

# MILLBOARD ENVELLO COMPOSITE CLADDING SYSTEM

## PURPOSE

The Envello composite cladding system by Millboard is a hand-moulded, timber grain look, composite weatherboard cladding system for use as an external cladding system.

## EXPLANATION

The Envello composite cladding system comprises weatherboard planks, fascia boards, corner profiles, trims and decorative anodised aluminum trim used between the cladding boards. The Envello composite boards are manufactured from a blend of natural minerals bonded in a polymer resin with long fibre reinforcement.

The boards have an elastomeric surface layer chemically melded to the core and are coated in a UV stable 2K polyurethane coating.

The boards incorporate recycled materials and renewable biopolymers, and have a closed-cell structure.

As the composite cladding is 100 % wood-free it is rot, warp resistant as well as being resistant to UV, algae, impact and weathering.

Envello composite boards are supplied in the Shadow Line\* and Board & Batten + profiles, in a range of colours, with the following dimensions (mm, l, w, d):

- Envello Shadow Line+ 3600 x 200 x 18
- Envello Board & Batten + 3600 x 200 x 26.

Typically, usage requires 1.53 planks per m<sup>2</sup>. The boards can be installed horizontally or vertically.



For further assistance please contact:

- ☎ 00 44 (0) 24 7643 9943
- ✉ enquiries@millboard.com
- 🌐 millboard.com

## SCOPE AND LIMITATIONS OF USE

Scope	Limitations
<b>Location</b> In wind zones up to and including extra high as defined in NZS 3604:2011 or to a design wind pressure (ULS) of 2.1 kPa. In all exposure zones as defined in NZS 3604:2011.	<ul style="list-style-type: none"> <li>➤ For use in microclimatic conditions, as defined in NZS 3604:2011, contact Millboard for technical advice.</li> <li>➤ Fixings must be stainless steel fixings or in accordance with Table 24 of E2/AS1.</li> </ul>
Any proximity to a relevant boundary.	<ul style="list-style-type: none"> <li>➤ Where the external wall is within 1 m of the relevant boundary, the balance of the wall assembly must comply with all relevant NZ Building Code Protection from fire clauses.</li> </ul>
<b>Building</b> In conjunction with a primary structure that complies with the NZ Building Code or existing buildings where the designer and/or installer have satisfied themselves that the existing building is suitable for the intended building work.	
On timber or lightweight steel-framing. As an external cladding system.	<ul style="list-style-type: none"> <li>➤ A thermal break must be installed if the framing is lightweight steel.</li> <li>➤ The building must be within the scope of paragraph 1.1 of E2/AS1.</li> <li>➤ The building must be less than 10 m in building height.</li> <li>➤ The building must have a risk score of less than or equal to 20 when evaluated against the E2/AS1 risk matrix.</li> <li>➤ The cladding must be installed over a drained and ventilated cavity.</li> <li>➤ The cladding must be installed in conjunction with a flexible building wrap or rigid underlay in accordance with Clauses 9.1.5 to 9.1.7 of E2/AS1 that meet the requirements of Table 23 or installed with a proprietary product with a current Product Certificate.</li> <li>➤ Joinery must meet the requirements of NZS 4211.</li> </ul>

## CONDITIONS OF USE

The Envello composite cladding system must be installed in accordance with Millboard details and installation requirements.

### USEFUL INFORMATION

For design, installation and maintenance information, refer to [millboard.com](http://millboard.com).

### OTHER CERTIFICATIONS HELD BY THE MILLBOARD CO LTD

- Millboard ISO 9001 [Alcumus® ISOQAR, 28/07/2021 [a, b].
- Millboard ISO 14001 [Alcumus® ISOQAR, 28/07/2021 [c, d].



## PERFORMANCE CLAIMS

If designed, installed and maintained in accordance with all The Millboard Co Ltd requirements, Envello composite cladding system will comply with or contribute to compliance with the following performance claims:

