

Moderne Slate (Div. TRACC)

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Agrément Certificate
15/5183
Product Sheet 1

MODERNE RECYCLED POLYMERIC SLATES

MODERNE ROOFING SLATES

This Agrément Certificate Product Sheet⁽¹⁾ relates to Moderne Roofing Slates, for use as a weatherproof finish to pitched roofs in accordance with BS 5534 : 2014.

(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 product has adequate strength to resist the wind and snow loads experienced in service and loads associated with the installation of the roof (see section 6).

Performance in relation to fire — the product will enable a roof to be unrestricted under the Building Regulations (see section 7).

Weathertightness — the product resists the passage of moisture into the building (see section 8).

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

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

A handwritten signature in black ink, appearing to read 'John Albon'.

Date of First issue: 18 February 2015

John Albon — Head of Approvals
Construction Products

A handwritten signature in black ink, appearing to read 'Claire Curtis-Thomas'.

Claire Curtis-Thomas
Chief Executive

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, Moderne Roofing 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)	Internal fire spread (structure)
Comment:		A roof incorporating the product meets these Requirements provided the installation complies with the conditions set out in section 4.2 of this Certificate. See also section 7 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		A roof incorporating the product meets this Requirement provided the installation complies with the conditions set out in section 4.2 of this Certificate. See also section 8 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The product is 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 product can contribute to a construction 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 product can contribute to satisfying these Standards provided the installation complies with the conditions set out in section 4.2 of this Certificate, with reference to clauses 2.1.15 ⁽²⁾ , 2.2.7 ⁽²⁾ and 2.2.10 ⁽¹⁾ . See section 7 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Standard:	2.8	Spread from neighbouring buildings
Comment:		A roof incorporating the product is unrestricted under these Standards provided the installation complies with the conditions set out in section 4.2 of this Certificate, with reference to clauses 2.6.4 ⁽¹⁾⁽²⁾ and 2.8.1 ⁽¹⁾⁽²⁾ . See section 7 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product 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 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 this 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

Regulation:	23(a)(i)(iii)(b)(i)	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 10.1 and the <i>Installation</i> part of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		A roof incorporating the product can satisfy this Regulation provided the installation complies with the conditions set out in section 8 of this Certificate.
Regulation:	35	Internal fire spread – Structure
Regulation:	36(b)	External fire spread
Comment:		A roof incorporating the product is unrestricted under these Regulations provided the installation complies with the conditions set out in section 4.2 of this Certificate. See also section 7 of this Certificate.

Construction (Design and Management) Regulations 2007

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

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

See sections: 1 *Description* (1.1), 3 *Delivery and site handling* (3.1) and 9 *Maintenance* (9.2) of this Certificate.

Additional Information

NHBC Standards 2014

NHBC accepts the use of Moderne Roofing Slates, provided they are installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards, Chapter 7.2 Pitched roofs*.

Technical Specification

1 Description

1.1 Moderne Roofing Slates are manufactured from a composite made from recycled plastics and rubber and other constituents, with a natural slate finish. The product has the nominal characteristics given below. A Crown Ridge slate is also available for use at ridge and hip areas.

Size (mm)	425 x 286
Thickness (mm)	7.0 including textured finish
Weight per slate (kg)	0.57
Weight per bundle (kg)	15.5
Colour	Dark Slate Grey

1.2 Slight colour variations may exist between batches. Slates should be randomised on site to achieve a consistent appearance when installed.

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

2 Manufacture

2.1 The product is injection-moulded from mineral-reinforced recycled plastics and rubber and other constituents. These are mixed together to a slurry, and moulded under pressure and heat to give the appearance of natural textured slate.

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 product is manufactured in Canada by Moderne Slate (Div. TRACC) and is marketed/distributed in the UK by IKO PLC, Appley Lane North, Appley Bridge, Wigan, Lancashire, WN6 9AB, tel: 0844 412 7228, fax : 0844 412 7229, email: technical@ikogroup.co.uk, website: www.ikogroup.co.uk

3 Delivery and site handling

3.1 The slates are packed in bundles of 27 stored on pallets and protected by polythene wrapping. Storage must be on a level base in dry conditions at temperatures above 0°C, under cover and away from the possibility of damage.

3.2 The wrapping bears the Certificate holder's label 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 Moderne Roofing Slates.

Design Considerations

4 Use

4.1 Moderne Roofing Slates are satisfactory for use as a roof covering on conventional pitched timber roofs with a rafter pitch of 22.5° and over. It is essential that such roofs are designed and constructed to incorporate the normal precautions to prevent moisture penetration and the formation of condensation.

