCT CODE 806	
GALVANISED STARTER STRIP	2700mm	BGC PRODUCT CODE 826	

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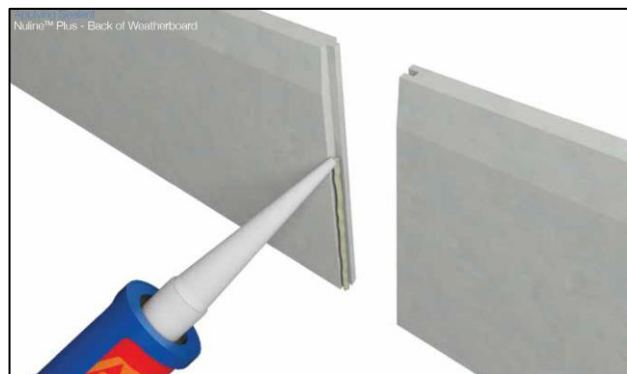
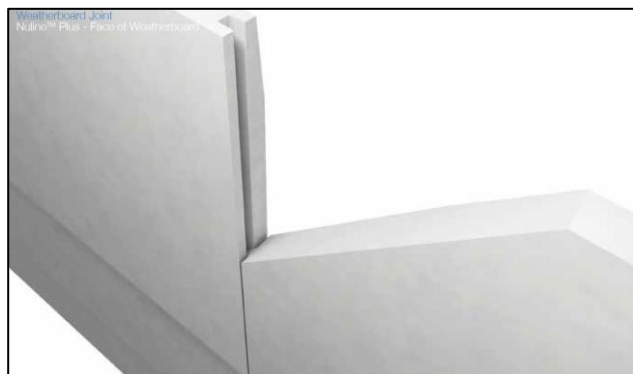
A4 Manufacturer and manufacturing plant(s)

BGC Fibre Cement, 121 Bannister Road, Canning Vale, WA, 6155, Australia.

A5 Installation requirements

Refer to Page 3 of this certificate and the following:

- Technical Brochure – NULINE™ PLUS Weatherboards – dated October 2020.



A6 Other relevant technical data

For timber framing applications, NULINE™ PLUS weatherboard-style cladding system installed with 90mm R2.5 Glasswool batt insulation achieved a Total R-Value of 2.5 in winter and 2.4 in summer.

For steel framing applications, NULINE™ PLUS weatherboard-style cladding system installed with 90mm R2.5 Glasswool batt insulation achieved a Total R-Value of 2.2 in winter and 2.1 in summer.

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)(a) / A5.2(1)(d) – Test and Assessment reports issued by an Accredited testing Laboratory – Cyclone Testing Station, James Cook University (NATA accreditation No. 14937).
- Volumes 1 & 2 – A2.2(2)(a)/A5.2(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person. (BRANZ).
- Volume 2 – A2.2(2)(a)/A5.2(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person (Building Advisory Committee, Northern Territory Government – Deemed to Comply Manual (DTCM) ref: M/268/01).
- Volumes 1 & 2 – A2.2(2)(a) / A5.2(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person (Acronem Consulting Australia).

2. Weatherproofing assessment:

- Volumes 1 & 2 – A2.2(2)(a) / A5.2(1)(d) – A report issued by an Accredited testing Laboratory – Ian Bennie and Associates (NATA accreditation No. 2371).
- Volumes 1 & 2 – A2.2(2)(a) / A5.2(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person (Acronem Consulting Australia).

3. Fire Resistance assessment:

- Volumes 1 & 2 – A2.3(2)(a) / A5.2(1)(d) – A test report issued by an Accredited testing Laboratory – Exova Warringtonfire (NATA accreditation No. 3277).
- Volumes 1 & 2 – A2.3(2)(a) / A5.2(1)(e) – An assessment report issued by an Accredited testing Laboratory – Exova Warringtonfire (NATA accreditation No. 3277).

4. Lightweight Construction assessment:

- Volume 1 – A2.3(2)(a) / A5.2(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person – Ian Bennie and Associates.

5. Non-Combustibility

- Volumes 1 & 2 – A2.3(2)(a) / A5.2(1)(d) – A report issued by an Accredited testing Laboratory – CSIRO (NATA accreditation No. 165).

6. Fire Hazard Properties assessment:

- Volume 1 – A2.3(2)(a) / A5.2(1)(d) – A report issued by an Accredited testing Laboratory – CSIRO (NATA accreditation No. 3632).
- Volume 1 – A2.3(2)(a)/A5.2(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person (IGNIS Solutions).

