

Don & Low Limited

Glamis Road
Forfar
Angus DD8 1EY

Tel: 01307 452600

e-mail: nonwovens@donlow.co.uk

website: www.donlow.co.uk



Agrément Certificate

11/4732

Product Sheet 1 Issue 5

DON & LOW CONSTRUCTION MEMBRANES

REFLECTASHIELD TF

This Agrément Certificate Product Sheet⁽¹⁾ relates to Reflectashield TF⁽²⁾, a low-emissivity, insulating breather membrane for use on timber-frame, steel-frame, structural insulated panels (SIP) and cross-laminated timber (CLT) panel walls with a cavity and a masonry outer leaf, weatherboarding or tile/slate cladding.

(1) Hereinafter referred to as 'Certificate'.

(2) Reflectashield TF is a registered trademark of Don & Low Ltd.

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 Fifth issue: 4 September 2023

Originally certified on 7 April 2011

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

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

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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 Reflectashield TF, 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:	B4(1)	External fire spread
Comment:		The product is restricted by 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.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The product can contribute to satisfying this Requirement; however, compensating fabric/services measures may be required. See section 6 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate
Regulation:	25B	Nearly zero-energy requirements for new buildings
Regulation:	26	CO₂ emission rates for new buildings
Regulation:	26A	Fabric energy efficiency rates for new dwellings (applicable to England only)
Regulation:	26A	Primary energy rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Regulation:	26C	Target primary energy rates for new buildings (applicable to England only)
Regulation:	26C	Energy efficiency rating (applicable to Wales only)
Comment:		The product can contribute to satisfying these Regulations; however, compensating fabric/services measures may be required. See section 6 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 respect to clause 2.4.2 ⁽¹⁾⁽²⁾ . See section 2 of this Certificate.

Standard: Comment:	2.6	Spread to neighbouring buildings The product is restricted under clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ of this Standard, in some circumstances. See section 2 of this Certificate.
Standard: Comment:	2.7	Spread on external walls The product is restricted under clause 2.7.1 ⁽¹⁾⁽²⁾ of this Standard. See section 2 of this Certificate.
Standard: Comment:	3.10	Precipitation The product will contribute to satisfying clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.8 ⁽¹⁾⁽²⁾ of this Standard. See section 3 of this Certificate.
Standard: Comment:	3.15	Condensation The product can contribute to limiting the risk of interstitial condensation, with reference to clauses 3.15.1 ⁽¹⁾⁽²⁾ , 3.15.5 ⁽¹⁾⁽²⁾ and 3.15.7 ⁽¹⁾⁽²⁾ . See section 3 of this Certificate.
Standard: Standard: Comment:	6.1(b)(c)(d) 6.2	Energy demand and carbon dioxide emissions Building insulation envelope The product can contribute to satisfying these Standards, with reference to clauses, or parts of, 6.1.1 ⁽¹⁾ , 6.1.2 ⁽²⁾ , 6.1.6 ⁽¹⁾ , 6.2.1 ⁽¹⁾⁽²⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽¹⁾⁽²⁾ , 6.2.5 ⁽¹⁾⁽²⁾ , 6.2.6 ⁽¹⁾⁽²⁾ , 6.2.7 ⁽¹⁾⁽²⁾ , 6.2.8 ⁽¹⁾⁽²⁾ , 6.2.9 ⁽¹⁾⁽²⁾ , 6.2.10 ⁽¹⁾⁽²⁾ , 6.2.11 ⁽¹⁾⁽²⁾ and 6.2.12 ⁽¹⁾ ; however, compensating fabric/services measures may be required. See section 6 of this Certificate.
Standard: Comment:	7.1(a)(b)	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. In addition, the product can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ⁽¹⁾ , 7.1.6 ⁽¹⁾⁽²⁾ , 7.1.7 ⁽¹⁾ , 7.1.9 ⁽²⁾ and 7.1.10 ⁽²⁾ . See section 6 of this Certificate.
Regulation: Comment:	12	Building standards – 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:	28(b)	Resistance to moisture and weather The product will contribute to a wall satisfying this Regulation. See section 3 of this Certificate.
Regulation: Comment:	29	Condensation The product can enable a wall to satisfy this Regulation. See section 3 of this Certificate.
Regulation: Comment:	35(4)	Internal fire spread – Structure The product can contribute to satisfying this Regulation. See section 2 of this Certificate.

