



Certificate of Conformity

Certificate number: CM40376

Certification Body:



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Certificate Holder:



ACE Polystyrene Products
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THIS IS TO CERTIFY THAT

ACE Polystyrene External Cladding System

Type and/or use of product:

External wall cladding for residential Class 1 & 10.

Description of product:

ACE Polystyrene External Cladding System is an Exterior cladding lightweight wall system made with M Grade fire retardant, Polystyrene foam & (EPS) panels 75mm and 100mm - cavity system.

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

BCA 2022

	Volume One	Volume Two
Performance Requirement(s):	Not Applicable	H1P1(2)(c) Structural stability and resistance – Wind actions H2P2 Weatherproofing – Refer <i>Limitation & Condition 3</i> H2P3 Rising damp - Refer <i>Limitation & Condition 9</i> H7D4 Construction in bushfire prone areas – BAL-29 Refer A3 H6D2(1) Energy Efficiency – External Walls - Contributes to the overall energy efficiency of the building. Refer A3 H7D4 (NSW, QLD, SA)
Deemed-to-Satisfy Provision(s):	Not Applicable	
State or territory variation(s):	Not Applicable	

SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B

Limitations and conditions:

- This product has not been tested to AS 1530.1-1994 and cannot be considered a non-combustible product.
- Construction shall be in strict accordance with the [ACE Polystyrene External Cladding System, Technical & Installation Manual, Version 2, July 2023](#).
- To satisfy H2P2 via verification, the relevant design is required to meet the criteria of H2V1 to the satisfaction of the Appropriate Authority as defined by the BCA. The site specific building must;
 - (a)(i) has a risk score of 20 or less, when the sum of all risk factor scores are determined in accordance with Table H2V1a; and
 - (a)(ii) is not subjected to an ultimate limit state wind pressure of more than 2.5kPa; and
 - (a)(iii) includes only windows that comply with AS 2047.
 For Waterproofing applications that exceed 2.5kPa Ultimate Limit State Wind Pressure, and do not exceed 3.01kPa Ultimate Limit State Wind Pressure, refer to A3.

Building classification/s:

Class 1 & 10

Richard Donarski – CMI

Don Grehan – Unrestricted Building Certifier

Date of issue: 31/08/2023

Date of expiry: 31/08/2026



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4. ACE Polystyrene External Cladding Systems are not suitable for use in Cyclonic Regions.
5. In all installations the minimum clearance between the underside of panel and the adjoining ground surface level below must comply with the specifications in Part 7.5.7 of the ABCB Housing Provisions.
6. In all cases, it is a requirement that the ACE Polystyrene External Cladding System incorporates either;
 - a. A timber frame constructed in accordance with AS 1684 series; or
 - b. A cold-formed steel frame constructed in accordance with AS 3623-1993 (R2018), or
 - c. NASH Standard for Residential and Low-rise Steel Framing, Part 1: Design Criteria.
7. Not suitable for use where an FRL is required for a wall and/or Boundary Wall.
8. This certificate is limited to the details within this certificate including the above compliance elements, product description, purpose or use.
9. A pliable building membrane complying with AS/NZS 4200.1:2017 must be installed in accordance with AS/NZS 4200.2:2017.
10. Other than the BCA provisions and State or Territory variation(s) listed, the remainder of the information contained in the product's literature is outside the scope of this certification.
11. 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

ACE Polystyrene External Cladding System is an Exterior cladding lightweight wall system made with M Grade fire retardant, Polystyrene foam & (EPS) panels 75mm and 100mm cavity system used for External wall cladding for residential Class 1 & 10 buildings.

A2 Description of product

ACE Polystyrene External Cladding System consists of Grade M expanded polystyrene screwed to either steel or timber wall framing through vertical H-Grade EPS battens on-stud & breathable wall wrap.

The ACE Polystyrene External Cladding System comes in the following panel sizes:

- 2500mm or 5000mm x 1200mm x 75mm
- 2500mm or 5000mm x 1200mm x 100mm

A3 Product specification

Structural

Fixing Spacing and Edge Distances

In all cases the maximum vertical fixing spacing shall be 300 mm along studs at maximum 600mm spacing. Fixings must not be placed less than 50 mm or more than the panel thickness the edge or end of a panel.

