

THERMORY ASH VERTICAL CLADDING SYSTEM

PURPOSE

Timberline supplies the Thermory Ash vertical cladding system for use as an external weatherboard cladding system. The system comprises weatherboards, fascia, cover boards, scribes and mouldings.

EXPLANATION

The Thermory Ash vertical cladding system is a thermally modified timber weatherboard cladding system manufactured from PEFC and FSC (if requested) certified North American and European White Ash. The timber is heat-treated at at 215 °C or greater with no chemicals added. The thermal modification process changes the physical properties of the timber, so the timber becomes more stable and resistant to rot.

The Thermory Ash vertical cladding system is available in profiles specified in NZS 3617:1979 (shiplap and board and batten), and in different lengths.



For further assistance please contact:

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- ✉ enquiries@timberline.co.nz
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SCOPE AND LIMITATIONS OF USE

Scope	Limitations
Location 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. At least 1 m from a relevant or notional boundary.	<ul style="list-style-type: none"> ➤ Use in microclimatic conditions, as defined in NZS 3604:2011, is excluded. ➤ Fastenings must be stainless steel.
Building On timber or lightweight steel framed buildings that comply 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 buildings within the scope of paragraph 1.1 of Acceptable Solution E2/AS1. Direct fixed or installed over a drained and ventilated cavity.	<ul style="list-style-type: none"> ➤ A thermal break must be installed if the framing is lightweight steel. ➤ The Thermory Ash vertical cladding system must only be used when the risk matrix score (Table 3 of E2/AS1) is 20 or less. ➤ Thermory Ash shiplap weatherboards may be direct fixed where the risk matrix score is 6 or less and must be installed over a drained and ventilated cavity where the risk matrix score is greater than 6. ➤ Thermory Ash board and batten weatherboards may be direct fixed where the risk matrix score is 12 or less and must be installed over a drained and ventilated cavity where the risk matrix score is greater than 12.

CONDITIONS OF USE

Where restricted building work applies, the designer and installer must be able to meet their restricted building work obligations.

PERFORMANCE CLAIMS

If designed, installed and maintained in accordance with all Timberline requirements, the Thermory Ash vertical 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	
B1 Structure B1.3.1, B1.3.2, B1.3.3 (a, e, f, h, j, m, q, and in respect of UV radiation), B1.3.4 (a, b, c, d)	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> ➤ Comparison with NZS 3604:2011 characteristics for timber products (paragraph 3.2.1). ➤ Dimensions – profiles 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.

USEFUL INFORMATION

For design, installation and maintenance information, refer to timberline.co.nz.

OTHER CERTIFICATIONS AND APPROVALS HELD BY THE MANUFACTURER

- FSC License Code FSC-C074560 Thermory AS, Certificate Code NC-COC-009078, issued 01/04/2020.

NZ Building Code clauses		BASIS OF COMPLIANCE	
	Compliance statement	Demonstrated by	
B1 Structure (continued)		<ul style="list-style-type: none"> Moisture content –Thermory Ash has a lower equilibrium moisture content compared to kiln-dried White Ash [Tallinn University of Technology, 02/08/2011; Tallinn University of Technology, 20/06/2011; Thermory, 07/2018]. Thermory Ash is comparable with NZS 3602:2003 materials (e.g., radiata pine) [Thermory, 07/2018; The Wood Database, n.d.]. Physical characteristics – Thermory Ash has greater modulus of elasticity and bending strength compared with NZS 3602:2003 materials (e.g., radiata pine) [Thermory, 07/2018; The Wood Database, n.d.]. Thermally treated and kiln-dried White Ash achieve equivalent surface impact resistance [Tallinn University of Technology, 20/06/2011; The Wood Database, n.d.]. 	
B2 Durability B2.3.1(b)	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> Class 1 durability (very durable) to EN 113 [Thermory, 07/2018]. Tested for rot/fungi resistance to EN 113.2:2020 [CATAS, 02/12/2021]. Thermory Ash is comparable with NZS 3602:2003 materials (e.g., radiata pine) [Thermory, 07/2018; The Wood Database, n.d.]. Thermory Ash meets minimum durability periods based on weather resistance/properties of thermally modified timber and EN 350:2016 [TBB, 09/2023]. 	
E2 External moisture E2.3.2, E2.3.3, E2.3.5, E2.3.7 (a, b, c)	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> Profiles comparable with E2/AS1 profiles (NZS 3617:1979 and BRANZ Bulletin 411) [TBB, 05/2023]. Installation details for direct fixed systems in accordance with E2/AS1 [TBB, 05/2023]. Use of catellated timber battens with an 18° bevelled slope provides a cavity that has a comparable level of performance to an E2/AS1 cavity [TBB, 05/2023]. Flashing system in accordance with E2/AS1. Moisture content –Thermory Ash has a lower equilibrium moisture content compared to kiln-dried White Ash [Tallinn University of Technology, 02/08/2011; Tallinn University of Technology, 20/06/2011; Thermory, 07/2018]. Thermory Ash is comparable with NZS 3602:2003 materials (e.g., radiata pine) [Thermory, 07/2018; The Wood Database, n.d.]. 	
F2 Hazardous Building Materials F2.3.1	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> Weatherboards are treated at 215 °C using heat and steam and no chemicals are added [Thermory, 07/2018]. 	

SOURCES OF INFORMATION

- CATAS. [02/12/2021] *Durability of wood. Assessment of inherent or enhanced durability of wood against wood destroying basidiomycetes EN 113-2:2020*. Test Report 307874/1.
- EPH. [16/10/2008] *Test report order no. 227017-2*.
- Tallin University of Technology. [20/06/2011] *Test Report - Determination of Brinell hardness*.
- Tallin University of Technology. [02/08/2011] *Test Report - Determination of equilibrium moisture content and dimensional changes, caused by changing air relative humidity*.
- TBB. [05/2023] *Evaluation of Timberline Thermory Ash and Thermory Nordic Pine cladding systems with Clause E2 of the Building Code*.
- Thermory. [07/2018] *Data sheet: Thermally modified ash for outdoor cladding*.
- The Wood Database. [n.d] *Radiata Pine*. Retrieved from www.wood-database.com/radiata-pine/ [Accessed 07/10/2020].
- The Wood Database. [n.d] *White ash*. Retrieved from www.wood-database.com/white-ash/ [Accessed 07/10/2020].

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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™.

Buildpro Ltd (Timberline) confirms that if Thermory Ash vertical 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.

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Kevin Brunton

Kevin Brunton, Technical Director, TBB confirms that the process used to prepare this pass™ on behalf of Buildpro Ltd (Timberline) 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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