Britmet Tileform Limited
Unit 17 Kingfisher House
Overthorpe Road
Oxfordshire OX16 4RZ

Tel: 01295 250998
e-mail: sales@britmet.co.uk
website: www.britmet.co.uk

Agrément Certificate
23/6869
Product Sheet 1 Issue 1

BRITMET ROOFING SLATES

LITESLATE

This Agrément Certificate Product Sheet(1) relates to LiteSlate, polypropylene injection-moulded roofing slates for use as a weatherproof finish to pitched roofs with a minimum rafter pitch of 12° and above.

(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: 12 May 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. 3537).

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
1st Floor Building 3
Croxley Park, Watford
Herts WD18 8YG

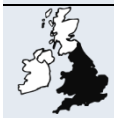
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

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 LiteSlate, 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 Building Regulations 2010 (England and Wales) (as amended)

Requirement:	**B4(1)**	**External fire spread**
Comment:		The product is restricted by this Requirement. See section 2 of this Certificate.
Requirement:	**B4(2)**	**External fire spread**
Comment:		A roof incorporating the product may be restricted by this Requirement. See section 2 of this Certificate.
Requirement:	**C2(b)**	**Resistance to moisture**
Comment:		A roof incorporating the product will satisfy this Requirement. See section 3 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**7(2)**	**Materials and workmanship**
Comment:		The product is restricted by this Regulation. See section 8 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)(2)**	**Fitness and durability of materials and workmanship**
Comment:		The use of the product can contribute to a roof satisfying this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	**8(3)**	**Fitness and durability of materials and workmanship**
Comment:		The product is restricted by this Regulation. See section 8 of this Certificate.
Regulation:	**9**	**Building standards applicable to construction**
Standard:	2.6	Spread to neighbouring buildings
Comment:		The product is restricted by this Standard, with reference to clauses 2.6.4$^{(1)(2)}$, 2.6.5$^{(1)}$ and 2.6.6$^{(2)}$. See section 2 of this Certificate.
Standard:	2.7	Spread on external walls
Comment:		The product is restricted by this Standard, with reference to clause 2.7.1$^{(1)(2)}$. See section 2 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		A roof incorporating the product may be restricted under this Standard, with reference to clause 2.8.1$^{(1)(2)}$. See sections 2 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 3 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 applicable to 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)].

(1) Technical Handbook (Domestic).
(2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation: Comment:	**23(1)(a)(i) (iii)(b)(i)**	**Fitness of materials and workmanship** The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation: Comment:	**23(2)**	**Fitness of materials and workmanship** The product is restricted by this Regulation. See section 8 of this Certificate.
Regulation: Comment:	**28(b)**	**Resistance to moisture and weather** The product can contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation: Comment:	**36(a)**	**External fire spread** The product is restricted by this Regulation. See section 2 of this Certificate.
Regulation: Comment:	**36(b)**	**External fire spread** The product may be restricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, LiteSlate, 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*.

Fulfilment of Requirements

The BBA has judged LiteSlate to be satisfactory for use as described in this Certificate. The product has been assessed for use as a weatherproof finish to timber roofs with a rafter pitch of 12° and above.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. LiteSlate is intended for use as a weatherproof finish to timber pitched roofs with a rafter pitch of 12° and above, and consists of polymer composite roof slates.

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

The product is marked for fixing, in accordance with BS 5534 : 2014.

The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics of LiteSlate

Characteristic (unit)	Value
Weight (kg)	0.6
Length (mm)	445
Width (mm)	297
Colours	Slate Grey, Ash, Oak, Sunshine, Sunset, Amethyst, Charcoal

Ancillary Items

The following ancillary items must be used with the product and have been assessed with the product:

- ridge caps — polymer composite.

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 Mechanical properties

1.1.1 Results of mechanical properties tests are given in Table 2.

Table 2 Mechanical properties

Product assessed	Assessment method	Requirement	Result
LiteSlate	Bending moment to BS EN 492 : 2012 Control	Value achieved	87 $Nm \cdot m^{-1}$

1.1.2 The product has adequate resistance to damage during site handling and installation using conventional roofing methods.

