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# Agrément Certificate 96/3220

Product Sheet 1 Issue 13

# **DON & LOW ROOF LININGS**

# ROOFSHIELD FOR USE IN COLD VENTILATED AND WARM NON-VENTILATED ROOFS

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to Roofshield<sup>(2)</sup> for use in cold ventilated and warm nonventilated roofs. The product has been assessed for use in roofs of up to 70° pitch, in domestic and nondomestic buildings.

- (1) Hereinafter referred to as 'Certificate'.
- (2) Roofshield is a registered trademark of Don & Low Ltd.

#### The assessment includes

#### **Product factors:**

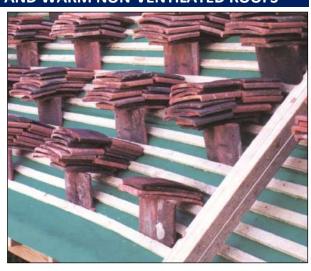
- compliance with Building Regulations
- compliance with additional regulatory or nonregulatory information where applicable
- · evaluation against technical specifications
- assessment criteria and technical investigations
- · uses and design considerations

#### **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 Thirteenth issue: 25 April 2025 Originally certified on 9 February 1996 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.

**British Board of Agrément** 

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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 Roofshield for use in cold ventilated and warm non-ventilated 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 (structure)

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 satisfying this Requirement. See section 3 of this

Certificate.

Requirement: C2(c) Resistance to moisture

Comment: The product can contribute to 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 is acceptable. 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)(2)</sup>.

See section 2 of this Certificate.

Standard: 3.10 Precipitation

Comment: The product will contribute to 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: 3.15 Condensation

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

 $3.15.1^{(1)(2)}$ ,  $3.15.3^{(1)(2)}$  and  $3.15.7^{(1)(2)}$ . See section 3 of this Certificate.

Standard: 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 at least 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  $0.12.1^{(1)(2)}$  and Schedule  $6^{(1)(2)}$ .

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

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5	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: Comment:	28(b)	Resistance to moisture and weather The product will contribute to satisfying this Regulation. See section 3 of this Certificate.		
Regulation: Comment:	29	<b>Condensation</b> The product can contribute to satisfying 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 2025**

In the opinion of the BBA, Roofshield for use in cold ventilated and warm non-ventilated 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.

# **Fulfilment of Requirements**

The BBA has judged Roofshield for use in cold ventilated and warm non-ventilated roofs to be satisfactory for use as described in this Certificate. The product has been assessed for use in roofs of up to 70° pitch, in domestic and non-domestic buildings.

#### **ASSESSMENT**

# Product description and intended use

The Certificate holder provided the following description for the product under assessment. Roofshield for use in cold ventilated and warm non-ventilated roofs is a triple layer spun-bonded polypropylene breather membrane.

The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics	
Characteristic (unit)	Value
Thickness (mm)	0.75
Mass per unit area (g·m⁻²)	196
Roll length (m)	50/100
Roll width (m)	1.0/1.5 <sup>(1)</sup>
Colour	
Upper	Green <sup>(1)</sup>
Lower	White <sup>(1)</sup>
(4) 6:1	

<sup>(1)</sup> Other widths and colours are available on request.

#### **Applications**

The product is intended for use as fully supported (and secured with counter battens and tiling battens) or unsupported underlays (installed by draping over rafters and securing with tiling battens), in tiled and slated cold ventilated and warm non-ventilated pitched roof systems, constructed in accordance with the relevant clauses of BS 5534: 2014.

The product must be used over suitable timber-based sarking (Type 3 particleboards, Type 3 OSB or Type 2 plywood), either with continuous insulation or insulation placed between the rafters (warm roofs).

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The product can also be used in energy efficient non-ventilated cold pitched roof systems. This application is covered by BBA Certificate 99/3648, Product Sheet 1.