7. Resistance to Bushfire Attack assessment:

- Volumes 1 & 2 – A2.3(2)(a) / A5.2(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person (Exova Warringtonfire).

8. Thermal Insulation assessment:

- Volumes 1 & 2 – A2.3(2)(a) / A5.2(1)(d) – A report issued by an Accredited testing Laboratory – AWT Product Testing (NATA accreditation No. 1356).
- Volumes 1 & 2 – A2.3(2)(a) / A5.2(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person (Acronem Consulting Australia).

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B2 Reports

Evaluation methods	Related Supporting Evidence as listed below
Structural Assessment	Numbers 1 – 5
Weatherproofing Assessment	Number 6
Fire Resistance assessment	Numbers 7 – 9
Lightweight Construction Assessment	Numbers 10 – 11
Non-Combustibility Assessment	Number 12
Fire Hazard Properties Assessment	Numbers 13 – 14
Resistance to Bushfire Construction Assessment	Number 15
Thermal Insulation Assessment	Numbers 16 – 18

Structure

- 1. Test Report for Cyclic Simulated Wind Load Strength Testing of Nuline cladding plank (14.0mm nominal thickness) from James Cook University (NATA Accreditation No: 14937), Report No. TS1150, dated: 5 April 2018.**
This document provides the test results of Stratum Contour, Stratum Trio and Nuline weatherboard systems for resistance to simulated cyclic wind load carried out in accordance with AS 4040.3:1992.
- 2. Test Summary Report for Assessment of the Cyclonic Wind Load Capacity of Nuline Weatherboard System (14mm nominal thickness) from James Cook University (NATA Accreditation No: 14937), Test Summary Sheet No. TS1150c, dated 5 April 2018.**
This document provides the reappraisal of the test results from test report TS1150 and recommended limit state design wind pressures for cyclonic wind loads.
- 3. Test Report for Face load testing of BGC Nuline Weatherboard direct fixed wall system (14.0mm nominal thickness) from BRANZ, Report No. ST0784, dated: 14 November 2008.**
This document provides the test results of Nuline weatherboard direct fixed wall system under face loading carried out in accordance with AS 4040.2:1992.
- 4. Engineering certificate for 14mm Nuline Fibre Cement Cladding from Building Advisory Committee, Northern Territory Government – Deemed to Comply Manual (DTCM) ref: M/268/01), dated 23 November 2018.**
This certificate confirms the product satisfies performance requirement P2.1.1 for construction in a high wind area.
- 5. Appraisal Report for Innova NULINE™ PLUS Wall Cladding System – External Walls from Acronem Consulting Australia Pty Ltd, Report No. ACA 200717 201027, dated 27 October 2020.**
This appraisal describes the basis of a performance solution based on engineering calculations and other test reports to satisfy the relevant Performance Requirements and DTS provisions of the NCC 2019 for structural resistance and reliability.

Certificate of Conformity

Weatherproofing

- 6. Test Report for Water Penetration for Serviceability Limit State of Nuline Plus Cladding System (Direct Fixed) from Ian Bennie and Associates (NATA Accreditation No: 2371), Report No. 2019-019-S5, dated June 2019**

This test report provides results of Nuline Plus Cladding System (Direct Fixed with a vapour permeable building wrap) against the requirements of the NCC 2016 Weatherproofing Verification Methods FV1 & V2.2.1, carried out in accordance with AS/NZS 4284:2008 Testing of building facades and concludes that the product passed the compliance requirements at the nominated serviceability limit state pressures.

Fire Resistance

- 7. Test Report for Fire resistance of a BGC loadbearing wall system from Exova Warringtonfire (NATA Accreditation No. 3277), Report # 2369800.1, dated 18 September 2009**

This report provides the results of testing BGC fibre cement wall system to AS1530.4:2005 comprising a timber framed wall with 7.5mm fibre cement clad to the exposed face backed by BGC 16mm thick wet area fireboard, with BGC 10mm plasterboard to the unexposed face and returned a result of FRL 60/60/60.

- 8. Assessment Report from Warringtonfire for Fire resistance performance of loadbearing boundary wall clad with various BGC fibre cement sheets, Report #53202100 Rev 5, dated 6 May 2019**

This report provides an assessment of the fire resistance performance of BGC Wall Systems if tested in accordance with AS1530.4:2014 with various BGC fibre cement panels and BGC GTEK Fire and Wet Area plasterboard on the external or exposed side and 10mm BGC GTEK standard plasterboard internal lining.