Regulation:	36(a)	External fire spread
Comment:		The product is restricted by this Regulation. See section 2 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rate
Regulation:	43(1)(2)	Renovation of thermal elements
Regulation:	43B	Nearly zero-energy requirements for new buildings
Comment:		The product can contribute to satisfying these Regulations. See section 6 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, Reflectashield TF, 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 6.2 *External timber framed walls* and 6.10 *Light steel framing*.

Fulfilment of Requirements

The BBA has judged Reflectashield TF to be satisfactory for use as described in this Certificate. The product has been assessed as a breather membrane for use on timber-frame, steel-frame, structural insulated panels (SIP) and cross-laminated timber (CLT) panel walls with a cavity with a masonry outer leaf, weatherboarding or tile/slate cladding.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Reflectashield TF is a low-emissivity insulating breather membrane, comprising spunbond polypropylene and, on one face, aluminium foil.

The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	
Thickness (mm)	0.55
Mass per unit area ($\text{g}\cdot\text{m}^{-2}$)	134
Roll length (m)	50, 100 ⁽¹⁾
Roll width (m)	2.9 ⁽¹⁾
Flexibility at low temperature ($^{\circ}\text{C}$)	-40
Colour	
upper	silver
lower	grey

(1) Other roll sizes and colours are available on request.

Definitions for products and applications inspected

In the absence of other guidance, suitable timber-frame and steel-frame constructions are defined as those designed and built in accordance with *NHBC Standards 2023*, Chapters 6.2 and 6.10.

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 Resistance to mechanical damage

1.1.1 Results of resistance to mechanical damage tests are given in Table 2.

Table 2 Resistance to mechanical damage tests

Product assessed	Assessment method	Requirement	Result
Reflectashield TF	Nail tear to BS EN 12310-1 : 2000 Longitudinal direction	Declared value 160 N	Pass
	Transverse direction Burst strength to BS 3137 : 1972	Value achieved	

1.1.2 On the basis of data assessed, the product has adequate strength to resist the loads associated with construction and installation of timber-frame, steel-frame, structural insulated panels (SIP) and cross-laminated timber (CLT) panel walls with a cavity with a masonry outer leaf, weatherboarding or tile/slate cladding constructions.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 Reaction to fire

2.1.1 When tested to BS EN ISO 11925-2 : 2020 and classified to BS EN 13501-1 : 2018, the product achieved a reaction to fire classifications of Class E⁽¹⁾.

(1) Classification report reference 27/05429D/09/20, issued by BTTG Testing & Certification Ltd. The report is available from the Certificate holder.

2.1.2 On the basis of data assessed, the product will be restricted in use under the documents supporting the national Building Regulations.

2.1.3 In England, Wales and Northern Ireland, the product must not be used on buildings that have a storey at least 18 m above ground level and which contain one or more dwellings, an institution, a room for residential purposes (excluding, in Wales and Northern Ireland only, any room in a hostel, hotel or boarding house), student accommodation, care homes, sheltered housing, hospitals or dormitories in boarding schools and, additionally in Northern Ireland, nursing homes and places of lawful detention.

2.1.4 In Scotland, the product must not be used on buildings less than 1 m from a boundary or on domestic or shared residential buildings that have a storey more than 11 m above ground level.

2.1.5 Designers should 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 Weathertightness

3.1.1 Results of weathertightness tests are given in Table 2.

Product assessed	Assessment method	Requirement	Result
Reflectashield TF	Resistance to water penetration to BS EN 13111 : 2010	Class W2 Volume of water penetrated must be less than 100 ml	Pass
	Air permeability to BS EN 12114 : 2000	Value achieved	23.2 m ³ ·h ⁻¹ ·m ⁻²

3.1.2 On the basis of data assessed, the product is Class W2 in accordance with BS EN 13859-2 : 2014 and will resist liquid water penetration and wind-blown snow, and will protect the sheathing and frame from external moisture.

