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Agrément Certificate

19/5668

Product Sheet 1

MARLEY ROOFING BATTENS

JB RED TREATED AND PRE-GRADED ROOFING BATTENS

This Agrément Certificate Product Sheet⁽¹⁾ relates to JB RED Treated and Pre-graded Roofing Battens, for use as part of a timber roof structure to support concrete, clay, fibre-cement, natural slate or metal roofing tiles, and/or bitumen or wooden shingles.

(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 battens have adequate strength and stiffness to support the dead, imposed and wind loads likely to be encountered in service (see section 6).

Moisture content — the battens will not be adversely affected by moisture under normal conditions found in a roof space (see section 7).

Durability — the battens are treated with a preservative, specified to achieve a 60-year design life (see section 9).



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: 5 July 2019

Paul Valentine
Technical Excellence Director

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, JB RED Treated and Pre-graded Roofing Battens, 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:	A1	Loading
Comment:		The products can contribute towards a timber roof structure satisfying the strength and stability requirements, provided it is designed in accordance with sections 4.1 to 4.3 of this Certificate. The use of the products is unrestricted in House Longhorn beetle areas. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship (applicable to Wales only)
Regulation:	7(1)	Materials and workmanship (applicable to England only)
Comment:		The products are acceptable. See sections 9.1 and 9.2 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 products can contribute to a construction satisfying this Regulation. See sections 9.1 and 9.2 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	1.1	Structure
Comment:		The products can contribute towards a timber roof structure satisfying the strength and stability requirements, with reference to clause 1.1.1 ⁽¹⁾⁽²⁾ of this Standard, provided it is designed in accordance with sections 4.1 to 4.3 of this Certificate. See section 6.1 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 sections 9.1 and 9.2 and the <i>Installation</i> part of this Certificate.
Regulation:	30(a)(b)	Stability
Comment:		The products will enable a timber roof structure to satisfy the strength and stability requirements, provided it is designed in accordance with section 4 of this Certificate. See section 6.1 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: 3 *Delivery and site handling* (3.1) and 10 *General* (10.2) of this Certificate.

Additional Information

NHBC Standards 2019

NHBC accepts the use of JB RED Treated and Pre-graded Roofing Battens, 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 JB RED Treated and Pre-graded Roofing Battens are machine-graded timber roof tiling battens made from either European Redwood (code PNSY) or Whitewood (code WPCA), from a source certified by the *Programme for the Endorsement of Forest Certification Schemes* (PEFC) or the *Forest Stewardship Council* (FSC). The battens are treated with a micro-emulsion preservative to achieve compliance with BS 8417 : 2011, Usage Class 2.

1.2 The battens are red in colour, indicating that each batten has been assessed and graded and complies with the strength requirements of BS 5534 : 2014. (Also see section 9.3 of this Certificate.)

1.3 Battens are available in dimensions of either 25 x 38 mm or 25 x 50 mm, in lengths of 2.4 m or longer (see Table 1 of this Certificate).

2 Manufacture

2.1 The battens are manufactured from timber selected from approved sources in accordance with BS 5534 : 2014 and graded by an optical grading machine, prior to the application of a red-pigmented preservative treatment.

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 system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by CPC (Certificate CP00192).

3 Delivery and site handling

3.1 The battens are delivered in the sizes, quantities and weights listed in Table 1, or to the customer's specific requirements. Each bundle is banded with three bands, which are supplied square stacked and banded. Each pack is identified with a unique pack number and barcode, giving full traceability.

Table 1 Typical example of batten sizes, bundles and weights

Timber species	Sizes (W x H x L) ⁽¹⁾	Density (kg/m ³)	Bundle weights (kg)				
			QTY 10	QTY 30	QTY 40	QTY 44	QTY 56
Larch	25 mm x 38 mm x 2.4 m	590	14	—	54	—	76
	25 mm x 50 mm x 2.4 m		—	53	—	78	—
Redwood	25 mm x 38 mm x 2.4 m	510	12	—	47	—	66
	25 mm x 50 mm x 2.4 m		—	46	—	68	—
British Spruce	25 mm x 38 mm x 2.4 m	700	16	—	64	—	90
	25 mm x 50 mm x 2.4 m		—	63	—	25	—
British Pine	25 mm x 38 mm x 2.4 m	560	13	—	51	—	72
	25 mm x 50 mm x 2.4 m		—	51	—	74	—

(1) Lengths greater than 2.4 m are available.

3.2 Each pack should be stored on sufficient bearers to prevent sagging and twisting, and must be protected against the weather to avoid moisture saturation.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on JB RED Treated and Pre-graded Roofing Battens.

Design Considerations

4 Use



4.1 JB RED Treated and Pre-graded Roofing Battens are satisfactory for use as part of a timber roof structure to support concrete, clay, fibre-cement, natural slate or metal roofing tiles and/or bitumen or wooden shingles in accordance with BS 5534 : 2014. The products are graded to meet the performance requirements of BS 5534 : 2014.

4.2 Pitched timber roofs incorporating the products should be designed and constructed in accordance with the relevant recommendations of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013. In particular, the designer should follow the recommendations on strength, durability and control of condensation, and select a construction appropriate to its location paying due attention to design detailing, quality of work and materials to be used.