75mm & 100mm Grey Panel Maximum Fixing Spacing (mm)					
Stud Spacing	Walls	AS 4055 Wind Class			
		N1	N2	N3	N4
450mm	Within 1200mm of corners	300	300	300	300
	Away from corners	300	300	300	300
600mm	Within 1200mm of corners	300	300	300	275
	Away from corners	300	300	300	300

Source: Ian Bennie & Associates Pty Ltd, NATA Accreditation No. 2371, Report No. 2022-048-S2, dated 15/8/2022 & Acronem Consulting Australia Pty Ltd report ACA 220712 dated 2/08/2023

Weatherproofing

Weatherproofing compliance is based on the following components:

- ACE Grey Panel (75 or 100mm), ACE Polystyrene, M-Grade in accordance with AS 1366.3.
- ACE Cavity Batten, H-Grade, 40mm x 25mm, **40mm x 35mm required for BAL applications**, in accordance with AS 1366.3.
- Breathable Wall Wrap must achieve a minimum Light Wall Duty classification and Water Barrier Classification in accordance with AS/NZS 4200.1:2017. It must have a “Low” Flammability Index (FI) not greater than 5 in accordance with AS 1530.2. **Ametalin Silverwrap™ MD is required for BAL applications.**
- Damp proof course (DPC) must meet the requirements of AS/NZS 2904.
- ACE Grey Plastic Washer, 48 mm diameter flexible high-density polypropylene washer with holes and slots for adhesion / bonding.
- Backing rod material is a closed-cell polyethylene foam, 10 mm diameter as ‘back- blocking’ for flexible adhesive sealants placed in joints.
- Fibreglass reinforcing mesh, 5 mm x 5 mm, 160g/m² non-adhesive alkali resistant fibreglass mesh.
- ACE Expansion Foam, single-component polyurethane low-expansion adhesive foam to suit polystyrene, steel & timber.
- Paintable flexible adhesive sealant at horizontal and vertical control joints.
- Meshed External beads and trims by PTT must be installed at all external corners, openings and edges.
- Render Coating Minimum Requirements:
 - o *Base Coat*; F/G Reinforcing Mesh;
 - o *Base Coat*; *Acrylic Primer* and either, *Texture Coat* or *2xMembrane Top Coat*.
(*Base Coat* – shall be a polymer modified cement base render suitable for application to low porosity surfaces including expanded polystyrene. E.g. MACRENDER[®] HBS.
 - o *Acrylic Primer* – shall be a tintable acrylic primer formulated to reduce porosity and improve adhesion of acrylic finishes, E.g. MACPRIME.
 - o *Texture Coat* - shall be an acrylic based texture coating suitable for external application over rendered surfaces. E.g. MAC Crystal Plus textured paint.
 - o *Membrane Top Coat* – shall be a pure acrylic exterior grade acrylic membrane formulated for application to renders and textured finishes. E.g. MAC SATINFLEX.)

ACE Polystyrene External Cladding System is limited to external wall applications where the Design Serviceability Limit State Wind Pressure calculated in accordance with AS/NZS 1170.2:2021 does not exceed of +0.82 kPa and -1.23 kPa. This includes AS 4055-2021 Wind Classifications N1, N2, N3 and N4 and excludes N5, N6, C1, C2, C3 and C4.

Weatherproofing for buildings with designs of more than ±2.5kPa up to ±3.01Pa

The weatherproofing performance of *ACE Polystyrene External Cladding System* installed in applications where an external wall;

- (i) has a risk score of 20 or less, when the sum of all risk factor scores are determined in accordance with BCA Volume 2 Table H2V1a; and
- (ii) is subjected to an absolute ultimate limit state wind pressure of more than 2.5 kPa but not more than ±3.01kPa (Refer Section 4.1.1 Wind Actions of ACA report 220712 dated 2/08/2023 for the specific configuration requirements applicable to this case); and
- (iii) includes only windows that comply with AS 2047;

has been verified by a combination of prototype testing in accordance with the requirements of AS/NZS 4284 to NCC verification methods, wind strength testing of the *ACE Polystyrene External Cladding System* and a report from a professional engineer.

In all cases, applications are limited to maximum design serviceability limit state wind pressures equal to the tested values of +0.82 kPa and -1.23 kPa.

Based on these results, the *ACE Polystyrene External Cladding System* is limited to external wall applications where the design serviceability limit state wind pressure, calculated in accordance with AS/NZS 1170.2 Structural Design Actions Part 2: Wind Actions, does not exceed +0.82 kPa and -1.23 kPa. This is deemed to include AS 4055 Wind Classifications:

- N1, N2, N3 & N4, and excludes AS 4055 Wind Classifications, N5, N6, C1, C2, C3 & C4.

Source: Ian Bennie & Associates Pty Ltd, Nata Accreditation No. 2371, Report No. 2022-48-S1, dated 15/8/2022 & Acronem Consulting Australia Pty Ltd report ACA 220712 dated 2/08/2023

Bushfire Attack Level

ACE Polystyrene External Cladding System has been tested for heat intensity and ember attack of bushfires in relation to AS 3959:2018 making suitable for use up to a Bushfire Attack Level – BAL-29.

The following costing system is required and approved for BAL-29.

