PRODUCT CERTIFICATE

HUME CEMBOARD

PRIMA*flex*, PRIMA*plank*, PRIMA*base* & PRIMA*alpha* WeatherClad

CERTIFICATE NO: CM20164
Original issue date: 27 March 2020
Version number: Rev.1
Version date: 3 March 2023

1 CERTIFICATE HOLDER DETAILS

HUME CEMBOARD INDUSTRIES Sdn. Bhd. – CENTRAL

Address: 12, JALAN TANDANG 46050 PETALING JAYA, SELANGOR DARUL EHSAN MALAYSIA

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2 PRODUCT CERTIFICATION BODY

SAI Global Certification Services Pty Limited
(ACN 108 716 669) Trading as "SAI Global"
Operating as "Intertek & Intertek SAI Global"
JAS-ANZ Accreditation No. Z1440295AS
650 Lorimer Street Port, Melbourne, VIC 3207
www.saiglobal.com

The complaints process for this certificate can be found here:
https://saiassurance.com.au/complaints-appeals/

3 DESCRIPTION OF BUILDING METHOD OR PRODUCT

PRIMA*flex* – A smooth flat autoclaved cellulose fibre reinforced cement sheet with square edges.

PRIMA*plank* – An autoclaved cellulose fibre reinforced cement siding board. Available in smooth, woodgrain & cedar profiles.

PRIMA*base* – An Autoclaved cellulose fibre reinforced cement sheet rebated on 3 sides for seamless jointing and as a substrate for texture coating.

PRIMA*alpha* WeatherClad – An autoclaved smooth cellulose fibre cement cladding. Pre-primed featuring tongue & groove jointing system at the width & bevelled top edge at the back surface.

*Continuation of description can be found in item **11 – Supporting Information about Description**.*
*Matters that should be taken into account in the use or application of the building method or product can be found in item **6 – Conditions and Limitations of Use.***

4 INTENDED USE OF BUILDING METHOD OR PRODUCT

PRIMA*flex* – An External wall cladding, external ceiling and an eaves lining boards.

PRIMAplank – A siding board for external walls & gable ends cladding where a traditional timber look surface is required.

PRIMAbase – A substrate for exterior texture coating systems.

***PRIMAalpha* WeatherClad** – *A nailable siding board designed for external cladding.*

*Continuation of intended use can be found in item **12 – Supporting Information about Intended use.***

5 NEW ZEALAND BUILDING CODE PROVISIONS

Clause B1 Structure — B1.3.1; B1.3.2; B1.3.3(a, h, j); B1.3.4

Clause B2 Durability — B2.3.1(b); B2.3.2

Clause C3 Fire affecting areas beyond the fire source — C3.7

Clause E2 External Moisture — E2.3.2; E2.3.5

Clause F2 Hazardous Building materials — F2.3.1

*How the building method or product complies or contributes can be found in item **9 – Basis for Certification.***
*Any qualifications on the extent of that compliance can be found in item **6 – Conditions and limitations of use.***

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6 CONDITIONS AND LIMITATIONS OF USE

1. **PRIMA*flex*, PRIMA*plank*, PRIMA*base*,** and **PRIMA*alpha* Weatherclad** External cladding on steel or timber framed buildings, within the scope of E2/AS1 para 1.0 for all NZS3604:2011 wind zones up to and including Extra High.
2. **PRIMA*flex*, PRIMA*plank*, PRIMA*base*,** and **PRIMA*alpha* Weatherclad** External wall cladding can be direct fixed only where the E2/AS1 Risk Score is 0-6 and must be fixed over a nominal 20mm drained cavity where the E2/AS1 Risk Score is between 7 and 20.
3. **PRIMA*flex*, PRIMA*plank*, PRIMA*base*** and **PRIMA*alpha* Weatherclad** must be installed in accordance with the manufacturer's installation instructions as relevant and referenced below

NOTE: Together, items 3,4,5 and 6 define scope of use

Reference Documents:

- Prima External Cladding Technical Manual Version 3038_V2, June 2016 (for PRIMA*flex*, PRIMA*plank and* PRIMA*base).*
- PRIMA*alpha* WeatherClad Technical Manual V1 1708, Aug 2017.