- 9. Test Report for Fire resistance on a horizontal separating element of a BGC fire-resistant plasterboard from CSRIO (NATA Accreditation No. 3632), Report # FSH 1168, dated 14 July 2006**

This report provides the results of testing BGC roof-ceiling system to AS1530.4:2005 comprising a metal ceiling frame lined on the exposed face with one layer of 13mm thick and one layer of 16mm thick BGC fire-resistant plasterboard (FRPB) and returned a result of FRL 90/90/90.

Lightweight Construction

- 10. Test Report for Impact Test with various BGC fibre cement sheets (including Nuline) from Ian Bennie and Associates, Report #2019-109 Report 1, dated 11 February 2020**

This report provides an assessment based on witnessed testing of a lightweight wall construction carried out by Curtin University for impact test to ASTM E695-79 modified to the requirements of NCC 2019 Vol 1 Specification C1.8.

- 11. Test Report for surface indentation tests with various BGC fibre cement sheets (including Nuline) from Ian Bennie and Associates, Report #2019-109 Report 2, dated 14 February 2020**

This report provides results of testing wall materials for surface indentation and concludes it passed the test requirements as specified in the NCC 2019 BCA Vol 1 Specification C1.8 Clause 5(d).

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Non-Combustibility

12. Certificate of Test, Combustibility Test of BGC fibre cement board from CSIRO (NATA Accreditation No: 165), Report # FNC11592, dated 5 February 2016

This report provides test results of specimens tested for combustibility in accordance with AS1530.1:1994 and concludes that the material is not deemed combustible.

Fire Hazard Properties

13. Test Report for Heat and Smoke Release Rates of BGC Plasterboard (10.0mm and 13.0mm) from CSIRO (NATA Accreditation No: 3632), Report # FNK 0422, and certificate of assessment (No. 725), dated 8 December 2005

This report provides test results on the behaviour of the test specimens for heat and smoke release rates for materials tested in accordance with AS/NZS 3837:1998 and concludes that the material achieved Group Number 1 and an Average Specific Extinction Area (ASEA) of 12.8m²/kg.

14. Assessment Report for Group Number of BGC Plasterboard sheet from Ignis Solutions, Report No. IGNIS-8120-02 I01 R01 in accordance with AS 5637.1:2015, dated 27 May 2020

This document provides an assessment based on CSIRO test reports for specimens tested in accordance with AS/NZS 3837:1998 and concludes that the material achieved Group Number 1 and an Average Specific Extinction Area (ASEA) of 12.8 to 44.0m²/kg.

Resistance to Bushfire Attack

15. Review Report against AS3959-2009 Amendment 3 of BGC Nuline Fibre Cement sheets (14.0mm) from Exova Warringtonfire, Report No. 23616-RPT01-2, dated 19 December 2014

This report provides a review of a range of BGC products and their suitability for use in bushfire prone areas in accordance with AS3959-2009. It indicates Nuline 14mm is suitable for use in bushfire prone areas up to and including BAL 40.

Thermal Insulation

16. Test Report of BGC Nuline Weatherboard Plank (14.0mm thick) from AWTA (NATA Accreditation No: 1356), Test Number 14-001707, dated 10 December 2014

This report provides results for specimen tested to ASTM C518:2010 – Steady-State Thermal Transmission Properties by Means of the Heat Flow Apparatus and returns a thermal resistance of 0.2m²K/W.

17. Thermal Performance Calculations of BGC fibre cement sheets from Acronem Consulting Australia, Reports W200730a, dated 30 July 2020

This report provides the R-value calculations to AS/NZS 4859:2018 Parts 1 and 2 of BGC Nuline Plus Weatherboard (14.0mm) when installed with 90 x 45 Pine Framing and 90mm R2.5 Glasswool Batt insulation achieved a Total R-Value of 2.5 in winter and 2.4 in summer.

18. Thermal Performance Calculations of BGC fibre cement sheets from Acronem Consulting Australia, Reports W200730b, dated 30 July 2020

This report provides the R-value calculations to AS/NZS 4859:2018 Parts 1 and 2 of BGC fibre cement sheets (14.0mm) when installed with 35mm x 90mm x 0.55bmt Steel Framing and 90mm R2.5 Glasswool Batt insulation achieved a Total R-Value of 2.2 in winter and 2.1 in summer.