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Agrément Certificate
10/4725
Product Sheet 5

SINIAT SYSTEMS

SINIAT WEATHER DEFENCE BOARD

This Agrément Certificate Product Sheet⁽¹⁾ relates to Siniat Weather Defence Board, for use as a non-structural sheathing board behind façade/rainscreen cladding board in timber-frame and lightweight steel-frame 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 — the board can accept surface loadings likely to be met in the UK (see section 6).

Behaviour in relation to fire — the board may be regarded as non-combustible in the relevant national Building Regulations (see section 7).

Water absorption — the board has a designation GM-H1 and therefore provides a significant resistance to water absorption (see section 9).

Durability — the board has acceptable durability and can be expected to have a service 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: 30 June 2016

Simon Wroe
Head of Approvals — Engineering

Claire Curtis-Thomas
Chief Executive

Certificate amended on 13 April 2017 to update company name.

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.

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Regulations

In the opinion of the BBA, Siniat Weather Defence Board, 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 can meet this Requirement for use in all locations. See section 7 of this Certificate.
Requirement:	B3(1)(2)(3)	Internal fire spread (structure)
Comment:		The product will contribute to meeting this Requirement. See section 7 of this Certificate.
Requirement:	B4	External fire spread (structure)
Comment:		The product meets Class 0 requirements. See section 7 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The product can contribute to a construction satisfying this Regulation. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	2.5	Internal linings
Comment:		The product will satisfy this Standard, with reference to clause 2.5.1 ⁽¹⁾⁽²⁾ . See section 7 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The product can contribute to satisfying this Standard, with reference to clause 2.6.4 ⁽¹⁾⁽²⁾ . See section 7 of this Certificate.
Standard:	2.7	Spread on external walls
Comment:		The product can contribute to satisfying this Standard, with reference to clause 2.7.1 ⁽¹⁾⁽²⁾ . See section 7 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The product can contribute to meeting 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:		All comments given for 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:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	E3	Internal fire spread – Linings
Comment:		Walls incorporating the product can satisfy this Regulation. See section 7 of this Certificate.
Regulation:	E5(a)	External fire spread
Comment:		The product meets the Class 0 requirements. See section 7 of this Certificate.

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, Principal Designer/CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See sections: 1 *Description* (1.1), 3 *Delivery and site handling* (3.2) and 10 *Maintenance* (10.2) of this Certificate.

Additional Information

NHBC Standards 2016

NHBC accepts the use of Siniat Weather Defence Board, provided it is installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards, Part 6 Substructures (excluding roofs)*, Chapters 6.3 *Internal walls* and 6.9 *Curtain walling and cladding*.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard BS EN 15283-1 : 2008. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 Siniat Weather Defence Board is a purple-coloured, square-edge gypsum sheathing board, with the following nominal characteristics:

Width (mm)	1200
Standard length (mm)	2400, 2700, 3000 ⁽¹⁾
Thickness (mm)	12.5
Density (kg·m ⁻³)	873
Vapour resistance (MN·s·g ⁻¹)	0.49
Water vapour resistance factor – μ	7.98
Thermal conductivity* (W·m ⁻¹ ·K ⁻¹)	0.25
Flexural strength (N)	
longitudinal	684
transverse	312.

(1) Other lengths available on request.

1.2 Fixings for use with the product are:

- GTEC Wet Area self-drilling screws — carbon steel screws with ceramic coating for steel more than 0.7 mm gauge
- GTEC Wet Area self-tapping screws — carbon steel screws with ceramic coating for steel less than or equal to 0.7 mm gauge
- GTEC Wet Area high-thread screws — carbon steel screws with ceramic coating for use with timber supports.

1.3 Components which may be used with the board, but which are outside the scope of this Certificate, are:

- breather membranes
- silicone sealant.

2 Manufacture

2.1 The board is manufactured from a slurry of calcium sulfate dehydrate in an automated lamination process between two liner sheets, then dried and cut. The manufacturing process and quality controls are in accordance with BS EN 15283-1 : 2008.

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.

3 Delivery and site handling

3.1 Boards are stacked on bearers. Each pallet pack incorporates the Certificate holder's name, product name, thickness, width, length, number of boards per pallet, pallet weight, recommended storage and handling method. Each board is printed with the appropriate classification to BS EN 15283-1 : 2008.