1.1.3 The product has satisfactory 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, but such advice is outside of the scope of this Certificate. Consideration must also be given to the guidance contained in BRE Digest 439 : 1999.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 External fire spread

2.1.1 The product, when tested on a system comprising a plywood deck, vapour barrier and timber battens, achieved an EXT.S.A.B(1) classification in accordance with BS 476-3 : 2004. The classification applies to the Slate Grey product.

(1) Test report reference 19822B, issued by Warringtonfire. The test report is available from the Certificate holder.

2.1.2 This classification may not be achieved by other colours or constructions and can be affected by other components of the roof, eg insulation materials, substrates/decking and membranes. These constructions should therefore be evaluated by reference to the requirements of the documents supporting the national Building Regulations and any consequent restrictions imposed by those documents, on a case-by-case basis. In the absence of a classification, a construction should not be used within 20 metres of a boundary in England, Wales and Northern Ireland, and within 24 metres in Scotland.

2.2 Reaction to fire

2.2.1 In England, the product must not be used on a roof pitch of 70° or more on buildings with a storey 18 m or more in height or on residential buildings more than 11 m in height or less than 1 m from a boundary. Restrictions also apply on some assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.2 In Wales, the product must not be used on a roof pitch of 70° or more on buildings with a storey 18 m or more in height or less than 1 m from a boundary. Restrictions also apply on assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.3 In Scotland and Northern Ireland, the product does not meet the minimum performance requirements specified in the relevant documents supporting the national Building Regulations. Specifiers must seek advice from the relevant local building control authority.

2.2.4 Where the product is to be carried over compartment walls, designers must ensure that the roof/wall junction detail provides sufficient resistance to fire penetrating into the neighbouring compartment.

2.2.5 Designers must refer to the relevant national Building Regulations and 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 construction.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Weathertighness

3.1.1 Results of weathertightness tests are given in Table 3.

Table 3 Weathertightness

Product assessed	Assessment method	Requirement	Result
LiteSlate, 12° (280 mm top to bottom lap, 150 mm left to right lap)	Sub test B to pr EN 15601 : 2006 Sub test D to pr EN 15601 : 2006	> 30 Pa No leakage	Pass Pass
LiteSlate	MOAT 48 : 1991 Water absorption	Value achieved	0.13 %

3.1.2 The product, when used in conjunction with a suitable tile underlay or sarking have adequate resistance to the ingress of wind-driven rain or snow when installed on a roof with a minimum rafter pitch of 12°.

3.1.3 Temporary curling of the product may occur during sudden rain showers and following periods of high temperatures. This observed effect is not permanent and should not affect the weathertightness of the roof.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

The product contains polyethylene, which can be recycled.

8 Durability

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

8.2 Specific test data were assessed as given in Table 4.

Table 4 Results of durability tests

Product assessed	Assessment method	Requirement	Result
LiteSlate	Water immersion	R_L not less than 0.75	
	28 days at 23°C		Pass
	56 days at 23°C		Pass
	Heat aged	R_L not less than 0.75	
	28 days in oven at 80°C		Pass
	56 days in oven at 80°C		Pass
LiteSlate	BS EN ISO 4892-3 : 2016 and ISO 7724 Parts 1-3 : 1984	No significant colour change	Pass
LiteSlate	Heat/rain cycling to EN 492 : 2012	No visible cracks, delamination or other defects in the slates that would affect their performance in use	Pass

8.2.1 On the basis of the data assessed there may be some fading of colour over long exposure periods, but such fading will be consistent across any one elevation.

8.3 Service life

Under normal service conditions, the product will have a life of at least 20 years, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

PROCESS ASSESSMENT

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

9 Design, installation, workmanship and maintenance

9.1 Design

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 Roofs incorporating the product and subject to the national Building Regulations must be designed and constructed in accordance with the relevant recommendations of BS 5250 : 2021, 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 materials to be used.

9.1.3 The roof construction must be adequate to resist the loadings detailed in BS EN 1991-1-1 : 2002 and BS EN 1991-1-4 : 2005, and their UK National Annexes. The roof construction must be in accordance with the relevant requirements of BS 5534 : 2014.

9.1.4 It is essential that such roofs are designed and constructed to incorporate the normal precautions to prevent moisture penetration and the formation of condensation (eg by adequate ventilation).

