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Agrément Certificate

20/5748

Product Sheet 1

ECO ROOFING SLATES

ECO SLATES

This Agrément Certificate Product Sheet⁽¹⁾ relates to Eco Slates, recycled polymer-based, injection-moulded slates for use on conventional pitched boarded timber roofs with a rafter pitch of 10° or greater.

(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 — the products have adequate strength to resist the loads associated with the installation of the roof (see section 6).

Properties in relation to fire — the products can enable a roof to be unrestricted under the national Building Regulations (see section 7).

Weathertightness — the products resist the passage of moisture into the roof (see section 8).

Durability — under normal service conditions, the products will provide a durable covering with a service life in excess of 20 years (see section 10).



The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 20 April 2020

Hardy Giesler
Chief Executive Officer

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 MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.
Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.*

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Regulations

In the opinion of the BBA, Eco Slates, 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:	B3(2)	Internal fire spread (structure)
Requirement:	B4(2)	External fire spread
Comment:	A roof incorporating the products can be unrestricted under these Requirements. See section 7 of this Certificate.	
Requirement:	C2(b)	Resistance to moisture
Comment:	A roof incorporating the products will satisfy this Requirement. See section 8 of this Certificate.	
Regulation:	7(1)	Materials and workmanship
Comment:	The products are acceptable. See section 10.1 and the <i>Installation</i> part 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 products can contribute to a roof satisfying this Regulation. See sections 9 and 10.1 and the <i>Installation</i> part of this Certificate.	
Regulation:	9	Building standards applicable to construction
Standard:	2.1	Compartmentation
Standard:	2.2	Separation
Comment:	The products can contribute to satisfying these Standards, with reference to clauses 2.1.15 ⁽²⁾ , 2.2.7 ⁽²⁾ and 2.2.10 ⁽¹⁾ . See section 7 of this Certificate.	
Standard:	2.8	Spread from neighbouring buildings
Comment:	A roof incorporating the products can be unrestricted under this Standard, with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ . See section 7 of this Certificate.	
Standard:	3.10	Precipitation
Comment:	The products will contribute to a roof satisfying this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.8 ⁽¹⁾⁽²⁾ . See section 8 of this Certificate.	
Standard:	7.1(a)	Statement of sustainability
Comment:	The products 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:	Comments in relation to the products 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 products are acceptable. See section 10.1 and the <i>Installation</i> part of this Certificate.

Regulation:	28(b)	Resistance to moisture and weather
Comment:		The products can contribute to satisfying this Regulation. See section 8 of this Certificate.
Regulation:	35(3)	Internal fire spread- structure
Regulation:	36(b)	External fire spread
Comment:		A roof incorporating the products can be unrestricted under these Regulations. See section 7 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: 1 *Description* (1.1) and 9 *Maintenance* (9.2) of this Certificate.

Additional Information

NHBC Standards 2020

In the opinion of the BBA, Eco Slates, 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 7.2 *Pitched roofs*.

Technical Specification

1 Description

1.1 Eco Slates are self-bonding, 100% recycled plastic roof slates. The products have the following nominal characteristics:

Dimensions (mm)	440 by 305
Nominal thickness (mm)	top 3.5 and bottom 5.5
Weight (g)	700
Installed weight (kg·m ⁻²)	12
Colour	deep red, grey and lakeland green
Shape	Colonial tail design.

1.2 Slight colour variations may exist between batches and, therefore, the slates should be randomised on site to achieve a consistent appearance when installed.

1.3 The slates are marked and supplied with blind nail holes for fixing in accordance with BS 5534 : 2014.

2 Manufacture

2.1 The products are manufactured by injection-moulding compound pellets made from plastic compound, fillers and pigments.

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 management systems of the manufacturer have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by ACS (Certificate UK/01/11586630710).

3 Delivery and site handling

3.1 The slates are delivered to site on pallets, protected by a shrink-wrapped polythene cover.

3.2 The slates should be stored on a dry, level base in a dry, protected area, away from direct sunlight and the possibility of damage. If incorrectly stored they may become twisted or curled; the original flatness can normally be restored by laying it on a flat surface in a warm place.

3.3 The wrapping bears the product name, manufacturing date, raw material lot number, colour and shape, and the BBA logo incorporating the number of this Certificate.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Eco Slates.

Design Considerations

4 Use

4.1 Eco Slates are satisfactory for use as a roof covering on conventional, pitched boarded timber roofs with a rafter pitch of 10° and above. It is essential that roofs are designed and constructed to incorporate precautions to prevent moisture penetration and the formation of condensation (eg by adequate ventilation).

4.2 Roofs incorporating the products and subject to the national Building Regulations must be designed and constructed in accordance with the relevant recommendations of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013. The designer must select a construction appropriate to its location, paying due attention to design detailing, workmanship and the materials to be used.

5 Practicability of installation

The products can be readily installed by competent roofers/tilers experienced with these types of products.

