

Euroform Products Ltd

Unit 2
Lyncastle Road
Warrington
WA4 4SN

Tel: 01925 860999 Fax: 01925 860066

e-mail: info@euroform.co.uk

website: www.euroform.co.uk



Agrément Certificate

19/5662

Product Sheet 1

EUROFORM TILE BACKER BOARD

VERSA BACKER

This Agrément Certificate Product Sheet⁽¹⁾ relates to Versa Backer, magnesium oxide boards for use as internal wall sheathing in domestic and non-domestic timber frame, steel frame and masonry buildings.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Strength and stability — partition walls incorporating the boards will have acceptable resistance to stresses (see section 6).

Behaviour in relation to fire — the product has an A1 reaction to fire classification (see section 7).

Durability — the product will have a life equal to that of the building in which it is installed (see section 11).



The BBA has awarded this Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 19 June 2019

Paul Valentine
Technical Excellence Director

Claire Curtis-Thomas
Chief Executive

Certificate amended on 27 April 2020 to remove NHBC statement.

The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément

Bucknalls Lane
Watford
Herts WD25 9BA

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tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Regulations

In the opinion of the BBA, Versa Backer, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	B2	Internal fire spread (linings)
Comment:		The product is unrestricted by this Requirement. See section 7.2 of this Certificate.
Requirement:	B3	Internal fire spread (structure)
Comment:		The product can contribute to satisfying this Requirement. See section 7.2 of this Certificate.
Regulation:	7	Materials and workmanship (applicable to Wales only)
Regulation:	7(1)	Materials and workmanship (applicable to England only)
Comment:		The product is acceptable. See section 11.1 and the <i>Installation</i> part of this Certificate.
Regulation:	7(2)	Materials and workmanship (applicable to England only)
Comment:		The product is unrestricted by this Regulation. See section 7.2 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Durability, workmanship and fitness of materials
Comment:		The use of the product satisfies the requirements of this Regulation. See section 11.1 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	2.1	Compartmentation
Standard:	2.2	Separation
Standard:	2.3	Structural protection
		The product can contribute to satisfying these Standards, with reference to clauses 2.2.1 ⁽¹⁾⁽²⁾ to 2.2.3 ⁽¹⁾⁽²⁾ and 2.2.6 ⁽¹⁾ . See section 7.2 of this Certificate
Standard:	2.4	Cavities
Comment:		The product is unrestricted by this Standard with reference to clause 2.4.2 ⁽¹⁾⁽²⁾ . See section 7.2 of this Certificate
Standard:	2.5	Internal linings
Comment:		The product is unrestricted by this Standard with reference to clause 2.5.1 ⁽¹⁾⁽²⁾ . See section 7.2 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The product is unrestricted by this Standard with reference to clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.6 ⁽¹⁾⁽²⁾ and 2.6.7 ⁽²⁾ . See section 7.2 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	12	Building standards applicable to conversions
Comment:		Comments in relation to the product under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ .

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).



The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	23(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The product is acceptable. See section 11.1 and the <i>Installation</i> part of this Certificate.
Regulation:	34	Internal fire spread - linings
Comment:		The product is unrestricted by this Regulation. See section 7.2 of this Certificate.
Regulation:	35	Internal fire spread - structure
Comment:		The product can contribute to satisfying this Regulation. See section 7.2 of this Certificate.

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 3 *Delivery and site handling* (3.3) and 12 *General* (12.1 and 12.4) of this Certificate.

Technical Specification

1 Description

1.1 Versa Backer is board manufactured from a mixture of magnesium oxide, calcium carbonate and magnesium chloride and fibre glass mesh reinforcement.