3.2 The packaging and weights of the boards and fixings are given in Table 1.

Table 1 Boards and fixings — packaging and weights

Component	Product size (mm)	Packaging number/ weight
12.5 mm Siniat Weather Defence Board	1200 x 2400	52 boards per pallet, 1.62 tonnes per pallet
	1200 x 2700	52 boards per pallet, 1.91 tonnes per pallet
	1200 x 3000	40 boards per pallet, 1.63 tonnes per pallet
GTEC Wet Area high-thread screws	42 (length)	1000 screws/box, 10 boxes per carton
GTEC Wet Area self-drilling screws	25 and 38 (length)	1000 screws/box, 10 boxes per carton
GTEC Wet Area self-tapping screws	32 and 42 (length)	1000 screws/box, 10 boxes per carton

3.3 Boards must be stored flat on a dry, level surface protected from direct rain exposure on site. Stacks should not exceed seven pallets high. The Certificate holder's instructions on site handling and storage must be followed.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Siniat Weather Defence Board.

Design Considerations

4 General

4.1 Siniat Weather Defence Board is satisfactory for use as a non-structural sheathing board behind façade/rainscreen cladding board in timber-frame and lightweight steel-frame buildings, when installed in accordance with the Certificate holder's instructions and this Certificate.

4.2 The steel/timber frame substrate wall to which the product is fixed must be structurally sound and constructed in accordance with the requirements of the relevant national Building Regulations and Standards (see sections 4.3 and 4.4).

4.3 Timber stud 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.

4.4 Galvanized steel framework must be structurally sound, and designed and constructed in accordance with BS EN 1993-1-3 : 2006.

4.5 The board should be kept above damp-proof course level and a minimum of 150 mm above ground level.

4.6 If the board is to be used on the external walls of rooms expected to have continuous high humidity, care must be taken in the design of the walls to avoid possible problems from the formation of interstitial condensation in the wall.

4.7 When using the product, consideration must be given to the overall design to minimise the risk of condensation, and to the recommendations contained in BS 5250 : 2011.

5 Practicability of installation

The board is designed to be installed by a competent general builder, or a contractor, experienced with this type of product.

6 Strength and stability

6.1 The board has adequate strength and can be used throughout the UK without loss of serviceability.

6.2 The contribution of the board to the stability of the substrate wall is assumed to be negligible. The substrate, without the board, must be able to take the full wind actions and racking loads and be capable of sustaining the weight of the board. The adequacy of the substrate is outside the scope of this Certificate and must be verified by a suitably-qualified and experienced individual.

6.3 A suitably-qualified and experienced individual must check the design and method of installation of the board.

6.4 The characteristic pull-through resistance of the product, calculated by applying a safety factor of 3.0 to the mean failure pull-through values (determined by tests in accordance with BS EN 1383 : 1999) for the stainless steel screws defined in section 1.2 and Table 1, is given in Table 2.

Table 2 Pull-through values⁽¹⁾

Position	Pull-through value (kN)		
	GTEC Wet Area high-thread screws	GTEC Wet Area self-tapping screws	GTEC Wet Area self-drilling screws
Centre	0.31	0.25	0.33

(1) For fasteners other than those specified, the Certificate holder's advice must be sought but these are outside the scope of this Certificate.


Impact resistance

6.5 When tested for impact, the board supported on battens at 600 mm was found to adequately resist 'soft body' impact energy of 120 N/m and 'hard body' impact energy of 10 N/m. The board can therefore be considered suitable for use in location categories II to IV, as defined in ETAG 034 : 2011, Table 4, reproduced in Table 3.

Table 3 Area of use categories

Use category	Description
I	A zone readily accessible at ground level to the public and vulnerable to hard body impacts but not subjected to abnormally rough use
II	A zone liable to impacts from thrown or kicked objects, but in public locations where the height of the kit 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
III	A zone not likely to be damaged by normal impacts caused by people or by thrown or kicked objects
IV	A zone out of reach from ground level

7 Behaviour in relation of fire

 7.1 When tested to BS EN 13501-1 : 2007, the product achieved an A1* reaction to fire classification and as such may be regarded as having a 'Class 0' surface or 'low risk' material (in Scotland) in accordance with the national Building Regulations.

