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23/6987

Product Sheet 1 Issue 1

BLAZEBOARD

BLAZEBOARD WG

This Agrément Certificate Product Sheet⁽¹⁾ relates to Blazeboard WG, a textured reinforced calcium silicate composite decking board, for use within a decking system for balconies, terraces and walkways on domestic and non-domestic buildings.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

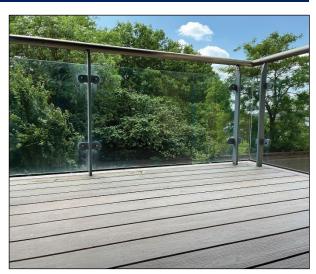
- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements[†]:

- regular assessment of production
- formal 3-yearly review



KEY FACTORS ASSESSED

- Section 1. Mechanical resistance and stability
- Section 2. Safety in case of fire
- Section 3. Hygiene, health and the environment
- Section 4. Safety and accessibility in use
- Section 5. Protection against noise
- Section 6. Energy economy and heat retention
- Section 7. Sustainable use of natural resources
- Section 8. Durability

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 issue: 29 August 2023

Hardy Giesler Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation. The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly. The Certificate should be read in full as it may be misleading to read clauses in isolation.

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

British Board of Agrément		
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SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that Blazeboard WG 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 Buil	ding Regulations 2010 (England and Wales) (as amended)
Requirement: Comment:	A1	Loading The product can contribute to satisfying this Requirement. See section 1 of this Certificate.
Requirement: Comment:	B4(1)	External fire spread The product is unrestricted by this Requirement. See section 2 of this Certificate.
Regulation: Comment:	7(1)	Materials and workmanship The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation: Comment	7(2)	Materials and workmanship The product is unrestricted by this Regulation. See section 2 of this Certificate.
	The Buil	ding (Scotland) Regulations 2004 (as amended)
Regulation: Comment:	8(1)(2)	Fitness and durability of materials and workmanship The product can contribute to a construction satisfying this Regulation. See sections 8 and 9 of this Certificate.
Regulation: Comment:	8(3)	Fitness and durability of materials and workmanship The product is unrestricted by this Regulation. See section 2 of this Certificate.
Regulation: Standard: Comment:	9 1.1(a)(b)	Building standards - construction Structure The product can contribute to satisfying this Standard, with reference to clause 1.1.1 ⁽¹⁾⁽²⁾ . See section 1 of this Certificate.
Standard: Standard: Comment:	2.6 2.7	Spread to neighbouring buildings Spread on external walls The product is unrestricted by these Standards with reference to clauses 2.6.5 ⁽¹⁾ , 2.6.6 ⁽²⁾ and 2.7.2 ⁽¹⁾⁽²⁾ . See section 2 of this Certificate.
Standard: Comment:	7.1(a)	Statement of sustainability 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: Comment:	12	Building standards - conversions 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 $6^{(1)(2)}$.
		 Technical Handbook (Domestic). Technical Handbook (Non-Domestic).

	The Build	ding Regulations (Northern Ireland) 2012 (as amended)
Regulation:	23(1)(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b(i)	The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	23(2)	Fitness of materials and workmanship
Comment:		The product is unrestricted by the Regulation. See section 2 of this Certificate.
Regulation:	30	Stability
Comment:		The product can contribute to satisfying this Regulation. See section 1 of this Certificate.
Regulation:	36(a)	External fire spread
Comment:		The product is unrestricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, Blazeboard WG, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to NHBC Standards, Chapter 7.1 Flat roofs, terraces and balconies.

Fulfilment of Requirements

The BBA has judged Blazeboard WG to be satisfactory for use as described in this Certificate. The product has been assessed as a textured decking board, for use within a decking system for balconies, terraces and walkways on domestic and non-domestic buildings.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Blazeboard WG is a textured reinforced calcium silicate composite decking board, for use within a decking system.

The product has the nominal characteristics given in Table 1.

Characteristic (unit)	Blazeboard WG
Length	2440 mm
Width	150 mm+/- 2mm, Ll
Tolerance on length and width	25 mm
Thickness	+3 mm, -1.5 mm
Tolerance on thickness	≤2 mm/m, LII
Straightness of edges	≤3 mm, Ll
Squareness of edges	1490 to 1790 kg.m ⁻³
Density	35.4 to 44.6 kg.m ⁻²
Mass per unit area ⁽¹⁾⁽²⁾	
Colour	Aged Oak/Hickory

(1) based on a 6-8 mm joint between the boards.

(2) excluding any dimensional tolerances, fixings, or the support frame.