3.1.3 The product satisfies the requirement for a Class W2 material in accordance with BS EN 13859-2 : 2014 and the NHBC requirement given in *NHBC Standards 2023*, Chapter 6.2, for use in severe conditions⁽¹⁾.

(1) Severe conditions are defined in *NHBC Standards 2023*, Chapter 6.1.6 – see Exposure Zones map, showing categories of exposure to wind-driven rain.

3.1.4 The product resists penetration of liquid water and consequently can be used as temporary weather protection during construction, prior to the completion of external brickwork or claddings. The period of such use must, however, be kept to a minimum. Advice must be sought from the Certificate holder, but such advice is outside the scope of this Certificate.

3.2 Condensation

3.2.1 Results of water vapour resistance tests are given in Table 3.

Product assessed	Assessment method	Requirement	Result
Reflectashield TF	Water vapour resistance to BS 3177 : 1959 (1995) ⁽²⁾	Declared value $s_d = 0.083$ m	Pass

(1) Water vapour resistance may be taken as $5 \times s_d$ value.

(2) Test report N009494 issued by BTTG on 02/10/2009.

3.2.2 A condensation risk analysis was carried out based on the results given in Table 3 and satisfactory conclusions were drawn.

3.2.3 The product's water vapour resistance is less than or equal to 0.6 MN·s·g⁻¹ and it is classified as a breather membrane in accordance with BS 5250 : 2021. The product will therefore contribute towards minimising the risk of interstitial condensation in walls designed and constructed in accordance with BS 5250 : 2021.

3.2.4 The product, although metallised, is perforated and, therefore, vapour open. It can be used in timber-frame constructions installed on sheathing as a direct replacement for a traditional breather membrane.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

6.1 Thermal performance

6.1.1 The product can contribute towards a construction satisfying the national Building Regulations in respect of energy economy and heat retention. The U value of a completed wall will depend on the insulation thickness, its structure, and its internal finish. An example construction is given in Table 4.

6.1.2 For improved energy or carbon savings, designers must consider appropriate fabric and/or services measures.

Table 4 Example U values ($W \cdot m^{-2} \cdot K^{-1}$) for a timber-frame wall with brick outer leaf⁽¹⁾

Breather membrane type	U value ($W \cdot m^{-2} \cdot K^{-1}$)		
	at a given insulation conductivity between the studs		
Non-reflective	0.32	0.33	0.35
Reflectashield TF	0.28	0.28	0.30

(1) Construction of wall: 12.5 mm plasterboard, approximately $0.25 W \cdot m^{-1} \cdot K^{-1}$, 110 mm studs (15% bridging), 12 mm OSB sheathing, 50 mm vented cavity, 102 mm brickwork.

6.1.3 The product reduces the U value (thermal transmittance) of walls by inhibiting radiant heat transfer across the cavity and reduces solar heat gain by reflection, when compared to the same wall with a standard (non-reflective) breather membrane.

6.1.4 Calculations of the thermal transmittance (U value) must be carried out in accordance with BS EN ISO 6946 : 2017 and BRE Report BR 443 : 2019, using the values given below:

- 0.05 foil surface emissivity
- $0.66 m^2 \cdot K \cdot W^{-1}$ resistance of a vented cavity with thickness > 20 mm
- $0.36 m^2 \cdot K \cdot W^{-1}$ external boundary layer resistance (R_{se}) where the cavity is well ventilated.

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 5.