#### Definitions for products and applications inspected

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 Wind uplift resistance (Pa)					
Product assessed	≤ 345 mm batten gauge with battened laps <sup>(1)</sup>	≤ 250 mm batten gauge with battened laps <sup>(1)(2)</sup>	≤ 345 mm batten gauge with taped lap <sup>(1)(3)</sup>	≤ 245 mm batten gauge with taped lap <sup>(1)(2)(3)</sup>	≤ 345 mm batten gauge with counter batten <sup>(1)(4)</sup>
Roofshield	1519	3165	2698	> 4000	2509

<sup>(1)</sup> Mean of test results.

- (3) The tape used is a single-sided Tape. This material has not been assessed by the BBA and is outside the scope of this Certificate.
- (4) This applies to any counter batten ≥11 mm deep. NHBC does not accept the Wind Zones and wind uplift resistance when using counter battens on an unsupported roof.

Table 3 Zones of applicability according to BS 5534 : 2014, clause A.8 with battened laps and laps with counter battens					
Product assessed	≤ 345 mm batten gauge with battened laps	≤ 250 mm batten gauge with battened laps	≤ 345 mm batten gauge with taped lap <sup>(1)</sup>	≤ 245 mm batten gauge with taped lap <sup>(1)</sup>	≤ 345 mm batten gauge with counter batten <sup>(2)</sup>
Roofshield	Zones 1 to 4	Zones 1 to 5	Zones 1 to 5	Zones 1 to 5	Zones 1 to 5

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

- 1.1.2 On the basis of 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  $\leq$  15 m, a pitch between 12.5 and 75°, and a site altitude  $\leq$  100 m, and where topography is not significant. For all other cases, the required uplift resistance must be determined using BS 5534 : 2014.
- 1.1.3 The product, when fully supported, has adequate resistance to wind uplift forces.
- 1.1.4 The product may be used at any batten gauge in all Wind Zones when laid over nominally airtight timber-based sarking (Type 3 particleboard, Type 3 OSB or Type 2 plywood), and insulation for warm-roof design. It may also be used in applications where slates are nailed directly onto sarking boards.
- 1.1.5 Timber sarking, such as square-edged butt jointed planks, is not considered to be airtight and the underlay is treated as unsupported. Counter battens must be used in fully supported applications.

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<sup>(2)</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 100 mm batten gauge in all Wind Zones.

<sup>(2)</sup> This applies to any counter batten ≥11 mm deep. NHBC does not accept the Wind Zones and wind uplift resistance when using counter battens on an unsupported roof.

#### 1.2 Resistance to mechanical damage

1.2.1 Results of resistance to mechanical damage tests are given in Table 4.

Table 4 Resistance to mechanical damage					
Product assessed	Assessment method	Requirement	Result		
Roofshield	Nail tear to BS EN 12310-1: 2000 modified by	≥ 50 N			
	BS EN 13859-1 : 2014, Annex B				
	Longitudinal direction		Pass		
	Transverse direction		Pass		
	Mullen burst strength to	Value achieved	488 kN·m⁻²		
	BS 3137 : 1972				

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 The results of reaction to fire test are given in Table 5.

Table 5 Reaction to fire test			
Product assessed	Assessment method	Requirement	Result
Roofshield	Reaction to fire tested to	Value achieved	Classification
	BS EN ISO 11925-2: 2010 and classified		E <sup>(2)</sup>
	to BS EN 13501-1: 2007 <sup>(1)</sup>		

<sup>(1)</sup> BBTG Test Report reference 27/05429E/09/20. A copy of the report is available from the Certificate holder on request.

- 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 they are 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.
- 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 Results of weathertightness tests are given in Table 6.

Table 6 Weathertightness			
Product assessed	Assessment method	Requirement	Result
Roofshield	Resistance to water penetration to	No leakage	Pass
	BS EN 1928 : 2000, 2 kPa for 2 hours		
	Head of water to BS EN 20811 : 1992	Value achieved	1135 mm

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<sup>(2)</sup> Tested unsupported.

- 3.1.2 On the basis of data assessed, the product can be used supported and unsupported 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 weatherproofing 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 resistance tests are given in Table 7.

Table 7 Water vapour resistance <sup>(1)</sup>					
Product assessed	Assessment method	Requirement	Result		
Roofshield	Water vapour diffusion- air layer equivalent thickness to	s <sub>d</sub> ≤ 0.05 m	Pass		
	BS 3177 : 1959 25°C/75% RH				

<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 Results of air permeability tests are given in Table 8.