7 HEALTH AND SAFETY INFORMATION

Samples of Hume Cemboard fibre cement panels were tested to AS 4964 – Method for the qualitative identification of asbestos in bulk samples and results of the analysis confirmed no asbestos was detected.

8 SIGNATURES

Name and Signature of the Product Certification Body's (PCB) authorised representative
and, where different, the person assigned by the PCB to make the certification decision

Calin Moldovean
President, Business Assurance
SAI Global Assurance

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9 BASIS FOR CERTIFICATION

- **Structure –** by testing and comparison with provisions of Verification Method B1/VM1 and Acceptable Solution B1/AS1
- **Durability –** by testing and comparison with provisions of Verification Method B2/VM1
- **Fire –** by testing and comparison with the provisions of Verification Method C/VM2
- **External Moisture –** by testing to Verification Method E2/VM1, and comparison with details of Acceptable Solution E2/AS1
- **Hazardous Building Materials –** by analysis by testing

10 SUPPORTING DOCUMENTATION FOR CERTIFICATION

Acceptable Solutions and Verification Methods for New Zealand Building Code:

1. **Building regulations 1992 (SR 1992/150)** – Version as at 15 November 2021.
2. **Acceptable Solutions and Verification Methods** for New Zealand Building Code Clause **B1 Structure.** Amendment 20 (29 November 2021).
3. **Acceptable Solutions and Verification Methods** for New Zealand Building Code Clause **B2 Durability.** Amendment 12 (28 November 2019).
4. **Verification method: Framework for Fire Safety Design** for New Zealand Building Code Clauses **C1-C6 Protection from Fire.** Amendment 6 (5 November 2020)
5. **Verification Methods E2/VM1 and Acceptable Solutions E2/AS1, E2/AS2 and E2/AS3** for New Zealand Building Code Clause **E2 External Moisture.** Amendment 10 (5 November 2020).

Test Reports

1. **BRANZ report TP1563 DU01 Weathertightness Test to E2/VM1 of the PRIMA*flex* Cavity System (20 March 2008)**
   This report provides the results of testing the PRIMA*flex cavity system to AS/NZS 4284:2008 Testing of building facades, referenced in in verification method E2/VM1.*
2. **BRANZ Report STO741 Face load testing of the PRIMA*flex* Cavity System (10 April 2008)**
   This report establishes the strength of the PRIMA*flex cavity System under face loading and relates it to the wind loading sections of NZS3604:2011 Timber-framed buildings.*
3. **BRANZ Appraisal 635 PRIMA*flex* Cavity System (23 May 2019)**
   This report contains an assessment by BRANZ of the PRIMA*flex Cavity System and forms the opinion the system is fit for purpose and will comply with the Building Code to the extent specified in this certificate subject to conditions and limitations of use.*
4. **CSIRO Technical Assessment 351 PRIMA*base* External Cladding Base Sheet for Texture Coating (January 2007)**
   This report contains an assessment by CSIRO about the physical properties and performance of PRIMA*base as a suitable substrate for texture coating.*
5. **OPUS Appraisal 1997/13 PRIMA*base* fibre cement wallboard (March 1998)**
   This report contains an assessment by Opus on the properties and performance of PRIMA*base and includes consideration of testing using simulated wind loads. It also states that* PRIMA*base meets the performance requirements of NZBC for 50 years provided the integrity of the coating system is maintained.*
6. **CSIRO Technical Assessment 228 PRIMA*flex* Cladding, Eaves Lining, Ceiling and Partition Boards (December 1997)**
   This report contains an assessment by CSIRO on the properties and performance of PRIMA*flex and states that* PRIMA*flex is suitable for external cladding, ceilings, and lining of eaves.*
7. **OPUS Appraisal 1997/15 PRIMA*flex* Fibre Cement Wallboard (June 1998)**