 4.2 Roofs incorporating the slates and subject to the UK Building Regulations must be designed and constructed in accordance with the relevant recommendations of BS 5534 : 2014 and BS 8000-6 : 2013. In particular, the designer must follow the recommendations of clauses 5.2, 5.4 and 5.4.2 of BS 5534 : 2014 on rain and snow resistance, roof pitch, head-laps and side-laps and structural stability and must select a construction appropriate to its location, paying due attention to design detailing, workmanship and materials to be used.

5 Practicability of installation

The product is designed to be installed by a competent roofing contractor experienced with this type of product.

6 Strength

6.1 The product has adequate impact resistance to damage during conventional site handling and installation methods.

6.2 The product has a mean bending strength of $19 \text{ N}\cdot\text{mm}^{-2}$ (average of both directions).

6.3 The product has 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 manufacturer. Consideration must also be given to the guidance contained in BRE Digest 439 *Roof loads due to local drifting of snow*.

7 Performance in relation to fire



When tested in accordance with BS 476 -3 : 2004, the slates, installed on a batten and rafter system, achieved an EXT S.AA designation, and a roof incorporating the slates was designated AA and consequently is unrestricted by the relevant requirements of the national Building Regulation.

8 Weathertightness



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

9 Maintenance



9.1 Roofs covered with the product 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 15.

9.2 Care is required when carrying out maintenance work on slate roofs, and the recommendations contained in BS 5534 : 2014, clause 6.14 *Workmanship, repairs and maintenance*, and BS 8000-6 : 2013, Section 11 *Safety and general precautions* must be followed.

10 Durability



10.1 The product has an expected service life in excess of 20 years.

10.2 After natural weathering, some slight change in colour may occur. However, this will not be progressive.

11 Reuse and recyclability

The product contains recycled plastics and rubber, which can be further recycled.

Installation

12 General

12.1 Moderne Roofing Slates are installed in accordance with the manufacturer's instructions and the relevant recommendations of BS 5534 : 2014 and BS 8000-6 : 2013, using conventional slating techniques.

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

12.3 Any roof clad in slates should be treated as fragile, and the recommendations given in section 9.2 must be followed.

13 Cutting

The slates may be cut (for use at eaves and valleys) with a sharp knife. Nails can be driven through the slates without the need for pre-drilling or punching.

14 Procedure

14.1 Slates should be laid weather-face up, with the first row of tiles fixed using two stainless steel nails as the eaves course.

14.2 Care is required to ensure that nails are not overdriven. Nails should be tapped rather than driven home.

14.3 Each course should be laid broken bonded with tails aligned. Spacer tabs on the product ensure that the butt joints are left slightly open with a gap of approximately 9 mm.

14.4 Each slate must be seated down correctly, adjacent to the previous one and to the course below. Butt joints between tiles must be properly constructed to provide the required degree of weathertightness and dimensional accuracy.

14.5 Where the product is to be used on an existing roof structure, the recommendations contained in BS 5534 : 2014, Section 6, clause 6.14 *Workmanship, Repairs and Maintenance* and BS 8000-6 : 2013, Section 11, on re-covering, should be followed. Consideration should also be given to the advice contained in BRE Defect Action Sheets DAS 124 : 1988 *Pitched roofs: Renovation of older type timber roofs — re-tiling or re-slating* and DAS 125 : 1988 *Pitched roofs: Re-tiling or re-slating older type timber roofs*.

14.6 Ridge and hip details should be completed using preformed ridge tiles, in accordance with the Certificate holder's instructions.

15 Repair

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

Technical Investigations

16 Tests

16.1 Tests were carried out on the slates and the results assessed to determine:

- dimensions
- appearance and finish
- ash content
- effect of artificial weathering and colour stability
- heat/rain cycling.

16.2 Test data were assessed in relation to:

- wind-driven rain
- resistance to wind uplift
- tensile strength and elongation on control and UV-aged samples
- uplift bend
- penetration
- resistance to temperature-cycling
- impact resistance
- dimensional stability
- bending strength
- water absorption
- tensile strength and elongation on controls and after heat ageing and accelerated weathering
- nail pull-through strength.

17 Investigations

17.1 An assessment was made of fire data from an independent laboratory relating to BS 476-3 : 2004.

17.2 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 476-3 : 2004 *Fire tests on building materials and structures — External fire exposure roof test*

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

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

18 Conditions

18.1 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.

18.2 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.

18.3 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.

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

18.5 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.

18.6 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.