6 Strength

6.1 The products have adequate resistance to damage during site handling and installation using conventional roofing methods.

6.2 The products have adequate resistance to the wind and snow loads likely to be encountered in service. In situations where high local loads may occur, the designer must seek the advice of the Certificate holder. Consideration must also be given to the guidance contained in BRE Digest 439.

7 Properties in relation to fire



The products, when tested in accordance with BS 476-3 : 2004, and installed on the following systems, achieved an EXT.S.AA rating and so are unrestricted by the documents supporting the national Building Regulations:

- 11 mm OSB decking with a 6 mm thick Firefly Vulcan cavity barrier
- 18 mm OSB decking with 0.4 mm thick Certifire Firefly Phoenix membrane.

- (1) Test report references 268229 and 358234, issued by BRE Global Ltd and Exova Warringtonfire respectively. The test reports are available from the Certificate holder.
- (2) Colours tested are deep red and grey. The Certificate holder's advice regarding the fire performance of other colours should be sought.

8 Weathertightness



8.1 The water absorption of the slates after 24 hours' water immersion is less than 0.5%.

8.2 When used in conjunction with a suitable tile underlay or sarking, the products will provide a roof with satisfactory resistance to the passage of rain or snow.

9 Maintenance



9.1 Roofs covered with the products must be visually inspected twice a year to ensure continued performance, as is good practice with all roofs. Any damaged slates must be replaced in accordance with section 14.

9.2 Care is required when carrying out maintenance work on roofs clad in slates, and the recommendations contained in BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013 must be followed.

10 Durability



10.1 Under normal service conditions, the products will provide a durable covering with a service life in excess of 20 years .

10.2 There may be some fading of colour over long exposure periods, but such fading will be consistent across any one elevation.

Installation

11 General

11.1 The products should be installed in accordance with the Certificate holder's instructions and relevant recommendations of BS 5534 : 2014, BS 8000-0 : 2014, BS 8000-6 : 2013 and this Certificate, using conventional slating techniques.

11.2 When used on large roof areas, the slates should be randomly selected from different batches to ensure a consistent appearance.

11.3 The roof space must be adequately ventilated in accordance with BS 5250 : 2011.

12 Cutting

The product can be shaped (for use at eaves and hips) by cutting with a sharp knife or snips.

13 Procedure

13.1 The products should be laid weather-face up and fixed in place using two 15 mm diameter, minimum 5 mm head hot dipped galvanised nails or stainless-steel nails.

13.2 Nails must be tapped rather than driven home, and care is required to ensure that nails are not overdriven.

13.3 Each course should be laid in a broken bonded pattern with the tails aligned. Courses are nailed in place laid butted up to each other.

13.4 Each slate must be seated down correctly with the adjacent slate and the course below. Joints between slates must be properly constructed to provide the required degree of weathertightness and dimensional accuracy.

13.5 Where the products are to be used on an existing boarded roof structure, the recommendations contained in BS 5534 : 2014, BS 8000- 0 : 2014 and BS 8000-6 : 2013 on re-covering must be followed. Consideration must also be given to the advice contained in BRE Defect Action Sheets DAS 124 : 1988 and DAS 125 : 1988.

13.6 Ridge, verge and hip details should be completed in accordance with the Certificate holder's instructions.

14 Repair

Damaged slates should be replaced by following the Certificate holder's instructions and the relevant sections of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013.

Technical Investigations

15 Tests

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

- dimensions
- mechanical characteristics
- apparent density
- ash content
- water absorption
- dimensional stability
- impact strength.

15.2 Tests were carried out on the products to determine the effects of:

- artificial weathering and colour stability
- prolonged water immersion and heating
- freeze/thaw cycling
- warm water immersion
- heat ageing at elevated temperatures
- heat/rain cycling.

16 Investigations

16.1 An assessment was made of existing data relating to BS 476-3 : 2004.

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.

16.3 A user survey was conducted to evaluate performance in use.

16.4 A visit was made to an existing site to assess performance in use of the product installed on a 10° pitched roof.

Bibliography

BRE Defect Action Sheet DAS 124 : 1988 *Pitched roofs: Renovation of older type timber roofs — re-tiling or re-slating*

BRE Defect Action Sheet DAS 125 : 1988 *Pitched roofs: Re-tiling or re-slating older type timber roofs*

BRE Digest 439 *Roof loads due to local drifting of snow*

BS 476-3 : 2004 *Fire tests on building materials and structures — Classification and method of test for external fire exposure to roofs*

BS 5250 : 2011 + A1 : 2016 *Code of practice for control of condensation in buildings*

BS 5534 : 2014 + A2 : 2018 *Slating and tiling for pitched roofs and vertical cladding — Code of practice*

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*

BS 8000-6 : 2013 *Workmanship on building sites — Code of practice for slating and tiling of roofs and walls*

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

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.