1.2 The board is available in the dimensions given in Table 1.

Table 1 Board characteristics and dimensions

Thickness (± 0.2 mm)	6, 9, 12
Width (mm) x length (mm)	1200 x 800 1200 x 1220 1200 x 2400
Edge finish	square
Fibre glass mesh layers	2
Density ($\text{kg}\cdot\text{m}^{-3}$)	1050
Thermal conductivity ($\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$)	0.307

1.3 Ancillary items used in conjunction with the boards but outside the scope of this Certificate are:

- timber frame substrate wall
- timber battens
- expansion joint beads
- silicone sealant
- stainless steel screws — self-tapping countersunk head for timber stud and self-tapping countersunk head case hardened carbon steel screw wing.

2 Manufacture

2.1 The boards are manufactured by controlled methods using a natural cure process.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The products are manufactured in China and are marketed/distributed in the UK by the Certificate holder. The management system at the factory has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by NQA (Certificate 983).

3 Delivery and site handling

3.1 Boards are stacked on timber pallets. Each pack contains a label incorporating the product name, thickness, width, length, batch number and number of boards per pallet.

3.2 Boards must be stored horizontally in a ventilated and dry environment on a flat level, raised surface under cover indoors and protected from the weather. The boards must not be kept upright for long periods of time.

3.3 The boards should always be lifted by at least two people and not dragged across each other, to prevent unnecessary scratching or damage. Boards should be carried on edge and extra precautions should be taken to protect the visible front edge and corners.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Versa Backer.

Design Considerations

4 Use

4.1 Versa Backer is satisfactory for use in walls of domestic and non-domestic buildings as passive fire protecting internal wall liner, soffit liner and tile backer board and in applications where impact and fire resistance are required.

4.2 The board achieves the following classification in accordance with BS EN 12467 : 2012, clause 5.2:

- weather resistance — Category B (sheets which are intended for applications where they may be subjected to heat, moisture and occasional frost, eg where they are either protected from or not subjected to severe weathering conditions)
- bending strength — Class 2
- dimensional tolerance — Level 1.

4.3 The timber frame substrate walls and timber battens must be structurally sound, designed and constructed in accordance with BS EN 1995-1-1 : 2004, and preservative treated in accordance with BS EN 351-1 : 2007.

Figure 1 Versa Backer System



5 Practicability of installation

The boards are designed to be installed in accordance with this Certificate and the Certificate holder's installation instructions by a competent builder, or a contractor, experienced with this type of product.

6 Strength and stability

General

6.1 A suitably qualified and experienced individual must check the design and method of installation of the boards.

6.2 The timber frame and steel frame, to which the boards are fixed, must be structurally sound and constructed in accordance with the requirements of the relevant national Building Regulations and Standards.

6.3 The wall diaphragms must be designed to resist both horizontal and vertical imposed loads in accordance with clause 9.2.4 of BS EN 1995-1-1 : 2004.

6.4 The characteristic pull-through resistances of the 4.8 mm by 42 mm self-drilling screws (BMDW4842) through the boards were calculated from pull-through failure values determined by tests, and are given in Table 2.

Table 2 Characteristic pull-through resistances (kN)

Versa Backer board thickness (mm)			
Dry		Exposed to wetting	
9	12	9	12
0.345	0.500	0.211	0.371

6.5 The characteristic pull-out resistances of the 4.8 mm by 42 mm self-drilling screws (BMDW4842) from grade C16 timber with an embedment length of 30 mm, was calculated from pull-out failure values determined by tests, and found to be 0.383 kN.

Impact resistance

6.6 When tested⁽¹⁾ for hard body impacts of 3 and 10 Joules of energy in accordance with ETAG 004, the 9 and 12 mm boards supported on battens at 450 mm maximum centres, achieved adequate resistance and are therefore suitable for use as a wall liner in areas requiring impact resistance in Category I, II, III and IV⁽²⁾.

6.7 When tested⁽¹⁾ for soft body impact in accordance with ISO 7892 : 1988, the 9 and 12 mm boards supported on battens at 450 mm maximum centres, achieved adequate resistance to soft body impact and are therefore suitable for use in external walls in Category E₂, E₃ and E₄⁽³⁾ and internal walls in Category I₂ and I₃⁽³⁾.

(1) The results are only valid for the described construction.