Ancillary Items

The Certificate holder recommends the following ancillary items for use with the product, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- adjustable pedestals
- anodised aluminium extruded joists
- pedestal screws
- stainless steel fixing screws
- Sikagard 740 W (water repellent).

Product assessment – key factors

The product was assessed for the following key factors, and the outcomes of the assessments are shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Data were assessed for the following characteristics.

1.1 Structural and mechanical properties

1.1.1 Results of modulus of rupture (MOR) tests are given in Table 2.

Table 2 MOR (MPa)			
Product assessed	Assessment method	Requirement	Result
Blazeboard WG,	Category B, Class 3 to	≥ 13 MPa in the wet	Dass
2440 x 150 x 25 mm	BS EN 12467 : 2012	condition	Pass

1.1.2 The bending strength was tested to assess the characteristic point load, and the results are given in Table 3.

Table 3 Characteristic point load in	kN
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Product assessed	Assessment method	Requirement	Result
Blazeboard WG at 450 mm spans	BS EN 310 : 1993	Value achieved	2.44 kN

1.1.3 On the basis of data assessed, the product is suitable for use at 450 mm spans and will not exceed the 5 mm deflection limit recommended by BS 8579 : 2020.

1.1.4 The product can provide a minimum uniformly distributed load (UDL) of 2.5 $kN \cdot m^2$ as recommended by BS 8579 : 2020.

1.2 Properties in relation to loading

1.2.1 The fasteners were tested to assess the characteristic pull-through resistance to pre-drilled 4.5 mm diameter holes at the corners of the product, and the results are given in Table 4.

Table 4 Characteristic pull-through resistance in kN				
Product assessed	Assessment method	Requirement	Result	
Countersunk T15 stainless steel screws to corner of Blazeboard WG, 25 mm from edges and ends ⁽¹⁾	BS EN 1383 : 1999	Value achieved	1.25 kN	

(1) Pull-through of fixings was undertaken at the product corners as the worst-case condition.

1.2.2 The design pull-through value must be determined by applying appropriate partial action factors to the characteristic pull-through value.

1.3 Resistance to impact

1.3.1 The product was assessed for hard and soft body impacts and the results are given in Table 5.

Table 5 Resistance to impact			
Product assessed	Assessment method	Requirement	Result
Blazeboard WG at 450 mm spans	Hard body impact to	Serviceability 3J	Pass
	ISO 7892 : 1988	Safety 10J	
_	Soft body impact to	Serviceability 34J	Pass
	MOAT 43 : 1987		

1.4 On the basis of data assessed, Blazeboard WG will be unrestricted under the documents supporting the national Building Regulations for mechanical resistance and stability in the following circumstances:

- product is specified to balconies, terraces and walkways, in accordance with BS 8579 : 2020
- product is fixed to the aluminium subframe with a minimum of two countersunk T15 stainless steel screws per support, a minimum of 25 mm from edges and ends, designed using the values in section 1.3
- spans and aluminium subframe are designed in line with section 9 of this Certificate.

1.5 The designation, classification and/or permissible areas of use for other specifications should be confirmed by reference to the requirements of the documents supporting the national Building Regulations.

2 Safety in case of fire

Data was assessed for the following characteristic.

2.1 Reaction to fire

2.1.1 The results of a reaction to fire test is given in Table 6.

Table 6 Reaction to fire			
Product assessed	Assessment method	Requirement	Result
Blazeboard WG Decking Board ⁽¹⁾	CSN EN 13501-1 : 2019	Classification achieved	A1

(1) Institut Pro Testovani Classification Report PK-21-206. A copy of the report is available from the Certificate holder on request.

2.1.2 On the basis of data assessed, Blazeboard WG is not subject to any restriction on building height or proximity to a boundary in accordance with the documents supporting the national Building Regulations.

2.1.3 Designers must refer to the relevant national Building Regulations guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity barriers, service penetrations and combustibility limitations for other materials and components used in the overall wall construction.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Properties in relation to water

3.1.1 Data were assessed for the following characteristic

Table 7 Moisture movemen	t		
Product assessed	Assessment method	Requirement	Result
Blazeboard WG	BS EN 12467 : 2012	Value achieved	
	Parallel to length		0.07%
	Perpendicular to		0.06%
	length		

3.1.2 Data were assessed for the following characteristic.

Table 8 Water impermeabilty			
Product assessed	Assessment method	Requirement	Result
Blazeboard WG	BS EN 12467 : 2012	No formation of any drops of water	Pass
		on the underface	

3.1.3 On the basis of data assessed, the product meets the category B requirements of BS EN 12467 : 2012.

4 Safety and accessibility in use

Data were assessed for the following characteristic.