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This report contains an assessment by Opus on the physical properties and performance of PRIMA*flex including resistance to impacts, durability, external moisture, and energy efficiency and includes consideration of testing using simulated wind loads. It also states that* PRIMA*base meets the performance requirements of NZBC for 50 years provided the integrity of the coating system is maintained.*

8. **OPUS Appraisal 1997/16 PRIMA*plank* Fibre Cement Cladding (December 1998)**
   This report contains an assessment by Opus on the physical properties and performance of PRIMA*plank including resistance to impacts, durability, external moisture, and energy efficiency. It also includes consideration of testing using simulated wind loads.*
9. **BRANZ Report DC0724 PRIMAbase and PRIMA*flex* 3-year Exposure Results and Summary of Previous Testing (17 August 2004)**
   This report documents the performance of PRIMA*base and* PRIMA*flex cellulose fibre-cement board after 3 years aging under natural conditions and summarises previously reported test results to support the preparation of a 50-year durability opinion consistent with the NZBC requirements for use as a structural element.*
10. **CSIRO report FNK 0195 Test on a fibre-reinforced-cement sheet (October 2004)**
    This report contains the results of testing PRIMA*flex sheet at 50 kW/m^2 irradiance in accordance with AS/NZS 3837:1998 Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter. The sample failed to ignite within 10 minutes.*
11. **CSIRO Report FNC9016 Combustibility Test for Material (28 November 2007)**
    This report presents results of testing PRIMA*flex in accordance with AS 1530.1-1984 Methods for fire tests on building materials, components and structures - Part 1: Combustibility test for materials, and establishes the product is non-combustible.*
12. **HCI/14/000800AA Tests (PRIMAplank 7.5mm) to AS/NZS2908.2:2000 (May 2015)**
    This report contains the results of testing PRIMA*plank to AS/NZS 2908.2, including bending strength, apparent density, water permeability, warm water, dry soak, freeze-thaw, heat rain and dimensional tolerances, and indicated the material complied in all respects with the performance characteristics required of Type A (external application) sheets, Category 3 under AS/NZS 2908.2:2000 Cellulose cement products Part 2: Flat sheets.*
13. **HCI/17/000400AA Tests (PRIMAflex 4.5mm) to AS/NZS2908.2:2000 (Dec 2017)**
    This report contains the results of testing PRIMA*flex to AS/NZS 2908.2, including bending strength, apparent density, water permeability, warm water, dry soak, freeze-thaw, heat rain and dimensional tolerances, and indicated the material complied in all respects with the performance characteristics required of Type A (external application) sheets, Category 3 under AS/NZS 2908.2:2000 Cellulose cement products Part 2: Flat sheets.*
14. **HCI/17/000200AA Tests (PRIMAalpha WeatherClad 16mm) to AS/NZS2908.2:2000 (Dec 2017)**
    This report contains the results of testing PRIMA*alpha Weatherclad to AS/NZS 2908.2, including bending strength, apparent density, water permeability, warm water, dry soak, freeze-thaw, heat rain and dimensional tolerances, and indicated the material complied in all respects with the performance characteristics required of Type A (external application) sheets, Category 3 under AS/NZS 2908.2:2000 Cellulose cement products Part 2: Flat sheets.*
15. **HCI/18/000100AA Tests (PRIMAbase 7.5mm) to AS/NZS2908.2:2000 (May 2018)**
    This report contains the results of testing PRIMA*base to AS/NZS 2908.2, including bending strength, apparent density, water permeability, warm water, dry soak, freeze-thaw, heat rain and dimensional tolerances, and indicated the material complied in all respects with the performance characteristics required of Type A (external application) sheets, Category 3 under AS/NZS 2908.2:2000 Cellulose cement products Part 2: Flat sheets.*
16. **BRANZ Report DC2092 Properties of Hume Fibre Cement Board (June 2011)**
    This report contains the results of testing to AS/NZS 2908.2, including bending strength, Freeze-thaw susceptibility, warm water soaking, soak-dry testing, resistance to heat-rain cycling, moisture movement, and moisture movement. Testing indicated the material complied in all respects with the performance characteristics required of Type A (external application) sheets under AS/NZS 2908.2:2000 Cellulose cement products Part 2: Flat sheets. The dimensional stability (moisture movement) of the sample was also measured using the method ISO 8336:2009 Fibre-cement sheets – Product specification and test methods.
17. **Bureau Veritas Report 09ARTH1428531 Rev 3 Tests to AS/NZS2908.2:2000 (June 2010)**

