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Agrément Certificate 24/7147

Product Sheet 1 Issue 1

# PROCTOR AIR ROOF TILE UNDERLAYS

# PROCTOR AIR ROOF TILE UNDERLAY FOR USE IN COLD NON-VENTILATED PITCHED ROOFS

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to the Proctor Air Roof Tile Underlay for use in Cold Non-Ventilated Pitched Roofs in dwellings of up to 70° pitch.

(1) Hereinafter referred to as 'Certificate'.

#### The assessment includes

#### **Product factors:**

- compliance with Building Regulations
- compliance with additional regulatory or nonregulatory 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: 14 May 2024

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. 0357).

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.

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## **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 Proctor Air Roof Tile Underlay for use in Cold Non-Ventilated Pitched Roofs, 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: B3(4) Internal fire spread

Comment: The product can contribute to satisfying this Requirement. See section 2 of this

Certificate.

Requirement: C2(b) Resistance to moisture

Comment: The product will contribute to a roof satisfying this Requirement. See section 3 of this

Certificate.

Requirement: C2(c) Resistance to moisture

Comment: The product can contribute to a roof satisfying 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.

# The Building (Scotland) Regulations 2004 (as amended)

Regulation: 8(1) Fitness and durability of materials and workmanship

Comment: The product can contribute to a construction satisfying this Regulation. See sections 8

and 9 of this Certificate.

Regulation: 9 Building standards – construction

Standard: 2.4 Cavities

Comment: The product can contribute to satisfying this Standard, with reference to clause

2.4.2<sup>(1)</sup>. See section 2 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<sup>(1)</sup> and 3.10.8<sup>(1)</sup>. See section 3 of this Certificate.

Standard: 3.15 Condensation

Comment: The product can contribute satisfying this Standard, with reference to clauses

 $3.15.1^{(1)}$ ,  $3.15.3^{(1)}$  and  $3.15.7^{(1)}$ . See section 3 of this Certificate.

7.1(a) Statement of sustainability

Comment: 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: 12 Building standards – conversion

Comment: All comments given for the product under Regulation 9, Standards 1 to 6, also apply

to this Regulation, with reference to clause  $0.12.1^{(1)}$  and Schedule  $6^{(1)}$ .

(1) Technical Handbook (Domestic).

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

Regulation: 23(1)(a)(i) Fitness of materials and workmanship

Comment: (iii)(b)(i) The product is acceptable. See sections 8 and 9 of this Certificate.

Regulation: 28(b) Resistance to moisture and weather

Comment: The product will contribute to a roof satisfying this Regulation. See section 3 of this

Certificate.

Regulation: 29 Condensation

Comment: The product can enable a roof to satisfy this Regulation. See section 3 of this

Certificate.

Regulation: 35(4) Internal fire spread – structure

Comment: The product can contribute to satisfying this Regulation. See section 2 of this

Certificate.

## **Additional Information**

### **NHBC Standards 2024**

In the opinion of the BBA, the Proctor Air Roof Tile Underlay for use in Cold Non-Ventilated Pitched Roofs, 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*, without the need for additional high level ventilation.

# **Fulfilment of Requirements**

The BBA has judged the Proctor Air Roof Tile Underlay for use in Cold Non-Ventilated Pitched Roofs to be satisfactory for use as described in this Certificate. The product has been assessed as a roof tile underlay for use in dwellings with pitched roofs of up to 70° pitch.

## **ASSESSMENT**

# **Product description and intended use**

The Certificate holder provided the following description for the product under assessment. Proctor Air Roof Tile Underlay for use in Cold Non-Ventilated Pitched Roofs is an air and vapour permeable roof tile underlay that consists of a three-layer composite with two layers of nonwoven, spunbonded polypropylene, with a vapour and air permeable film in the middle.

The product has the nominal characteristics given in Table 1.

Table 1 I	Nominal	charac	teristics
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Characteristic (unit)	Value	
Thickness (mm)	0.67	
Mass per unit area (g⋅m <sup>-2</sup> )	170	
Roll length (m)	50	
Roll width (m)	1 and 1.5	
Colour		
upper face	Purple	
lower face	Grey	

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#### **Ancillary Items**

The Certificate holder recommends Wraptite Tape for taping laps when required for wind purposes, but this material has not been assessed by the BBA and is outside the scope of this Certificate.

#### **Applications**

The product is intended for use in dwellings with cold non-ventilated tiled or slated roofs of any conventional plan and size. Features<sup>(1)</sup> assessed include:

- duo pitched
   gable ends
   room-in-roof<sup>(2)</sup>
   dormers
   hipped
- timber sarking planks<sup>(3)(4)(5)</sup> mansard valleys.