4.1 Slip resistance

4.1.1 Results of slip resistance testing are given in Table 9.

Table 9 Slip resistance				
Product assessed	Assessment method	Requirement	Result	
Blazeboard WG	BS 7976-2 : 2002	Value achieved	Wet PTV >55	
			Drv PTV >41	

4.1.2 On the basis of the data assessed, the product achieved a low slip potential as defined by the UK Slip Resistance Group Guidelines.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in this product were assessed.

8.2 The results of durability testing are given in Table 10.

Product assessed	Assessment method	Requirement	Result
Blazeboard WG	Freeze thaw to	RL ≥ 0.75 for category B	Pass
	BS EN 12467 : 2012		
	25 cycles		
Blazeboard WG	Heat – rain to	No visible cracks or	Pass
	BS EN 12467 : 2012	damage	
	25 cycles		
Blazeboard WG	Warm water to	RL ≥ 0.75 for category B	Pass
	BS EN 12467 : 2012		
	56 days @ 60°C		
Blazeboard WG	Soak-dry to	RL ≥ 0.75 for category B	Pass
	BS EN 12467 : 2012		
	25 cycles		
Blazeboard WG	Abrasion resistance to	Value achieved	Mean mass loss
	BS EN 13523-16 : 2004		
	250 cycles		55 mg
	500 cycles		121 mg
	750 cycles		186 mg
	1000 cycles		256 mg
Blazeboard WG	Resistance to liquids to	No visible change	
	BS EN ISO 2812-4 : 2007		
	Bleach-based deck wash		Pass
	Detergent-based grease		Pass
	remover		
	Phosphoric acid-based rust		Pass
	remover		
	Shoe polish		Pass
Blazeboard WG Aged Oak	Colour integrity to	No significant change	
Unwashed	BS EN ISO 4892-3 : 2016		Pass
Washed	UV exposure for 1500 hours		Pass
Blazeboard WG Hickory			
, Unwashed			Pass
Washed			Pass

8.2.1 On the basis of data assessed, the product meets the Category B requirements of BS EN 12467 : 2012.

8.2.2 On the basis of data assessed, the product has satisfactory abrasion resistance.

8.2.3 On the basis of data assessed, the product has satisfactory resistance to the chemicals with which it is likely to come into contact in service.

8.2.4 On the basis of data assessed, the product has satisfactory colour integrity.

8.3 Service life

8.3.1 Under normal service conditions, the product will have a service life of up to 15 years, provided it is designed, installed and maintained in accordance with section 9 of this Certificate and the Certificate holder's instructions.

8.3.2 The service life may be extended to 30 years by regular inspection and maintenance, including the application of a suitable water repellent at a maximum frequency of every five years. Care must be taken to ensure that the application of such treatments does not affect the reaction to fire, slip resistance or other properties of the product. The Certificate holder can advise on suitable products for this purpose, but such advice and materials are outside the scope of this Certificate.

PROCESS ASSESSMENT

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 <u>Design</u>

9.1.1 The design process was assessed by the BBA, and the following requirements apply in order to satisfy the performance assessed in this Certificate.

9.1.2 Design wind actions must be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. Due consideration must be given to higher pressure coefficients applicable to corners of the building as recommended in this Standard. In accordance with BS EN 1990 : 2002 and its UK National Annex, a partial action factor must be applied to the determine the design wind action to be resisted by the product.

9.1.3 The designer must ensure:

- the substrate floor and weatherproofing system are structurally sound, and designed and constructed in accordance with the requirements of the relevant national Building Regulations and Standards
- the substrate floor and weatherproofing system, without the product and sub-frame, is able to take the full wind
 actions normally experienced in the UK, and the general actions, and be capable of sustaining the self-weight of the
 product and sub-frame. The adequacy of the substrate floor and weatherproofing system is outside the scope of
 this Certificate and must be verified by a suitably qualified and experienced individual
- the construction will satisfy the requirements in BS EN 1991-1-1 : 2002
- the product is fixed to the support sub-frame using the specified fixings
- the design of the sub-frame and its fixings is in accordance with the relevant codes and Standards, and is such as to limit mid-span deflections to 5 mm under a static 2 kN concentrated load
- the sub-frame is able to transmit the actions (including self-weight of the product and wind actions) to the substrate floor. Distances between supports must be determined with regard to the maximum deflection, acceptable tensions, and wind actions. The adequacy of the sub-frame is outside the scope of this Certificate and must be verified by a suitably qualified and experienced individual
- the specified fixings have adequate tensile and pull-out strength to resist the applied actions
- the design of the specified fixings has adequate capacity against wind suction, using the characteristic values in section 1 of this Certificate.