Table 5 Results of durability tests

Product assessed	Assessment method	Requirement	Result
Reflectashield TF	Resistance to water penetration to BS EN 13111 : 2010 UVA at 50°C for 336 h, followed by heat ageing at 70°C for 90 d	Class W2 Volume of water penetrated must be less than 100 ml	Pass
	Dimensional stability to BS EN 1107-2 : 2001 Heat ageing at 80°C for 6 h and 15 min Longitudinal direction Transverse direction	≤ 2%	Pass
	Flexibility at low temperature to BS EN 1109 : 2013	No cracking at -40°C	Pass
	Tensile strength to BS EN 12311-1 : 2000 Control Longitudinal direction	Declared value 230 N per 50 mm	Pass
	Tensile strength to BS EN 12311-1 : 2000 Control Transverse direction	Declared value 150 N per 50 mm	Pass
	Elongation to BS EN 12311-1 : 2000 Control Longitudinal direction	Declared value 60%	Pass
	Elongation to BS EN 12311-1 : 2000 Control Transverse direction	Declared value 80%	Pass
	Tensile strength to BS EN 12311-1 : 2000 UVA at 50°C for 336 h, followed by heat ageing at 70°C for 90 d Longitudinal direction Transverse direction	Declared value ≥ 75% of unaged value	Pass
	Elongation to BS EN 12311-1 : 2000 UVA at 50°C for 336 h, followed by heat ageing at 70°C for 90 d Longitudinal direction Transverse direction	Declared value ≥ 50% of unaged value	Pass

8.3 Service life

8.3.1 Under normal service conditions, the product will have a life equivalent to the structure in which it is incorporated, 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’s period prior to installation of the external cladding must be kept to a minimum. Advice should be sought 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 assessed in this Certificate:

9.1.2 Timber-frame, steel-frame, structural insulated panels (SIP) and cross-laminated timber (CLT) panel walls with a cavity with a masonry outer leaf, weatherboarding or tile/slate cladding, designed in accordance with BS 5250 : 2021, and incorporating the product, will adequately minimize the risk of condensation.

9.1.3 In England and Wales, walls incorporating the product will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed $0.7 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point and the junctions and openings are designed in accordance with the relevant requirements of *Limiting thermal bridging and air leakage: Robust construction details for dwellings and similar buildings* TSO 2002 or BRE Information Paper IP 1/06.

9.1.4 For buildings in Scotland, walls incorporating the product will adequately limit the risk of surface condensation when designed in accordance with BS 5250 : 2021, and when the thermal transmittance (U value) does not exceed $1.2 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point. Additional guidance may be obtained from BRE Report BR 262 : 2002.

9.2 Installation

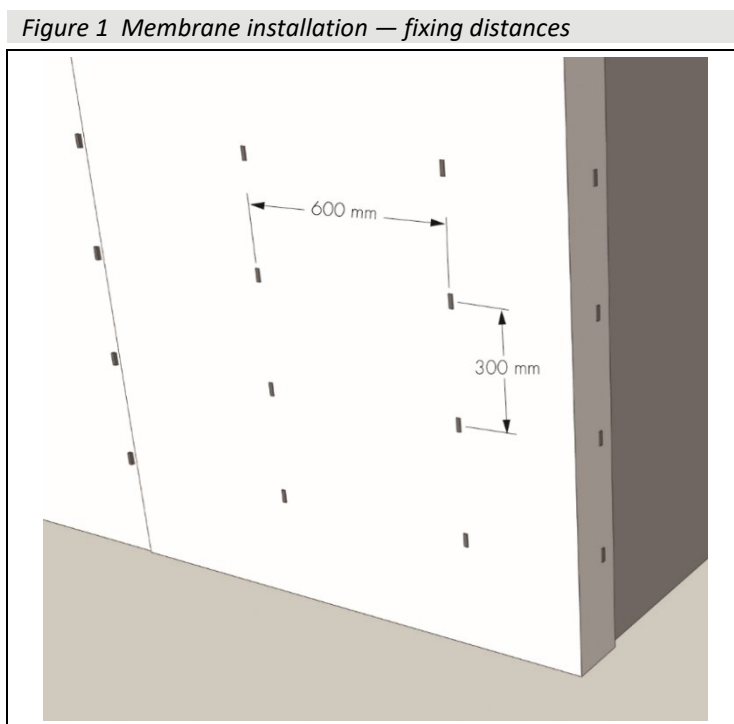
9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.2.2 The product must be installed in accordance with this Certificate, the Certificate holder's instructions and the recommendations given in *NHBC Standards 2023*, Chapters 6.2 and 6.10, where appropriate. A summary of instructions and guidance is provided in Annex A.