- mono-pitched
- abutments
- (1) For roofs incorporating other features, or unconventional roof geometries or construction materials, the advice of the Certificate holder must be sought.
- (2) Where a room-in-roof results in part of a pitch being insulated (ie a warm roof), design and detailing of that part of the roof must comply with the relevant guidance given in Product Sheet 2 of this Certificate.
- (3) Timber sarking planks, Scottish practice: the membrane is laid over open-jointed timber planks (nominally 150 mm wide with a 2 mm gap) and fixed with galvanized clout nails. Slates are nailed through the membrane onto the sarking without battens.
- (4) Timber sarking planks, tiled roofs: counter battens of 12 mm minimum thickness must be used to provide a drainage path beneath the tiling battens. The membrane may be laid directly over the timber planks or draped over the counter battens.
- (5) Sheet sarking materials must not be used.

#### <u>Definitions for products and applications inspected</u>

Pitched roofs are defined for the purpose of this Certificate as those having a fall in excess of 10° and a maximum pitch of 70°.

# **Product assessment – key factors**

The product was assessed for the following key factors, and the outcome of the assessment is 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 Resistance to wind uplift

1.1.1 Results of resistance to wind uplift tests to BS 5534 : 2014 Annex A, and consequent Zones of applicability, are given in Tables 2 and 3 of this Certificate.

Table 2 Declare	d wind uplift resistance (Pa)		
Product	≤345 mm batten gauge with taped battened lap(2)(3)	≤345 mm batten gauge with untaped battened lap <sup>(3)</sup>	≤250 mm batten gauge with untaped battened lap(1)(3)
Proctor Air	3036.7 Pa	1559.4 Pa	3230.6 Pa

<sup>(1)</sup> Underlays with a wind uplift resistance at a 250 mm batten gauge that satisfy the minimum design wind pressure of 820 Pa for Zone 1 are deemed to satisfy the requirements for use at a 100 mm batten gauge in all Wind Zones.

<sup>(3)</sup> Mean of test results

Table 3 Zones of applicability of Proctor Air Roof Tile Underlays according to BS 5534: 2014, clause A.8					
Product	Product ≤345 mm batten gauge with taped ≤345 mm batten gauge with ≤250 mm batten gauge with				
	battened lap <sup>(1)</sup>	untaped battened lap	untaped battened lap		
Proctor Air	Zones 1 to 5	Zones 1 to 4	Zones 1 to 5		

<sup>(1)</sup> Tape used is Wraptite Tape. This material has not been assessed by the BBA and is outside the scope of this Certificate.

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<sup>(2)</sup> Tape used is Wraptite Tape. This material has not been assessed by the BBA and is outside the scope of this Certificate.

#### Unsupported

1.1.2 On the basis of the data assessed, the product is satisfactory for use in unsupported systems, in the geographical Wind Zones given in Table 3, where a well-sealed ceiling, as defined in BS 9250 : 2007, Clause 3.7, is present and the roof has a ridge height ≤15 m, a pitch between 12.5 and 70°, and a site altitude ≤100 m, and where topography is not significant. For all other cases, the required uplift resistance must be determined using BS 5534 : 2014 and the Certificate holder's declared wind uplift resistances given in Table 2 of this Certificate.

#### Supported

- 1.1.3 On the basis of data assessed, the product, when fully supported, has adequate resistance to wind uplift forces.
- 1.1.4 Timber sarking, such as square-edged butt-jointed planks, is not considered to be airtight and the underlay is treated as unsupported.
- 1.2 Resistance to mechanical damage
- 1.2.1 Results of resistance to mechanical damage tests are given in Table 4.

Table 4 Results of	mechanical damage tests		
Product assessed	Assessment method	Requirement	Result
Proctor Air	Nail tear to BS EN 12310-1 : 2000	≥50 N	
	modified by EN 13859-1 : 2010,		
	Annex A		
	Longitudinal direction		Pass
	Transverse direction		Pass
	Mullen burst strength to	Value achieved	
	BS 3137 : 1972		
	Upper face		1124 kPa
	Lower face		1115 kPa

1.2.2 On the basis of data assessed, the product has adequate strength to resist the loads associated with the installation of the roof.

### 2 Safety in case of fire

Data were assessed for the following characteristics.