Table 8 Air permeability				
Product assessed	Assessment method	Requirement	Result	
Roofshield	Air permeability to DIN EN 12114 : 2002-04	$\geq$ 30 m <sup>3</sup> ·m <sup>-2</sup> ·h <sup>-1</sup> (50 Pa) <sup>-1</sup>	Pass	

- 3.2.3 A condensation risk analysis was carried out based on the results given in Table 7 and satisfactory conclusions were drawn.
- 3.2.4 For roofs designed in accordance with BS 5534 : 2014 and BS 5250 : 2021, the product may be regarded as a Type LR underlay.
- 3.2.5 On the basis of data assessed, the product is air permeable, allowing a significant additional mechanism for water egress by convection. It is suitable for use in cold ventilated and in warm 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 9.

Table 9 Slip resistance			
Product assessed	Assessment method	Requirement	Result
Roofshield	Slip resistance to	Mean pendulum test	
	BBA Internal Test Specification T1/10	value (PTV) ≥ 36	
	Dry		
	Longitudinal direction		Pass
	Transverse direction		Pass
	Wet		
	Longitudinal direction		Pass
	Transverse direction		Pass

4.1.2 On the basis of data assessed, the products have a high coefficient of friction, giving a slip resistance surface for increased safety during the installation of the covering.

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# 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 the product were assessed.
- 8.2 Specific test data were assessed as given in Table 10.

Product assessed	Assessment method	Requirement	Result
Roofshield	Dimensional stability to BS EN 1107-2 : 2001	≤ 2%	
	Longitudinal direction		Pass
	Transverse direction		Pass
	Resistance to water penetration to	No leakage	Pass
	BS EN 1928 : 2000 2 kPa for 2 hours aged to		
	EN 13859-1 : 2014, Annex C		
	Tensile strength to BS EN 12311-1: 2000 modified by	Declared value	
	BS EN 13859-1 : 2014, Annex A		
	Control		
	Longitudinal direction	390 N·(50mm) <sup>-1</sup>	Pass
	Transverse direction	230 N·(50mm) <sup>-1</sup>	Pass
	Aged to BS EN 13859-1 : 2014, Annex C	Change < 30%	
	Longitudinal direction		Pass
	Transverse direction		Pass
	Elongation to BS EN 12311-1: 2000 modified by	Declared values	
	BS EN 13859-1 : 2014, Annex A		
	Control		
	Longitudinal direction	55%	Pass
	Transverse direction	75%	Pass
	Aged to BS EN 13859-1 : 2014, Annex C	Change < 30%	
	Longitudinal direction		Pass
	Transverse direction		Pass

# 8.3 Service life

- 8.3.1 Under normal service conditions, the product will have a service 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.

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## **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 the principles of BS EN 1991-1-4: 2005 and its UK National Annex.
- 9.1.3 In common with all roofs, care must be taken in the overall design and installation to minimise the risk of water vapour coming into contact with cold parts of the construction. Factors to be considered and minimised include moisture diffusion through the ceiling, infiltration through unsealed openings/penetrations in the ceiling and services evaporating or venting moisture into cold spaces.
- 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.

## 9.2 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, 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 coloured or 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 11. Vertical joints in the product must be avoided. Where required, any possible vertical laps must be completed carefully.

Table 11 Minimum overlaps					
Roof pitch (°)	Horizontal	Horizontal lap (mm)			
	Not fully supported	Fully supported			
12.5 < 15	225	150	100		
≥ 15	150	100	100		

- 9.2.5 The membrane, when installed as part of an unsupported system, must be fixed in the traditional method for roof tile underlays, ie draped between the rafters to allow drainage of liquid water under the tiling battens, with the coloured and printed side uppermost.
- 9.2.6 When fully supported, the membrane is laid directly over a supporting layer such as rigid insulation or a suitable timber-based sarking (Type 3 particleboards, Type 3 OSB or Type 2 plywood). The membrane is secured to the support with counter battens at least 12 mm thick to create drainage and vapour dispersal space<sup>(1)</sup> between the membrane and the tiles. When using the traditional Scottish practice of timber plank sarking (typically 150 mm wide with a 2 mm gap), the tiles or slates are fixed directly into the boards.
- (1) This space must be ventilated in accordance with BS 5250: 2021 when using tight-fitting roof coverings.
- 9.2.7 Counter battens, when used are fixed with corrosion-resistant staples or galvanized clout nails as appropriate. Tiling battens are secured to the counter battens and rafters with appropriate fixings.