9.2.3 To prevent damage by wind action, the membrane must be fixed at regular intervals, not exceeding 500 mm, with austenitic stainless steel staples or nails, with the membrane's silver side installed to the outside.

9.2.4 Upper layers must overlap lower layers to shed water away from the sheathing and below the level of the lowest timber.

9.2.5 Horizontal laps must be at least 100 mm and vertical laps 150 mm. Vertical laps must be staggered wherever possible (see Figure 1).



9.2.6 It is essential that the positions of studs are marked to enable wall tie fixing.

9.2.7 It is essential that the lowest timbers in the wall are protected by the breather membrane.

9.2.8 The product can be damaged by high winds, prolonged exposure to UV, careless handling or by vandalism, and must be covered as soon as possible on completion of installation.

9.3 Workmanship

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, 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 to the wall and has suitable durability, maintenance is not required.

9.4.2 Damage to the product must be repaired prior to the installation of external walls or claddings, by laying another sheet over the damaged area and sealing it correctly, ensuring water is shed away from the sheathing.

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 packaging bearing the product name and grade, batch number, roll dimensions, weight, colour, identification code, UKCA/CE marking and the BBA logo incorporating the number of this Certificate.

11.2 Delivery and site handling must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.2.1 The rolls should be stored on their side, on a smooth, clean, surface, under cover and protected from sunlight.

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.

UKCA marking

The Certificate holder has taken the responsibility of UKCA marking the product in accordance with Designated Standard EN 13859-2 : 2014.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised Standard EN 13859-2 : 2014.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI (Certificate FM 45536).

Additional information on installation

Condensation

A.1 The risk of condensation occurring within the wall of the timber-frame building will depend upon the properties and vapour resistance of the other materials used in the construction, the internal and external conditions and the effectiveness of the internal vapour control layer.

A.2 Convective water vapour transfer into the wall construction can be reduced by installing a vapour control layer/air barrier.

A.3 The product has additional insulating properties (see section 6) and will maintain the frame sheathing at a higher temperature than for the same construction incorporating a conventional breather membrane. This will in turn assist in limiting the risk of interstitial condensation arising from breaches/imperfections in the vapour control layer in the wall's internal lining. However, it must not be relied upon as an alternative to conventional good practice for maintaining integrity of the vapour control layer.

A.4 The risk of interstitial condensation is greatest when the building is drying out after construction. Guidance on preventing condensation from this and other sources is given in BRE Digest 369 and BRE Report BR 262 : 2002.

Bibliography

- BRE Report BR 262 : 2002 *Thermal insulation — Avoiding risks*
- BRE Report BR 443 : 2019 *Conventions for U-value calculations*
- BRE Digest 369 : 1992 *Interstitial condensation and fabric degradation*
- BS 3137 : 1972 *Methods for determining the bursting strength of paper and board*
- BS 3177 : 1959 (1995) *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 EN 1107-2 : 2001 *Flexible sheets for waterproofing — Determination of dimensional stability — Plastic and rubber sheets for roof waterproofing*
- BS EN 1109 : 2013 *Flexible sheets for waterproofing — Bitumen sheets for roof waterproofing — Determination of flexibility at low temperature*
- 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) — 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 13111 : 2010 *Flexible sheets for waterproofing — Underlays for discontinuous roofing and walls — Determination of resistance to water penetration*
- BS EN 13501-1 : 2018 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*
- BS EN 13859-2 : 2014 *Flexible sheets for waterproofing — Definitions and characteristics of underlays — Underlays for walls*
- BS EN ISO 6946 : 2017 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation methods*
- BS EN ISO 9001 : 2015 *Quality management systems — Requirements*
- BS EN ISO 11925-2 : 2020 *Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Single-flame source test*

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.