#### 2.1 Reaction to fire

2.1.1 Results of reaction to fire tests are given in Table 5.

Table 5 Results of reaction	n to fire test		
Product assessed	Assessment method	Requirement	Result
Proctor Air	Reaction to fire – tested to EN ISO 11925-2: 2020 and classified in accordance with BS EN 13501-1: 2018 <sup>(1)</sup>	Value achieved	Class F <sup>(2)</sup>

- (1) Classification report reference 27/06380/02/24, issued by BTTG Testing & Certification Ltd; available from the Certificate holder on request.
- (2) The classification applies for specimens tested unsupported, with no backing board.
- 2.1.2 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.
- 2.1.3 When the product is used unsupported, there is a risk that fire can spread if it is accidentally ignited during maintenance works, eg by a roofer's or plumber's torch. As with all types of underlay, care must be taken during building and maintenance to avoid ignition.

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2.1.4 When the product is used with timber sarking, such as square-edged butt-jointed planks, the reaction to fire will be primarily determined by the sarking.

## 3 Hygiene, health and the environment

Data were assessed for the following characteristics.

#### 3.1 Weathertightness

3.1.1 The result of a weathertightness tests is given in Table 6.

Table 6 Weathertig	htness		
Product assessed	Assessment method	Requirement	Result
Proctor Air	Water resistance to	No leakage	Pass
	BS EN 1928 : 2000		
	Hydrostatic head to BS EN ISO 811:	≥ 1 m	Pass
	2018		

- 3.1.2 On the basis of data assessed, the product can be used supported without affecting its water resistance.
- 3.1.3 The product is Class W1 in accordance with BS EN 13859-1 : 2014 and will resist the passage of water and wind-blown snow and dust into the interior of a building, under all conditions to be found in a roof constructed in accordance with the relevant clauses of BS 5534 : 2014.
- 3.1.4 The product resists penetration of liquid water and consequently may be used as temporary weather protection prior to the installation of slates or tiles. The period of such use must, however, be kept to a minimum as given in BBA Information Bulletin No. 2 *Permeable Roof Tile Underlay Guide to Good Site Practice*.

### 3.2 Condensation

3.2.1 Results of water vapour transmission and air permeability tests are given in Table 7.

Table 7 Water vapour transmission and air permeability			
Product assessed	Assessment method	Requirement	Result
Proctor Air	Water vapour transmission properties to EN ISO 12572 : 2016	Declared value $s_d = 0.015 m^{(1)}$	Pass
	Air permeability to BS EN 12114 : 2000	≥20 m³/ m²·h at 50Pa	Pass

<sup>(1)</sup> Water vapour resistance, in MN·s·g<sup>-1</sup>, may be taken as 5 x  $s_d$  value.

- 3.2.2 On the basis of data assessed, the product possesses satisfactory air permeability properties.
- 3.2.3 As the product's water vapour resistance is less than 0.25 MN·s·g<sup>-1</sup>, it may be regarded as a low water vapour resistance (type LR) and air permeable underlay.
- 3.2.4 The product is suitable for use in cold non-ventilated pitched roof systems, in accordance with section 9.1 of this Certificate.

# 4 Safety and accessibility in use

Data were assessed for the following characteristics.

- 4.1 Slip resistance
- 4.1.1 Results of slip resistance tests are given in Table 8.

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Table 8 Slip resistance			
Product assessed	Assessment method	Requirement	Result
Proctor Air	Mean pendulum test value (PTV)	Value achieved	
	BBA Internal Test Specification T1/10		
	tested dry		
	Longitudinal direction		78
	Transverse direction		79
	tested wet		
	Longitudinal direction		64
	Transverse direction		68

4.1.2 On the basis of data assessed, the product has a high coefficient of friction, giving a slip resistant surface for increased safety during the installation of the covering.

# 5 Protection against noise

Not applicable.

# 6 Energy economy and heat retention

Not applicable.

## 7 Sustainable use of natural resources

The product comprises polypropylene, 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 9.