NZ Building Code clauses	BASIS OF COMPLIANCE	
	Compliance statement	Demonstrated by
<b>B1 STRUCTURE</b> B1.3.1, B1.3.2, B1.3.3 (a, f, h, j, q), B1.3.4	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> <li>Millboard Envello composite cladding meets or exceeds the performance of fibre cement in accordance with AS/NZS 2908: Part 2 and, therefore, meets the NZ Building Code [TBB, 05/2023].</li> <li>Dimensions – profiles are in accordance with NZS 3617:1979. Paragraph 104.1.1 of NZS 3602:2003 (cited in NZS 3604:2011, cited in Acceptable Solution B1/ AS1) and paragraph 5.1 of NZS 3617:1979 for the required dimensions of weatherboards.</li> <li>Deflections at 1000 N and 600 mm centres of average 30.69 mm (Shadow Line+), 24.30 mm (Board &amp; Batten) for tested samples [Millboard, n.d.].</li> <li>Tested for wind resistance in accordance with Technology Centre Method Statement C9644/MS rev 0 [Technology Centre, 18/12/2023a, b].</li> </ul>
<b>B2 DURABILITY</b> B2.3.1, B2.3.2 (b)	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> <li>Tested to ASTM D7032-17 for elevated temperature, moisture, freeze-thaw [element, 17/12/22].</li> <li>Tested for UV/accelerated ageing [Q-Lab, 11/12/22a,b].</li> <li>Composite material will not rot, warp, or split as it is non-porous, not extruded and has no timber content. Composite material will not support algal growth as it has no protein content and has a 2K UV resistant polyurethane coating.</li> <li>Envello composite boards have comparable performance metrics to E2/AS1 cladding materials [TBB, 05/2023].</li> </ul>
<b>C3 FIRE AFFECTING AREAS BEYOND THE FIRE SOURCE</b> C3.4 (a), C3.7 (a)	ACCEPTABLE SOLUTION C/AS2	<ul style="list-style-type: none"> <li>Tested in accordance with EN 13501.1:2018 [System Laboratories UK Ltd, 27/11/2023; 23/06/2023].</li> </ul>
<b>E2 EXTERNAL MOISTURE</b> E2.3.2, E2.3.3, E2.3.5, E2.3.7	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> <li>Profiles in accordance with NZS 3617:1979, cited in E2/AS1, paragraph 9.4.1.1.</li> <li>Installation details in accordance with E2/AS1.</li> </ul>
<b>F2 HAZARDOUS BUILDING MATERIALS</b> F3.2.1	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> <li>Manufactured material is inert.</li> <li>Use in accordance with supplier's safety information.</li> </ul>

## SOURCES OF INFORMATION

- element. [17/10/22] *SUMMARY REPORT EVALUATION OF COMPOSITE DECK BOARDS FOR PERFORMANCE IN GENERAL ACCORDANCE WITH ASTM D7032-17*. Report No: 21-06-P0093 RV1.
- Millboard. [n.d.] *Deflection testing of Millboard composite cladding planks*.
- Q-Lab. [11/12/22a] *Instrumental Colour Report*. Report No. 8.
- Q-Lab. [11/12/22b] *Instrumental Report*. Report No. 8.
- TBB. [05/2023] *Product Performance Evaluation of Millboard composite cladding*.
- Alcumus® ISOQAR. [28/07/2021a] Certificate Number: 13959-QMS-001.
- Alcumus® ISOQAR. [28/07/2021b] Certificate Number: 13959-QMS-002.
- Alcumus® ISOQAR. [28/07/2021c] Certificate Number: 13959-EMS-001.
- Alcumus® ISOQAR. [28/07/2021d] Certificate Number: 13959-EMS-002.
- System Laboratories UK Ltd. [27/11/2023] *Classification of reaction to fire performance of construction products and building elements in accordance with BS 13501-1:2018*. Report number 482. Issue C.
- System Laboratories UK Ltd. [23/06/2023] *Classification of reaction to fire performance of construction products and building elements in accordance with BS 13501-1:2018*. Report number 319. Issue B.
- Techology Centre. [18/12/2023a]. *Wind resistance testing of Shadow Line+ cladding incorporating Envello Décor*. Report number N950-23-18585.
- Techology Centre. [18/12/2023b]. *Wind resistance testing of Board & Batten+ Cladding Boards*. Report number N950-23-18648.

1. Where a standard is referenced it is to be read as amended by the acceptable solution or verification method as applicable. 2. Sources of information also include the Building Act 2004 and its regulations, including the Building Code (Schedule 1 of the Building Regulations 1992), Acceptable Solutions and Verification Methods, and relevant cited standards. 3. The product is not subject to a warning or ban under section 26 of the Building Act. 4. For overseas manufacturer details, where applicable, refer to the company that is the holder of this pass™. 5. The quality and assurance that the supplied products meet the performance claims stated in this pass™ are the responsibility of the company that is the holder of this pass™. 6. The availability of the information about the supplied products required to be disclosed under s14G(3) is the responsibility of the company that is the holder of this pass™.

SCAN OR CLICK THIS QR CODE TO ACCESS OR REQUEST THE RELEVANT SUPPORTING DOCUMENTATION FOR THIS PASS™.

[millboard.com](https://millboard.com)



Kevin Brunton

Kevin Brunton, Technical Director, TBB confirms that the process used to prepare this pass™ on behalf of The Millboard Co Ltd has been undertaken in accordance with MBIE PTS guidelines and in accordance with the TBB pass™ process which is within the scope of TBB's ISO 9001 certification.

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The Millboard Co Ltd confirms that if the Millboard Envello composite cladding system is used in accordance with the requirements of this pass™ the product will comply with the NZ Building Code and other performance claims set out in this pass™ and the company has met all of its obligations under s14G(2) of the Building Act.

**Date of first issue:** 23/06/2023

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