(2) The use categories are defined in ETAG 034 : 2012 Part 1 as:

- Use category I — a zone readily accessible at ground level to the public and vulnerable to hard body impacts but not subjected to abnormally rough use
- Use category II — a zone liable to impacts from thrown or kicked objects, but in public locations where the height of the system will limit the size of the impact; or at lower levels where access to the building is primarily to those with some incentive to exercise care
- Use category III — a zone not likely to be damaged by normal impacts caused by people or by thrown or kicked objects
- Use category IV — a zone out of reach from ground level.

(3) The use categories are defined in MOAT 43 : 1987 as:

- Use category I₂ — a zone readily accessible to public and others with little incentive to exercise care. Some chance of accident occurring or of misuse
- Use category I₃ — a zone accessible primarily to those with some incentive to exercise care. Some chance of accident.

7 Behaviour in relation to fire

7.1 Where the boards are incorporated in a wall construction which is subject to fire resistance requirements, an appropriate assessment or test must be carried out by a United Kingdom Accreditation Service (UKAS) accredited laboratory for the test concerned.



7.2 When tested in accordance with BS EN 13501-1 : 2007, the boards (without render applied) achieved a reaction to fire classification of A1 and are not subject to any restriction on building height or proximity to boundaries.

7.3 Designers should refer to the relevant national Building Regulations and guidance for alternative approaches and detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity barriers and combustibility limitations for other materials and components used in the overall wall construction (for example, thermal insulation).

8 Condensation risk

The water vapour resistivity for the product is 222 MN·s·g⁻¹.

9 Mould resistance

Results of tests indicate that the board is resistant to mould growth.

10 Maintenance

10.1 As the boards have suitable durability and in most cases will be covered with finishes, maintenance is not required.

10.2 Under normal conditions of use the boards are unlikely to suffer damage, but if damage does occur, the boards must be replaced.

11 Durability



11.1 The board is made from durable material and should have a life equal to that of the structure in which it is installed.

11.2 Care should be taken when designing, detailing and constructing buildings to ensure that moisture does not accumulate within the board.

Installation

12 General

12.1 The level of supervision during installation of the boards and the associated structure, must be sufficient to ensure the quality of workmanship.

12.2 Framing grade timber studs or galvanized steel framework should be provided at maximum 600 mm centres.

12.3 The frame to which the panels are fixed must be structurally sound and constructed in accordance with the requirements of the relevant national Building Regulations and Standards.

12.4 The boards can be scored using a utility knife and snapped. Suitable dust control measures must be taken (eg protective safety glasses and respiratory masks) observing all necessary health and safety regulations. Damaged boards must not be used. The boards must be stored, handled and used in accordance with this Certificate and the Certificate holder's installation and health and safety instructions.