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Table 9 Dur	ability		
Product	Assessment method	Requirement	Result
assessed			
Proctor Air	Dimensional stability to	≤2%	_
	BS EN 1107-2 : 2001		
	Longitudinal direction		Pass
	Transverse direction		Pass
	Tensile strength to	Declared values	
	BS EN 12311-1 : 2000 modified by EN 13859-1 : 2010,		
	Annex A		
	Control		
	Longitudinal direction	≥330 N·(50mm) <sup>-1</sup>	Pass
	Transverse direction	≥270 N·(50mm) <sup>-1</sup>	Pass
	Elongation to	Declared values	
	BS EN 12311-1 : 2000		
	modified by EN 13859-1 : 2010,		
	Annex A		
	Control		
	Longitudinal direction	56%	Pass
	Transverse direction	68%	Pass
	Tensile strength to		
	BS EN 12311-1 : 2000		
	modified by EN 13589-1: 2014, Annex A and C		
	Longitudinal direction	Change <30%	Pass
	Transverse direction		Pass
	Elongation to BS EN 12311-1 : 2000		
	modified by EN 13589-1 : 2014, Annex A and C		
		Ol 2007	
	Longitudinal direction	Change <30%	Pass
	Transverse direction		Pass
	Resistance to water penetration to	No leakage	Pass
	BS EN 1928 : 2000 modified by EN 13589-1 : 2014,		
	Annex A and C		

### 8.3 Service life

- 8.3.1 Under normal service conditions, the product will have a life comparable with that of traditional roof tile underlays, provided it is not exposed to sunlight for long periods, and it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.
- 8.3.2 The exposure of the product prior to completion of the roof must be kept to a minimum. Advice regarding exposure can be obtained from the Certificate holder, but such advice is outside the scope of this Certificate.

## **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 specified in this Certificate.
- 9.1.2 Project design wind speeds for the roof in which the product is installed must be determined, and wind uplift forces calculated, by a suitably experienced and competent individual, in accordance with BS EN 1991-1-4: 2005 and its UK National Annex.

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- 9.1.3 Designers, planners, contractors and/or installers must ensure that the roof and ceiling are constructed in accordance with the Certificate holder's instructions and the information given in this Certificate.
- 9.1.4 When used in direct contact with treated timber, the advice of the Certificate holder must be sought on compatibility, but such advice is outside the scope of this Certificate.
- 9.1.5 The complete roof construction, ceiling boards to roof tiles, must be considered as a total system with regard to condensation risk. It is important that the product is laid in accordance with the Certificate holder's instructions and this Certificate to minimise the risk of condensation.
- 9.1.6 All penetrations into and out of the roof space must be properly sealed in accordance with the Certificate holder's instructions, which include the use of the Certificate holder's recommended sealing tape. In addition, such features as vent stacks and boiler flues passing through the roof space must be sealed.
- 9.1.7 It is essential to minimise water vapour transfer into the loft space from the dwelling below, with a well-sealed ceiling as defined in BS 9250 : 2007, Clause 3.7. Appropriate measures include:
- ventilating the dwelling below in accordance with national Building Regulations and Standards for the dispersal and rapid dilution of water vapour, particularly from rooms that may experience high humidity (such as kitchens, utility rooms and bathrooms)
- covering all water tanks in the loft space, and lagging pipework
- sealing penetrations in the ceiling and making loft hatches convection-tight by using a compressible draught seal
- · ensuring that there is continuity of jointing with walls (and behind wall linings) at ceiling perimeters
- ensuring that masonry wall cavities do not interconnect with roof cavities.
- 9.1.8 A vapour control layer is not required.
- 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 and the relevant recommendations of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2023. Installation can be carried out under all conditions normal to roofing work. A summary of instructions and guidance is provided in Annex A of this Certificate.
- 9.2.3 The product must be installed with the purple-coloured and printed side uppermost and lapped to shed water out and down the slope.
- 9.2.4 Overlaps must be provided with the minimum dimensions given in Table 10.

Table 10 Minimum overlaps				
Roof pitch (°)	Horizontal	lap (mm)	Vertical laps (mm)	
	Not fully supported	Fully supported		
12.5 < 15	225	150	100	
≥15	150	100	100	

#### **Procedure**

9.2.5 The product is to be installed by draping over rafters and securing with tiling battens, or installed taut over rafters and secured with counter battens and tiling battens.

### Draped and loose laps

9.2.6 The product to be installed as part of an unsupported system is fixed in the traditional method for roof tile underlays, ie laid parallel to the eaves and draped between the rafters.

#### Taut

9.2.7 When laid horizontally, the product must be pulled taut and stapled or nailed, to hold securely in position. Counter battens (minimum thickness 12 mm) are then fixed to the rafter.

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#### Timber sarking planks

- 9.2.8 For fully supported roofs (traditional Scottish practice), the slates can be nailed through the underlay into the timber sarking planks, normally 150 mm wide with a 2 mm gap.
- 9.2.9 For fully supported roofs (where battens are used) counter battens of minimum thickness 12 mm must be installed either above or beneath the underlay for drainage purposes.
- 9.2.10 Tiling and slating must be carried out in accordance with the relevant clauses of BS 5534: 2014, BS 8000-0: 2014 and BS 8000-6: 2023 and the tile/slate manufacturer's instructions, especially when using tightly jointed slates or tiles, metal sheet or photovoltaic panels, where a ventilated batten space should be provided.