7.2 The board is suitable for use on, or at any distance from, the boundary.

7.3 The board is not subject to any height restriction when used on a substrate and with components that meet the non-combustibility requirement of materials in the relevant national Building Regulations. When used in conjunction with combustible materials, the whole wall construction should meet the requirements of BRE Report BR 135 : 2013 *Fire performance of external thermal insulation for walls of multistorey buildings*.

7.4 For resistance to fire, the performance of a wall incorporating the product can only be determined by tests from a suitably accredited laboratory, and is not covered by this Certificate.

7.5 Cavity barriers should be incorporated as required under the national Building Regulations, but should not block essential ventilation and drainage pathways. Guidance on fire barriers can be found in BRE Report BR 135 : 2003 *Fire performance of external insulation for walls of multi-storey buildings*.

8 Proximity of flues

When installing the product in close proximity to certain flue pipes or heat-producing appliances, the following provisions of the national Building Regulations should be met:

England and Wales — Approved Document J

Scotland — Mandatory Standard 3.19, clauses 3.19.1⁽¹⁾⁽²⁾ to 3.19.4⁽¹⁾⁽²⁾ and 3.19.8⁽¹⁾⁽²⁾

Northern Ireland — Technical Booklet L

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

9 Water absorption


The water absorption of the product is 1.71 % when tested in accordance with BS EN 15283-1 : 2008 and is therefore designated as GM-H1 in accordance with the same Standard.

10 Maintenance and repair

10.1 As the product has suitable durability (see section 11) and will normally be confined within the building structure or behind façade/rainscreen cladding, maintenance is not required.

10.2 Under normal conditions of use, the product is unlikely to suffer damage, but, if damage does occur, repairs and replacements should be carried out in accordance with the Certificate holder's instructions and observing all necessary health and safety regulations.

11 Durability

 11.1 The board has been tested and found to be resistant to mould growth.

11.2 The durability and service life of the product will depend on the location, immediate environment and intended use of the building, and on proper maintenance and repairs.

11.3 Provided it is installed in accordance with the Certificate holder's instructions, the product can be expected to have a service life in excess of 30 years when used in the normal climatic conditions found in the UK.

12 Reuse and recyclability

The product is made from gypsum, which can be recycled. A recycling service is available from the Certificate holder.

Installation

13 General

Installation of Siniat Weather Defence Board should be carried out strictly in accordance with the provisions of this Certificate and the Certificate holder's instructions.

14 Procedure

14.1 When a breather membrane is required, it must be installed and properly overlapped in accordance with the instructions of the membrane manufacturer and the building designer.

14.2 Full details for each application are available from the Certificate holder.

14.3 The frame studs or cavity drainage battens must be at a maximum of 600 mm centres.

14.4 Screws should be fixed at a minimum of 13 mm from board edges, and a maximum of 300 mm screw spacing for steel and timber frame applications. This must be checked and verified by a suitably-qualified engineer. The screws should not be over-tightened (details are given in the Certificate holder's installation guide).

Technical Investigations

15 Tests

15.1 Tests were carried out on the product and the results assessed to determine:

- resistance to hard and soft body impacts
- thermal conductivity
- water vapour permeability
- bending strength
- density
- water absorption
- pull-through.

15.2 Existing test reports from independent test laboratories were evaluated in relation to:

- reaction to fire
- resistance to organic growth
- dimensional stability.

16 Investigations

16.1 An assessment was made of the practicability of installation.

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

Bibliography

BS 5250 : 2011 *Code of practice for control of condensation in buildings*

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

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

BS EN 1993-1-3 : 2006 *Eurocode 3 : Design of steel structures — General rules and supplementary rules for cold-formed members and sheeting*

BS EN 1995-1-1 : 2004 + A2 : 2014 *Eurocode 5: Design of timber structures — General — Common rules and rules for buildings*

BS EN 13501-1 : 2007 + A1 : 2009 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

BS EN 15283-1 : 2008 + A1 : 2009 *Gypsum boards with fibrous reinforcement — Definitions, requirements and test methods — Gypsum boards with mat reinforcement*

ETAG 034 : 2011 *Guideline for European Technical Approval of kits for external wall claddings*

17 Conditions

17.1 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.

17.2 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.

17.3 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.

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

17.5 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.

17.6 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.