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This report contains the results of testing to AS/NZS 2908.2, including apparent density, bending strength, and water permeability. Testing indicated the material complied with the requirements of Type A (external application) sheets under AS/NZS 2908.2:2000 Cellulose cement products Part 2: Flat sheets.

18. **Envirolab (various samples of Hume Cemboard fibre cement panels and thicknesses) Tests to AS4964 – Method for the qualitative identification of asbestos in bulk samples**
    Samples of Hume Cemboard fibre cement panels were tested, and results of the analysis confirmed no asbestos was detected.

SUPPORTING INFORMATION

11 SUPPORTING INFORMATION ABOUT DESCRIPTION

PRIMA*flex* – A lightweight, smooth flat autoclaved cellulose fibre cement sheet. The basic composition is Portland cement, cellulose fibre, ground sand and water. Available in 4.5mm, 6.0mm, 9.0mm or 12.0mm thickness with square edges A variety of standard lengths and widths are available to suit specific application.

PRIMA*plank* – An autoclaved 7.5mm thick cellulose fibre reinforced cement siding board. It has a timber planking appearance. Available in “Smooth Surface” (for traditional timber look), and “Woodgrain Texture” (for enhanced timber profiling) and “Timbergrain Texture” (for straight grain wood profiling).

PRIMA*base* – An autoclaved 7.5mm thick flat cellulose fibre reinforced cement sheet blue primed providing a suitable substrate for texture coating systems. It features rebated edges for a seamless joint finish prior to texture coating and is compatible with a wide range of acrylic finishes.

For more information about standard sizes and product physical and mechanical properties, refer to installation instructions for **PRIMA*flex*, PRIMA*plank*** and **PRIMA*base*** provided in the Prima External Cladding Technical Manual Version 3038_V2, June 2016.

PRIMA*alpha* Weatherclad An autoclaved pre-primed nailable cellulose fibre cement cladding featuring tongue and groove jointing system at the width and bevelled top edge at the back surface for quick joint installation. Available in 16.0mm thickness with smooth surface that provides deep shadow lines for design flexibility. For more information about standard sizes and product physical and mechanical properties, refer to PRIMA*alpha* Weatherclad Technical Manual V1 1708, Aug 2017.

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MATERIAL **PROPERTIES** & **COMPOSITION**

Properties	Values
Product Composition	• Top Grade Cellulose Fibre • Finely Ground Sand • Portland Cement • Water
Bending Strength (Saturation) Category Type	> 7 MPa (AS/NZS 2908.2) 3 A
Average Density (Oven Dry)	1300 kg/m3 (AS/NZS 2908.2)
Dimensional & Geometrical Conformance	Passed (AS/NZS 2908.2)
Water Permeability	Passed (AS/NZS 2908.2)
Moisture Movement 30-90% relative humidity	0.05% (ISO 8336: 2009)
Heat-Rain Resistance	Passed (AS/NZS 2908.2)
Frost Resistance	Passed (AS/NZS 2908.2)
Warm Water Resistance	Passed (AS/NZS 2908.2)
Soak-Dry Performance	Passed (AS/NZS 2908.2)
Combustibility	Deem to comply with BCA
Early Fire Hazard Test	Passed (AS 1530.3)
Thermal Conductivity	~ 0.20W/mK (ASTM C518)

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Framing & Fixing Specifications

Framing Requirement

PRIMA*flex*™ sheets are suitable for fixing to timber or light gauge steel frames. Construction of framing shall be in accordance with local building practices.