### 9.3 Workmanship

Practicability of installation was assessed by the BBA, on the basis of the Certificate holder's information and BS 5534: 2014. To achieve the performance described in this Certificate, the product must be installed by a competent general builder, or a contractor, experienced with this type of product.

#### 9.4 Maintenance and repair

- 9.4.1 As the product is confined in a roof structure and has suitable durability, maintenance is not required. However, any damage occurring before enclosure must be repaired.
- 9.4.2 Damage to the product can be repaired prior to the installation of slates or tiles, by replacing the damaged areas or by patching and sealing correctly. Care must be taken to ensure that the watertightness of the roof is maintained.

### 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.
- 10.1.5 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.
- † 10.2 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 rolls individually wrapped in polythene. A label bearing the product and Certificate holder's name, the BBA logo along with UKCA/CE marking and fixing instructions on the reverse side, is included with each roll.
- 11.2 Delivery and site handing must be performed in accordance with the Certificate holder's instructions and this Certificate, including:
- 11.2.1 Rolls must be stored flat, on a clean, level surface, under cover and protected from sunlight.

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# 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.

# <u>Construction (Design and Management) Regulations 2015</u> 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.

# **CE** marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard EN 13859-1: 2010.

# Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of DIN EN ISO 9001: 2015 by TüV Rheinland (Certificate 01 100 2100035).

### Additional information on installation

#### <u>General</u>

A.1 Where possible, eaves guards should be used to protect the product from sunlight and to direct water into the gutter.

#### Condensation

- A.2 Energy loss by ventilation in conventionally ventilated cold roofs will be significantly reduced by the non-ventilated system.
- A.3 In non-ventilated roof systems, the risk of condensation is equivalent to, or less than, that for conventionally ventilated cold roof systems.
- A.4 The risk of condensation is highest in new-build construction during the first heating period, where there is high moisture loading owing to wet trades, such as in-situ cast concrete slabs or plaster. The risk of condensation diminishes as the building dried out. See BBA Information Bulletin No. 1 Roof Tile Underlay in Cold Roofs during the Drying-out Period.

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# **Bibliography**

BS 3137: 1972 Methods for determining the bursting strength of paper and board

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

BS 8000-0: 2014 + A1: 2024 Workmanship on construction sites — Introduction and general principles

BS 8000-6: 2023 Workmanship on construction sites — Slating and tiling of roofs and walls — Code of practice

BS 9250: 2007 Code of practice for design of the airtightness of ceilings in pitched roofs

BS EN 1107-2 : 2001 Flexible sheets for waterproofing — Determination of dimensional stability — Part 2: plastic and rubber sheets for roof waterproofing

BS EN 1928 : 2000 Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing Determination of watertightness

BS EN 1991-1-4: 2005 Eurocode 1: Actions on structures — Part 1-4: General actions — Wind actions

BS EN 12114 : 2000 Thermal performance of buildings — Air permeability of building components and building elements — Laboratory test methods

BS EN 12310-1 : 2000 Flexible Sheets for Waterproofing — Determination of resistance to tearing (nail shank) — Part 1: bitumen sheets for roof waterproofing

BS EN 12311-1 : 2000 Flexible sheets for waterproofing — Determination of tensile properties — Bitumen sheets for roof waterproofing

BS EN 13859-1 : 2014 Flexible sheets for waterproofing — Definitions and characteristics of underlays — Underlays for discontinuous roofing

BS EN ISO 811: 2018 Textiles - Determination of resistance to water penetration - Hydrostatic pressure test

EN 13501-1 : 2018 Fire classification of construction products and building elements — Part 1: classification using data from reaction to fire tests

 $\hbox{EN 13859-1:2010 \textit{Bitumen and bituminous binders} -- Determination of the tensile properties of modified bitumen by the force ductility method } \\$ 

EN 13589-1 : 2014 Bitumen and bituminous binders — Determination of the tensile properties of modified bitumen by the force ductility method

EN ISO 11925-2 : 2020 Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Part 2: Single-flame source test

 $\hbox{EN ISO 12572: 2016 \ Hygrothermal performance of building materials and products---} Determination of water vapour transmission properties---- Cup method \\$ 

EN ISO 9001: 2015 International standard for quality management systems

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# **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.

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