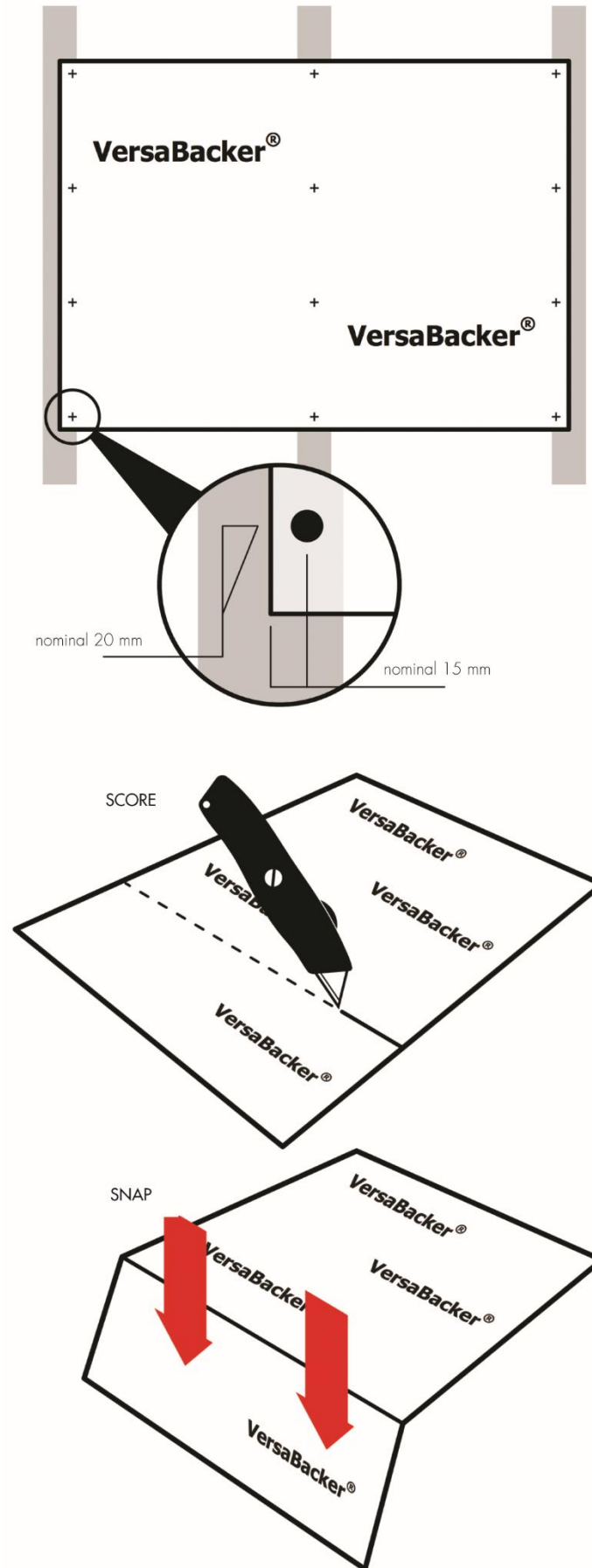
13 Procedure

13.1 Boards are attached to the vertical frame with screws at nominal spacings of 40 mm from the board top edge and 15 mm from the side edge, spaced at nominal spacings of 300 mm centres vertically and at a maximum 600 mm horizontally. The screws must not be over-tightened. Fixing should start from the centre working outwards to avoid distortion within the board.

13.2 A 6 mm gap is left between the floor and first board which is filled with a high modulus water-resistant flexible adhesive. If necessary, a 4 mm gap can be left between boards if there is a possibility of movement in the structure or building. Boards are installed staggered to avoid four corners meeting at one point.

13.3 Where boards are installed over areas with fixtures and fittings, cut-outs should be carried out before installation.

Figure 2 Versa Backer System



14 Tests

Tests were conducted on the boards and the results assessed to determine:

- water absorption
- bending strength
- flexural strength/modulus of rupture
- density
- reaction to fire
- resistance to fire
- water impermeability
- hard and soft body impact
- resistance to organic growth
- dimensional changes
- durability
- racking resistance
- thermal conductivity
- tensile strength
- pull-out/pull-through strength of fixings

15 Investigations

The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and compositions of materials used.

Bibliography

BS EN 351-1 : 2007 *Durability of wood and wood-based products — Preservative-treated solid wood — Classification of preservative penetration and retention*

BS EN 1995-1-1 : 2004 *Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings*

BS EN 12467 : 2012 *Fibre-cement flat sheets — Product specification and test methods*

BS EN 13501-1 : 2007 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

ETAG 004 : 2013 *Guideline for European Technical Approval of External Thermal Insulation Composite Systems with Rendering*

ETAG 034 : 2012 *Guideline for European Technical Approval of Kits for External Wall Claddings — Part 1 — Ventilated Cladding Kits Comprising Cladding Components and Associated Fixings*

ISO 7892 : 1988 *Vertical building elements — Impact resistance tests — Impact bodies and general test procedures*

MOAT 43 : 1987 *UEAtc directives for impact testing opaque vertical building components*

16 Conditions

16.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

16.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

16.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

16.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

16.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

16.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.