- Stud spacing - 450mm maximum, for 4.5mm sheets and 600mm maximum for 6mm sheets and above
- Nogging spacing - 1200mm maximum

Stud and nogging face width:-

- Timber - 45mm minimum
- Steel - 38mm minimum

Where necessary, the face width may be increased by providing trim-packing to the side of the studs and noggings

Refer to PRIMA*flex*™ Technical Manual for complete installation detail.

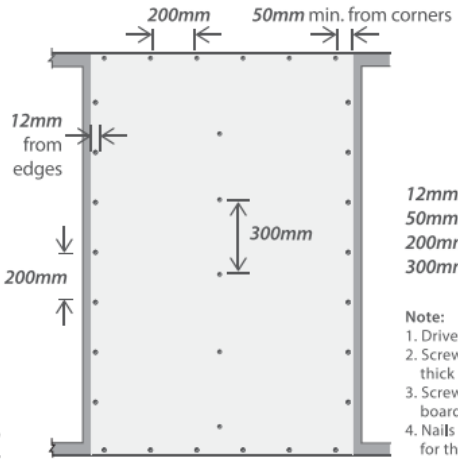
Fastener Specification

Table below show the suitable type of the fastener on the right farming:

Fixing to Timber Support	Fixing to Steel Support (*0.75mm to 1.55mm* Base Metal Thickness)
Galvanised Fibre Cement Nails 	Prima Wingtek Self - Embedding screw 
• Min *2.0mmØ x 25mm* for *3.2mm* and *4.5mm* thick boards	• *No. 8 x 7/8" (22.0mm)* for thick board from *4.5mm* up to *6mm*
• Min *2.0mmØ x 30mm* for *6.0mm* and *7.5mm* thick boards	• *No. 8 x 1-1/8" (28.0mm)* for thick board from *7.5mm* up to *12mm*
• Min *2.0mmØ x 40mm for 9.0mm* and *12.0mm* thick boards	• *No. 8 x 1-1/4" (32.0mm)* for thick board from *12mm* up to *16mm*
	• *No. 8 x 1-3/4" (44.0mm)* for thick board from *18mm* up to *20mm*

Other type of screws may also be suitable, but method of application could vary. Refer to screw manufacturer for proper recommendation.

Fastener Fixing Distance



12mm min. from edge
50mm min. from corner
200mm centres max. at sheet perimeter
300mm centres max. elsewhere

Note:
1. Drive nail head flush with board surface.
2. Screw fixing is only suitable for *6mm* thick board and above.
3. Screw head must be embedded below board surface.
4. Nails and screw must be suitable coated for the intended applications.

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12 SUPPORTING INFORMATION ABOUT INTENDED USE

PRIMA*flex* External applications in eaves, soffit linings, ceilings, partitions, garble ends, and wall cladding.

PRIMA*plank* External applications as a Fascia Board Ceiling, Gate and Fencing, Skirting, Screening, Wall and Gable End Cladding.

PRIMA*base* External applications as substrate for texture coating systems. It features rebated edges for a seamless joint finish prior to texture coating and is compatible with a wide range of acrylic finishes.

PRIMA*alpha* Weatherclad External application pre-primed nailable cladding.

For more information about intended use, refer to the following manuals, as relevant:

- For **PRIMA*flex*, PRIMA*plank*** and **PRIMA*base*** – Prima External Cladding Technical Manual Version 3038_V2, June 2016
- For **PRIMA*alpha* Weatherclad** – PRIMAalpha Weatherclad Technical Manual V1 1708, Aug 2017.

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