9.2 Installation

9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.2.2 Installation must be carried out in accordance with this Certificate and the Certificate holder's instructions.

9.3 Workmanship

Practicability of installation was assessed by the BBA on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the product can be undertaken by a competent general builder, or contractor familiar with this type of product.

9.4 Maintenance and repair

9.4.1 Ongoing satisfactory performance of the product in use requires that it is suitably maintained. The guidance provided by the Certificate holder was assessed by the BBA and found to be appropriate and adequate.

The following requirements apply in order to satisfy the performance assessed in this Certificate:

9.4.2 Cleaning of the boards must be undertaken when necessary, in line with the Certificate holder's instructions, using domestic soap and water and with a suitable soft sponge.

9.4.3 The sub-structure manufacturer's maintenance information must be followed for any checks or maintenance requirements of the sub structure.

10 Manufacture

10.1 The production processes for the product have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The product is manufactured by compression moulding the raw material mixture into a reinforced calcium silicate composite board.

10.1.2 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.3 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.4 The quality control procedures and product testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.5 The process for management of non-conformities has been assessed and deemed appropriate and adequate. An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that the equipment has been properly tested and calibrated.

† 10.2 The BBA has undertaken to review 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.

11 Delivery and site handling

11.1 The Certificate holder stated that the product is delivered to site in packaging bearing the product name, Certificate holder's name, date of manufacture, health and safety information and weight of contents in kilograms.

11.2 Delivery and site handling must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.2.1 Gloves must always be worn when handling the boards.

11.2.2 Boards must be stored flat and supported along their entire length.

11.2.3 Boards must not be stored in damp or exterior conditions. They must be stored undercover in a well-ventilated area.

11.2.4 Boards must not be dragged from the stack. A suitable lifting technique must be used to avoid scratching them.

11.2.5 Lifting aids and personal protective equipment must be used as appropriate.

11.2.6 Pallets must not be stacked higher than 2 m and within the capacity of the pallet.

ANNEX A – SUPPLEMENTARY INFORMATION †

Supporting information in this Annex is relevant to the product but has not formed part of the material assessed for the Certificate.

<u>Construction (Design and Management) Regulations 2015</u> 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.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard EN 12467 : 2012.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of ISO 9001 : 2015 by Quality Assurance Centre of China Association for Quality (Certificate 00621Q31306R2M).

Bibliography

BS 7976-2 : 2002 + A1 : 2013 Pendulum testers – Method of operation

BS 8579 : 2020 Guide to the design of balconies and terraces

BS EN 310 : 1993 : Wood-based panels — Determination of modulus of elasticity in bending and of bending strength

BS EN 1383 : 1999 Timber structures — Test methods — Pull-through resistance of timber fasteners

BS EN 1990 : 2002 + A1 : 2005 Eurocode — *Basis of structural design.* NA to BS EN 1990 : 2002 + A1 : 2005 UK National Annex for Eurocode — *Basis of structural design*.

BS EN 1991-1-1 : 2002 + A1 : 2005 UK National Annex to Eurocode 1 — Actions on structures. General actions. Densities, self-weight, imposed loads for buildings

BS EN 1991-1-4 : 2005 + A1 : 2010 Eurocode 1 — Actions on structures – General actions – Wind actions NA to BS EN 1991-1-4 : 2005 + A1 : 2010 UK National Annex to Eurocode 1 Actions on structures — General actions — Wind actions

BS EN 12467 : 2012 + A2 : 2018 Fibre-cement flat sheets — Product specification and test methods

BS EN 13523-16 : 2004 Coil coated metals — Test methods – Resistance to abrasion

CSN EN 13501-1 : 2019 Fire classification of construction products and construction work structures – Part 1: Classification according to reaction to fire test results

BS EN ISO 2812-4 : 2007 Paints and varnishes — Determination of resistance to liquids – Spotting methods

BS EN ISO 4892-3 : 2016 Plastics — Method of exposure to laboratory light sources – Fluorescent UV lamps

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

ISO 9001 : 2015 Quality management systems - Requirements

UK Slip Resistance Group Guidelines Issue 5 : 2016

MOAT 43 : 1987 UEAtc Directives for Impact Testing Opaque Vertical Building Components

Conditions

- 1 This Certificate:
- relates only to the product 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.

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.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product 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.

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

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

6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product 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.

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