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Agrément Certificate

11/4833

Product Sheet 1

ECO ROOFING SYSTEMS

NEWTECH ROOFING SLATES

This Agrément Certificate Product Sheet⁽¹⁾ relates to NewTech Roofing 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 product has adequate strength to resist the loads associated with the installation of the roof (see section 6).

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

Liquid water penetration — the product resists the passage of moisture into the building (see section 8).

Durability — the product will provide a durable roof 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 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'.

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

Date of Third issue: 12 January 2016

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

Originally certificated on 18 August 2011

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

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Regulations

In the opinion of the BBA, NewTech 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)	External fire spread
Comment:	A roof incorporating the product has an AA rating and meets these Requirements. See section 7 of this Certificate.	
Requirement:	C2(b)	Resistance to moisture
Comment:	A roof incorporating the product meets this Requirement. See 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, 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, with reference to clauses 2.6.4 ⁽¹⁾⁽²⁾ and 2.8.1 ⁽¹⁾⁽²⁾ respectively. 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:	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) (iii)(b)(i)	Fitness of materials and workmanship
Comment:	The product is an acceptable material. See section 10.1 and the <i>Installation</i> part of this Certificate.	
Regulation:	28(b)	Resistance to ground moisture and weather
Comment:	A roof incorporating the product can satisfy this Regulation. See 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. 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) and 9 *Maintenance* (9.2) of this Certificate.

Additional Information

NHBC Standards 2016

NHBC accepts the use of NewTech 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 NewTech Roofing Slates are self-bonding, 100% recycled plastic roofing slates, with the nominal characteristics of:

Width (mm)	304
Length (mm)	430
Thickness (mm)	
top	3.5
bottom	7.5
Weight (g)	705
Installed weight (kg·m ⁻²)	12
Colour ⁽¹⁾	Deep Red, Grey
Shape	Colonial tail design.

(1) Slight colour variations may exist between batches.

1.2 The product is marked and supplied with blind nail holes for fixing in accordance with BS 5534 : 2014.

2 Manufacture

2.1 The product is manufactured by an injection-moulding 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 being operated by the manufacturer are being maintained.

3 Delivery and site handling

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

3.2 The product 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 it will become twisted or curled; the original flatness can 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 NewTech Roofing Slates.

Design Considerations

4 Use

4.1 NewTech Roofing Slates are satisfactory for use 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 adequate ventilation).

4.2 Roofs incorporating the slates should be designed and constructed in accordance with the relevant recommendations of BS 5534 : 2014 and BS 8000-6 : 2013. In particular, the designer should follow the recommendations of BS 5534 : 2014, clauses 5.2, 5.4, 5.4.2 and 5.9.2 on structural stability, rain and snow resistance, roof pitch, head-laps and side-laps, and control of condensation, and should select a construction appropriate to its location, paying due attention to design detailing, workmanship and materials 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 resistance to damage during site handling and installation.

6.2 When installed on boarded roofs in accordance with BS 5534 : 2014, the product has adequate resistance to the uniformly distributed loads (ie wind and snow) likely to be encountered. Where high local snow loads may occur, the Certificate holder's advice should be sought, and the guidance given in BRE Digest 439 : 1998 *Roof loads due to local drifting of snow* should be followed.

7 Behaviour in relation to fire



7.1 When tested in accordance with BS 476-3 : 2004 , the product when installed on the following systems achieved an EXT.S.AA rating:

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

7.2 A roof incorporating the product is designated AA and consequently is unrestricted by the relevant requirements of the national Building Regulations.

8 Liquid water penetration



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

8.2 When used in conjunction with a suitable roof tile underlay on a boarded timber roof, the product will provide a roof covering with satisfactory resistance to the passage of snow or rain.

9 Maintenance



9.1 Roofs covered with the product should be the subject of bi-annual visual inspections to ensure continued performance, as is good practice with all roofs. Any damaged slates should be replaced in accordance with section 14.

9.2 Care is required when carrying out maintenance work on any roof clad in slates, 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*, should be followed.

10 Durability



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

10.2 Extensive exposure to sunlight will cause fading of the surface colouring.

Installation

11 General

11.1 NewTech Roofing Slates should be installed in accordance with the Certificate holder's recommendations, BS 5534 : 2014 and BS 8000-6 : 2013, using conventional slating techniques.

11.2 When used on large roof areas, slates should be randomly selected from different batches to ensure a consistent appearance. Any damaged slates must not be installed.

12 Cutting

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

13 Procedure

13.1 The product should be laid weather-face up and fixed in place using two 9.5 mm diameter copper 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 with a maximum 10 mm gap between slates.

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 product is to be used on an existing boarded 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, must be followed. Consideration should also be given to the advice contained in BRE Defect Action Sheets DAS 124 : 1988 *Pitched roofs: renovation of older timber roofs — re-tiling or re-slating* and DAS 125 : 1988 *Pitched roofs: re-tiling or re-slating older type timber roofs*.

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

14 Repair

Damaged slates should be replaced in accordance with the Certificate holder's instructions and the relevant sections of BS 5534 : 2014 and BS 8000-6 : 2013.

Technical Investigations

15 Tests

15.1 Tests were carried out on NewTech Roofing Slates 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 and the results assessed 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 from independent laboratories 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

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

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*

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 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.