4.3 The minimum batten sizes for use in specific applications are given in Table 1 (reproduced from BS 5534 : 2014).



4.4 The permissible characteristics and defects for grading timber battens should in accordance with BS 5534 : 2014.

Table 2 Batten sizes

Application	Minimum size of batten ⁽¹⁾⁽²⁾⁽³⁾			
	Up to 450 mm span ⁽⁴⁾		Up to 600 mm span ⁽⁴⁾	
	Width (mm)	Depth (mm)	Width (mm)	Depth (mm)
Double lap slates				
natural slates, sized or random	50	25	50	25
fibre-cement or concrete	38	25	50	25
Clay and concrete tiles				
double lap	38	25	38	25
single lap	38	25	50	25

- (1) Tolerances on the basic sizes of timber battens should be: width ± 3 mm and depth $-0/+3$ mm (measurement based on reference moisture content of 20%).
- (2) These minimum sizes do not apply to battens used to support ridges, hips and valleys.
- (3) Batten sizes for other slates, tiles and shingles (such as cedar shingles), and shakes and metal tiles or other proprietary roofing products, should be in accordance with the manufacturer's instructions/recommendations.
- (4) Span is defined as the distance between centres of supports, or clear distance between the face of supports plus half the bearing length at each end support, whichever is the lesser. The end-bearing should not be less than 17.5 mm.

5 Practicability of installation

The battens are designed to be installed by competent roofing contractors experienced with this type of product.

6 Strength and stability



6.1 The Redwood and Whitewood sourced battens are graded in accordance with Annex D of BS 5534 : 2014 and therefore the short-term bending stress should be limited to $4.2 \text{ N}\cdot\text{mm}^{-2}$ and a mean modulus of elasticity of $9000 \text{ N}\cdot\text{mm}^{-2}$.



6.2 The battens have adequate resistance to insect infestation and therefore their use is unrestricted in areas affected by the House Longhorn beetle *Hylotrupes bajulus* L, as defined in the Approved Document A : 2004.

7 Moisture content

The moisture content of the battens at the time of fixing should not exceed 22%.

8 Maintenance

As the battens are confined within the roof space and have suitable durability (see section 9 of this Certificate), maintenance is not required.

9 Durability



9.1 The battens are satisfactory for use in a Service Class 2 environment as defined in BS EN 1995-1-1 : 2004.

9.2 The battens are treated with a preservative specified to achieve a 60-year design life in accordance with BS 8417 : 2011 and BS EN 599-1 : 2009, and are unrestricted for their intended use.

9.3 The red pigment added to the preservative treatment can fade over time. However, this fading has no effect on the durability of the product.

9.4 As with all wood-based building materials, care should be taken in detailing buildings to prevent vermin and other pest infestation.

10 General

10.1 JB RED Treated and Pre-graded Roofing Battens should be handled and installed in the same manner as other structural wood-based materials. Guidance on design and quality of work is given in BS EN 1995-1-1 : 2004 and BS 5534 : 2014.

10.2 Fully graded tiling battens when fixed to rafters spanning up to 600 mm can be used by the roofer as a roof ladder when laying the roof. See the NFRC Health and Safety Guidance Sheet Q, *Correct Installation and Safe Use of Slating and Tiling Battens*, January 2015.

10.3 The battens are supplied graded for use. However, some end splits may occasionally develop after grading, which should be trimmed off at the time of fixing, as should any splits greater than 150 mm that occur owing to nailing.

10.4 As the battens are supplied pre-treated, on site it is recommended that the batten is rotated along its length so that the cut end is inside the roof and the fully treated end is at the verge.

10.5 Battens are fixed to each rafter, using the specified type and size of fixings in accordance with BS 5534 : 2014 Clause 4.12.1.

10.6 All joints are to be square-cut and butted centrally on the supports; battens are nailed to each rafter using splay nails at each end. The requirements for the nails used are given in BS 5534 : 2014.

10.7 Where the roof width allows, battens not less than 1.2 m long should be fixed to each rafter or support in straight lines to the calculated gauge, parallel with the ridge or top course or at right angles to the line of drainage.

10.8 For gauges greater than 200 mm, there should be no more than one joint in any four consecutive battens on the same support. For gauges less than 200 mm, there should be no more than three joints in any consecutive 12 battens on the same support.

10.9 On rafter and purlin roofs, occasional batten joint staggers should be used.

10.10 When there are roof or vertical details such as chimneys or windows, it might be necessary to gauge out the battens to suit each of the fixed points. Equal batten gauges are important, with high profiled tiles to avoid distorted diagonal lines.

10.11 Underlay laps should be covered by a batten and, where necessary, the lap of the underlay adjusted to coincide with the nearest slating or tiling batten.

10.12 Additional battens between courses should be avoided, as these can cause trip hazards and loading issues.

Technical Investigations

11 Investigations

11.1 An evaluation was made of test data relating to:

- strength values and grading rules
- gap analysis — inline optical grading and preservation of tiling battens (and identified actions from the gap analysis)
- alternative knot patterns for tiling battens
- alternative methods to monitor slope of grain, rate of growth and moisture content
- durability of preservative-treated battens
- suitability of the use of the products for use as roof ladders.

11.2 A survey of users was carried out to assess the performance in use.

11.3 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 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 8417 : 2011 + A1 : 2014 *Preservation of wood — Code of practice*

BS EN 599-1 : 2009 + A1 : 2013 *Durability of wood and wood-based products — Efficacy of preventive wood preservatives as determined by biological tests — Specification according to use class*

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

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

12 Conditions

12.1 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.

12.2 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.

12.3 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.

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

12.5 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.

12.6 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.