- 75 mm ACE Grey Panel fixed with 4.5mmx100mm bugle head coarse thread Class 4, 48 mm dia., washers @ 300mm spacing; and
- MACRENDER HBS 2x2.4mm coats with mesh 5x5x160gsm, MAC Texture Coat, total nominal render thickness 3.2mm to 6.4mm thickness,
- Ametalin Silverwrap™ Medium Duty; and
- Bosman PU Glue Foam; and
- PVC Starter Channel, meshed PVC external angle,
- H Grade EPS Battens nominally 40mmx35mm thick,
- 90mmx45mm timber framing, or 90mm deep steel framing
- 10mm Plasterboard

Source: WarringtonFire Australia Pty Ltd, Report No: 46883400 R2.0, FAS220074, dated 8/4/2022

Thermal Performance

The Total R-values of the ACE Polystyrene External Cladding System are achieved through the interaction of material properties, other components, and construction detailing.

Panel Thickness	Insulation	Vertical Cavity Spacer	Timber Frame Construction (90x35 @ 600mm c/c)		Steel Frame Construction (90x35 @ 600mm c/c)	
			Summer	Winter	Summer	Winter
75mm	R2.0 Glasswool	25mm	2.56	2.69	2.41	2.65
100mm	R2.7 Glasswool	25mm	3.25	3.42	3.20	3.37

Source: AWTA Product Testing Pty Ltd, Report No: 22-002821, dated 2/8/2022, AWTA Product Testing Pty Ltd, Report No: 22-002822, dated 3/8/2022, Acronem Consulting Australia Pty Ltd, Report No: W220805a, dated 11/8/2022, Acronem Consulting Australia Pty Ltd, Report No: W220805b, dated 11/8/2022, Acronem Consulting Australia Pty Ltd, Report No: W220805c, dated 11/8/2022, Acronem Consulting Australia Pty Ltd, Report No: W220805d, dated 11/8/2022.

A4 Manufacturer and manufacturing plant(s)

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

A5 Installation requirements

ACE Polystyrene External Cladding System System only to be installed in accordance with [ACE Polystyrene External Cladding System – Cavity System Specification & Installation Manual Australia – July 2023](#).

A6 Other relevant technical data

No other relevant technical data.

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

1. Energy Efficiency Provisions A5G3(1)(d)&(e). Reports issued by Accredited Testing Laboratories and a professional engineer.
2. Fire Safety Provisions A5G3(1)(d)&(e). Reports issued by Accredited Testing Laboratories and a professional engineer.
3. Structural Resistance Provisions A5G3(1)(d)&(e). Reports issued by Accredited Testing Laboratories and a professional engineer.
4. Weatherproofing and Damp Rising Provisions A5G3(1)(d)&(e). Reports issued by Accredited Testing Laboratories and a professional engineer.

B2 Reports

1. Ian Bennie & Associates Pty Ltd, NATA Accreditation No. 2371, Report No. 2022-048-S2, dated 15/8/2022. This report details the results of the AS 4055 wind tests that have been used as part of the H1P1 claim of compliance.
2. Ian Bennie & Associates Pty Ltd, NATA Accreditation No. 2371, Report No. 2022-48-S1, dated 15/8/2022. This report details the compliance with the weatherproofing verification method H2V1 for the Ace Polystyrene External Cladding System
3. Acronem Consulting Australia Pty Ltd report ACA 220712 dated 2/08/2023. A report from a professional engineer which confirms and validates compliance with H1P1, H2P2, H2P3, H7D4(2)(a) H6D2(1).
4. Warringtonfire Australia Pty Ltd; NATA Accreditation No. 3277; Summary of Assessment, Report No: 46883400 R2.0, FAS220074, dated 8/4/2022. This report confirms the results of the AS 1530.8.1 testing with for BAL A29 compliance.
5. AWTA Product Testing Pty Ltd, NATA Accreditation No. 986, 985, 1356, Report No: 22-002821, dated 2/8/2022. Thermal testing of the 40mm Ace Polystyrene panel used for the Thermal Calculations for compliance with H6D2(1)
6. AWTA Product Testing Pty Ltd, NATA Accreditation No. 986, 985, 1356, Report No: 22-002822, dated 3/8/2022. Thermal testing of the 100mm Ace Polystyrene panel used for the Thermal Calculations for compliance with H6D2(1)
7. Acronem Consulting Australia Pty Ltd, Report No: W220805a, dated 11/8/2022, Thermal calculations of the 75mm panel with steel frames for compliance with H6D2(1).
8. Acronem Consulting Australia Pty Ltd, Report No: W220805b, dated 11/8/2022, Thermal calculations of the 100mm panel with steel frames for compliance with H6D2(1).
9. Acronem Consulting Australia Pty Ltd, Report No: W220805c, dated 11/8/2022, Thermal calculations of the 75mm panel with timber frames for compliance with H6D2(1).
10. Acronem Consulting Australia Pty Ltd, Report No: W220805d, dated 11/8/2022, Thermal calculations of the 100mm panel with timber frames for compliance with H6D2(1).

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