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9.2.8 Care must be taken to minimise the risk of interstitial condensation, particularly for timber sarking which may be below the dew-point for extended periods during winter months.

#### 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, installation of the product must be carried out 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 have suitable durability, maintenance is not required. However, any damage occurring before enclosure must be repaired.
- 9.4.2 The following requirements apply in order to satisfy the performance assessed in this Certificate:
- 9.4.2.1 Damage to the product must 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 individually wrapped in polythene packaging, along with a technical leaflet bearing the product name 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, including:
- 11.2.1 Rolls must be stored flat or on end on a smooth, clean 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> <u>Construction (Design and Management) Regulations (Northern Ireland) 2016</u>

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

## **UKCA** marking

The Certificate holder has taken the responsibility of UKCA marking the product, in accordance with Designated Standard EN 13859-1: 2010.

## 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 ISO 9001: 2015 by BSI (Certificate FM 45536).

# 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.

A.2 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 Certificate holder's instructions, especially when using tightly jointed slates or tiles.

A.3 Detailing of abutments, verges and hips must be in accordance with the Certificate holder's instructions.

## Condensation

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 dries out. See BBA Information Bulletin No. 1 Roof Tile Underlays in Cold Roofs during the Drying-out Period.

Horizontal ceiling and insulation (cold roof)

A.5 Roofs designed and constructed in accordance with BS 5250: 2021 will adequately limit the risk of interstitial condensation.

Inclined ceiling and insulation (warm roof)

A.6 For roofs with an insulated inclined ceiling, ventilation above or below the underlay will not be required provided that the passage of moisture by diffusion and by convection is controlled, eg by a vapour control layer or a continuous envelope of insulation with a high vapour resistance and with sealed joints. Ventilation may be required if specified by the tile manufacturer or where the roof covering is airtight, as described in BS 5250 : 2021.

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Partially inclined ceiling and insulation (warm and cold roof)

A.7 Where an insulated ceiling spans only part of the roof line, resulting cold roof spaces must be in accordance BS 5250 : 2021, Section 4, Subsection 12.

A.8 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.

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# **Bibliography**

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

BS 3177: 1959 Method for determining the permeability to water vapour of flexible sheet materials used for packaging

BS 5250 : 2021 Management of moisture in buildings — Code of practice

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: 2023 Workmanship on construction sites — Code of practice for slating and tiling of roofs and walls

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 — 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 + 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 12310-1 : 2000 Flexible sheets for waterproofing — Determination of resistance to tearing (nail shank) — 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 13501-1 : 2007 + A1 : 2009 Fire classification of construction products and building elements — Classification using test data from reaction to fire tests

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

BS EN 20811: 1992 Textiles — Determination of resistance to water penetration — Hydrostatic pressure test

BS EN ISO 11925-2 : 2010 Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Single-flame source test

DIN EN 12114 : 2002-04 Thermal Performance of Buildings — Air Permeability of Building Components and Building Elements

EN 12310-1 : 2000 Flexible sheets for waterproofing — Determination of resistance to tearing (nail shank) — Bitumen sheets for roof waterproofing

EN 13859-1 : 2010 Flexible sheets for waterproofing — Definitions and characteristics of underlays — Underlays for discontinuous roofing

ISO 9001: 2015 Quality management systems — Requirements

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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
- 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
- and any matter arising out of or in connection with it or its subject matter (including non-contractual disputes or claims) is governed by and construed in accordance with the law of England and Wales
- the courts of England and Wales shall have exclusive jurisdiction to settle any matter arising out of or in connection with this Certificate or its subject matter (including non-contractual disputes or claims).
- 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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