9.1.5 The roof space and batten space must be adequately ventilated in accordance with BS 5250 : 2021.

9.1.6 Care must be taken when designing and installing features such as hips, valleys, rooflights and skew roofs, particularly on low pitch roofs.

9.1.7 The product weighs considerably less than conventional roofing materials and must be securely attached to the structure to prevent wind uplift under adverse conditions.

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. A summary of instructions and guidance are provided in Annex A of this Certificate.

9.2.3 The product must not be installed in temperatures below -20°C.

9.3 Workmanship

9.3.1 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 must be carried out by competent roofers/tilers experienced 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.

9.4.2 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 product must be replaced.

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

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

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

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

10.1.4 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 equipment has been properly tested and calibrated.

†10.1.5 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, date of manufacture and the BBA logo incorporating the number of this Certificate.

11.2 Delivery and site handing must be performed in accordance with the Certificate holder's instructions and this Certificate.

11.3 The product is delivered to site in bundles of 12 stacked on pallets which are shipped with or without shrink wrapping.

11.4 The product must be stored on a dry level base in a dry protected area, away from the possibility of damage.

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.

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.

Additional information on installation

General

A.1 The product must be installed on timber roof decks in accordance with the Certificate holder's instructions and the relevant recommendations of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013 and this Certificate, using conventional tiling techniques.

A.2 When used on large roof areas, the product should be randomly selected from different batches to ensure a consistent appearance.

Cutting

A.3 The product may be cut (for use at eaves and valleys) with a sharp knife and a straight edge or a circular saw. The use of a chalk line to determine a straight edge for cutting is recommended for use with valley and hip details. Nails can be driven through the slate without the need for pre-drilling or punching.

Procedure

A.4 The product must be laid weather-face up with the first row of slates/shakes (eaves course) fixed using two hot-dipped galvanized steel, stainless steel or copper nails. The eaves course should overhang a maximum of 50 mm at the eaves.

A.5 Each product should be fastened with two galvanized steel, stainless steel or copper nails. Care is required to ensure that nails are not overdriven. Nails should be tapped rather than driven home.

A.6 Each course should be laid broken bonded with slates/shakes aligned. The butt joints are left slightly open with a gap of approximately 9.5 mm.

A.7 Each slate/shake must be seated down correctly, adjacent to the previous one and with the course below. Butt joints between product's must be properly constructed to provide the required degree of weathertightness and dimensional accuracy.

A.8 Where the product is to be used on an existing 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.

A.9 Ridge and hip details should be completed using preformed slates by following the Certificate holder's instructions.

A.10 Valleys, verges and hips should be completed in accordance with the Certificate holder's instructions.

Repair

A.11 Damaged product can 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.

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 : 1999 *Roof loads due to local drifting snow*

BS 5250 : 2021 *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 476-3 : 2004 *Fire tests on building materials and structures. Classification and method of test for external fire exposure to roofs*

BS EN 492 : 2012 +A2 : 2018 *Fibre-cement slates and fittings — Product specification and test methods*

PD CEN/TR 15601 : 2012 *Hygrothermal performance of buildings. Resistance to wind-driven rain of roof coverings with discontinuously laid small elements. Test methods*

BS EN 1991-1-1 : 2002 *Eurocode 1 — Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
NA to BS EN 1991-1-1 : 2002 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 ISO 4892-3 : 2016 *Plastics — Methods of exposure to laboratory light sources — Fluorescent UV lamps*

EN 492 : 2012 + A2 : 2018 *Fibre-cement slates and fittings — Product specification and test methods*

ISO 7724-1 : 1984 *Paints and varnishes — Colorimetry — Part 1: Principles*
ISO 7724-2 : 1984 *Paints and varnishes — Colorimetry — Part 2: Colour measurement*
ISO 7724-3 : 1984 *Paints and varnishes — Colorimetry — Part 3: Calculation of colour differences*

MOAT 48 : 1991 *Technical guide for the assessment of the durability of then fibre reinforced cement products (without asbestos) for external use*

prEN 15601 : 2006 *Hygrothermal performance of buildings — Resistance to wind-driven rain of roof coverings with discontinuously laid small elements — Test method*

Conditions of Certificate

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.

British Board of Agrément
Building 3, Hatters Lane,
Croxley Park, Watford
Herts WD18 8YG
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk