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Agrément Certificate

90/2548

Product Sheet 8 Issue 4

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TYVEK CONSTRUCTION MEMBRANES

DUPONT TYVEK FIRECURB

This Agrément Certificate Product Sheet⁽¹⁾ relates to the DuPont Tyvek⁽²⁾ FireCurb, a fire-rated, high-density polyethylene (HDPE) breather membrane, for use in external wall timber-frame (either factory or site applied), steel-frame and masonry constructions behind lightweight cladding panels and masonry facades.

- (1) Hereinafter referred to as 'Certificate'.
- (2) Tyvek is a registered trademark of E.I. du Pont de Nemours & Co. or its affiliates.

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 Fourth issue: 6 June 2024
Originally certified on 10 September 2015

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 DuPont Tyvek FireCurb, 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:	B4(1)	External fire spread
Comment:		The product may be 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.
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 clauses 2.4.2 ⁽¹⁾⁽²⁾ . 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 3.10.5 ⁽¹⁾⁽²⁾ of this Standard. 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⁾ and 3.15.5 ⁽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 a bronze level of sustainability as defined in this Standard.

Regulation:	12	Building standards – conversions
Comment:		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:	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 satisfying this Regulation. See section 3 of this Certificate.
Regulation:	29	Condensation
Comment:		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.
Regulation:	36(a)	External fire spread
Comment:		The product may be restricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2024

In the opinion of the BBA, DuPont Tyvek FireCurb, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapters 6.1 *External masonry walls*, 6.2 *External timber framed walls*, 6.9 *Curtain walling and cladding* and 6.10 *Light steel framed walls and floors*.

Fulfilment of Requirements

The BBA has judged DuPont Tyvek FireCurb to be satisfactory for use as described in this Certificate. The product has been assessed for use as a breather membrane in walls of timber-frame (either factory or site applied) steel-frame and masonry constructions behind lightweight cladding panels and masonry facades.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. DuPont Tyvek FireCurb is a non-woven, HDPE breather membrane.

The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics of DuPont Tyvek FireCurb

Characteristic (unit)	Value
Thickness (mm)	0.175
Mass per unit area (g·m ⁻²)	68
Roll length (m)	50
Roll width (m)	1.5
Colour	White with a red logo on top side

Ancillary Items

The following ancillary items are essential to use with the product and have been assessed with the product:

- Air and vapour control layers (AVCLs) or air leakage barriers (see Product Sheets 4, 5 and 10 of this Certificate)
- Tyvek Acrylic Tape (2060B) – a single-sided tape for sealing joints
- Tyvek Double-sided Tape (1310D) – an acrylic tape for sealing joints
- Tyvek Butyl Tape (1311B) – a double-sided tape for sealing penetrations, eg behind metal brackets and timber battens under compression.

Definitions for products and applications inspected

In the absence of other guidance, suitable external masonry wall, external timber framed wall, curtain walling and light cladding, and light steel frame wall constructions are defined as those designed and built in accordance with *NHBC Standards 2024*, Chapters 6.1, 6.2, 6.9 and 6.10 respectively.

Product assessment – key factors

The product was assessed for the following key factors, and the outcome of the assessments 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 mechanical damage

1.1.1 The nail tear, tensile strength and elongation of DuPont Tyvek FireCurb were assessed using test data from a relevant representative product.

1.1.2 On the basis of data assessed, the product has adequate strength to resist the loads associated with construction and installation into a building.

1.1.3 The wet strength of the product was assessed using test data from a relevant representative product. The product is not adversely affected by water and will retain its properties when wet.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 Reaction to fire

2.1.1 The result of a reaction to fire test is given in Table 2.

Table 2 Results of reaction to fire test

Product assessed	Assessment method	Requirement	Result
DuPont Tyvek FireCurb	Reaction to fire classification in accordance with EN 13501-1 : 2018 ⁽¹⁾ tested on a mineral wool in accordance with EN 13823 : 2010 and EN ISO 11925-2 : 2020	Value achieved	Class B s1, d0 ⁽¹⁾⁽²⁾
	Reaction to fire classification in accordance with BS EN 13501-1 : 2018 ⁽³⁾⁽⁴⁾⁽⁵⁾ tested on a 12.5 mm gypsum plasterboard substrate in accordance with BS EN 13823 : 2010 and BS EN ISO 11925-2 : 2020	Value achieved	Class B s1, d0 ⁽⁶⁾⁽⁷⁾

- (1) Classification report reference KB-Hoch-121266-4, issued by Prüfinstitut Hoch.
 (2) The classification applies over mineral substrates of the Euroclass A1 or A2-s1, d0 with a density $\geq 37.5 \text{ kg}\cdot\text{m}^{-3}$ and a thickness of $\geq 25 \text{ mm}$. The horizontal overlap can be up to 150 mm and the coated side must be directed to the mineral substrate.
 (3) Extended application report reference 27/05455C/8/23, issued by BTTG. A copy of the report is available from the Certificate holder on request. The extended application process is carried out in conformity with the following extended application standards – BS EN 15725 : 2010 and CEN/TS 15117 : 2005.
 (4) Classification report reference 27/05455A-1/08/23, issued by BTTG.
 (5) Test report reference 27/05455A/10/20, issued by BTTG.
 (6) The classification applies only over a substrate achieving either an A1 or A2-s1, d0 classification to BS EN 13501-1 : 2018.
 (7) Limited to installations that consist of horizontal joints, perimeters fixed with staples and/or fixed with Tyvek Double-sided Tape (1310D), in vertical strips 500 mm apart.

2.1.2 The performance and permissible areas of use of the product when applied over other substrates must be established in accordance with the requirements of the documents supporting the national Building Regulations.

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

2.1.4 In England, Wales and Northern Ireland, other than in the construction given in section 2.1.1, 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.

2.1.5 In Scotland, the use of the product is unrestricted in terms of height and proximity to a relevant boundary by the documents supporting the national Building Regulations.

2.1.6 Designers must refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity barriers, service penetrations and combustibility limitations for other materials and components used in the overall construction.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Weathertightness

3.1.1 The watertightness and resistance to a hydrostatic head of DuPont Tyvek FireCurb were assessed using test data from a relevant representative product.

3.1.2 On the basis of data assessed, the product is Class W1 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 NHBC requirement given in *NHBC Standards 2024*, Chapter 6.2, for use in very severe conditions⁽¹⁾.

(1) Very severe conditions are defined in the *NHBC Standards 2024*, Chapter 6.1.6 (see Exposure Zones map, showing categories of exposure to wind-driven rain).

3.1.4 The period prior to the installation of brickwork must be kept to a minimum. Advice must be sought from the Certificate holder, but such advice is outside the scope of this Certificate. The product must not be used as a temporary waterproof covering during this time.

3.2 Condensation

3.2.1 The water vapour resistance of DuPont Tyvek FireCurb was assessed using test data from a relevant representative product.

3.2.2 A condensation risk analysis was carried out based on the test results, and satisfactory conclusions were drawn.

3.2.3 The product's water vapour resistance is less than or equal to $0.25 \text{ MN}\cdot\text{s}\cdot\text{g}^{-1}$, and it is classified as a low resistance (LR) membrane in accordance with BS 5250 : 2021. It will, therefore, contribute towards minimising the risk of interstitial condensation in walls designed and constructed in accordance with BS 5250 : 2021.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

Not applicable.

8 Durability

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

8.2 The dimensional stability, flexibility at low temperature, tensile strength and elongation after UV and heat ageing, were assessed using test data from a relevant representative product.

8.3 Service life

Under normal service conditions, the product will have a life equivalent to the structure in which it is incorporated, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

PROCESS ASSESSMENT

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

9 Design, installation, workmanship and maintenance

9.1 Installation

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

9.1.2 The product must be installed in accordance with the Certificate holder's instructions, the provisions of this Certificate and the recommendations given in *NHBC Standards 2024*, Chapter 6.1, 6.2, 6.9 and 6.10, where appropriate. A summary of instructions and guidance is provided in Annex A of this Certificate.

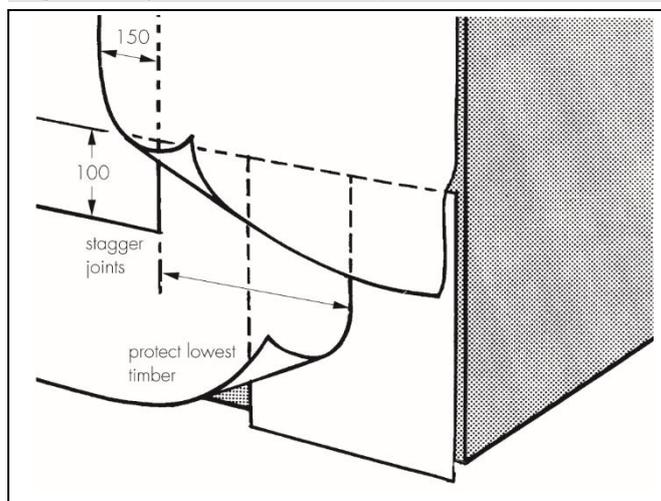
9.1.3 Where wood preservatives and damp-proofing treatments containing solvents have been applied, sufficient time must be allowed for solvents to disperse before the product is installed.

9.1.4 The product can be damaged by high winds, careless handling or vandalism, and must not be left exposed for longer than necessary.

9.1.5 The product must be fixed in such a way as to shed water away from the sheathing, and below the lowest timber. Upper layers must be lapped over lower layers.

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

Figure 1 Laps (dimensions in mm)



9.1.7 To assist in achieving the design air permeability, the lap joints and penetrations through the product can be sealed with Tyvek Acrylic Tape (2060B) or Tyvek Double-sided Tape (1310D).

9.1.8 When used in timber frame constructions, the product must be secured at regular intervals with nails and staples to prevent damage by wind (see Figures 2 to 4).

Figure 2 Factory method of installation on timber-frame panel

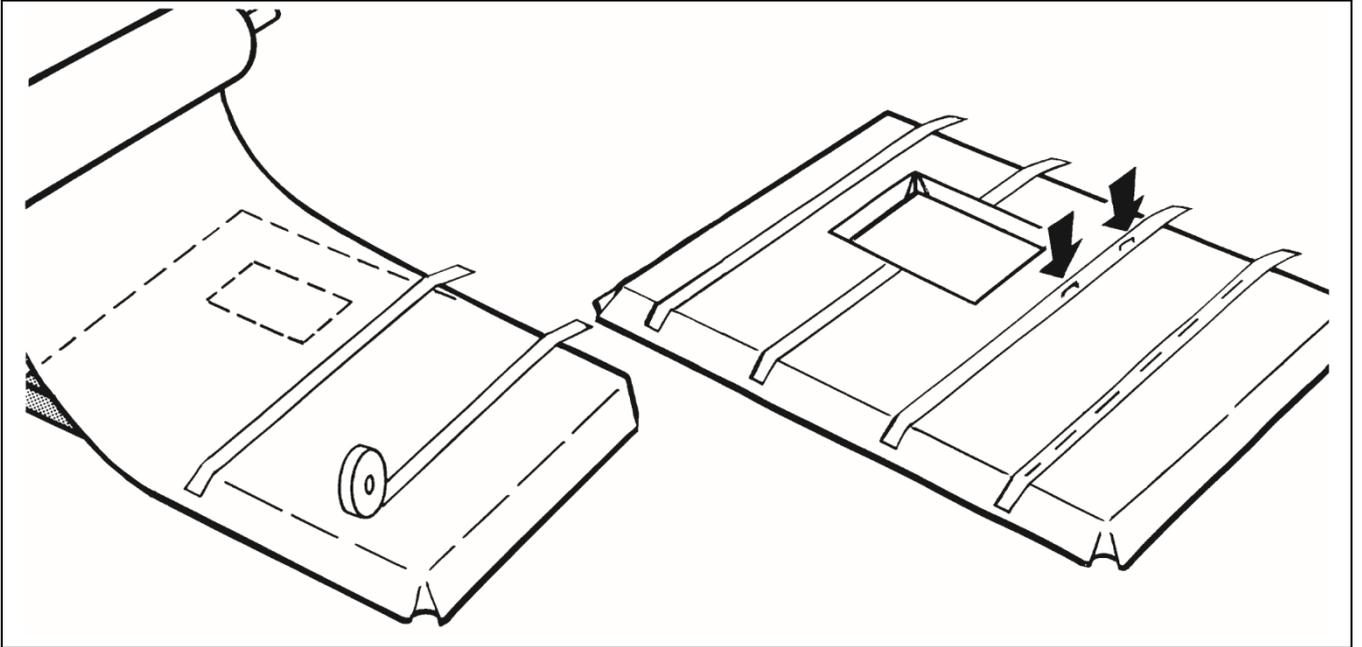


Figure 3 Site installation — external corner

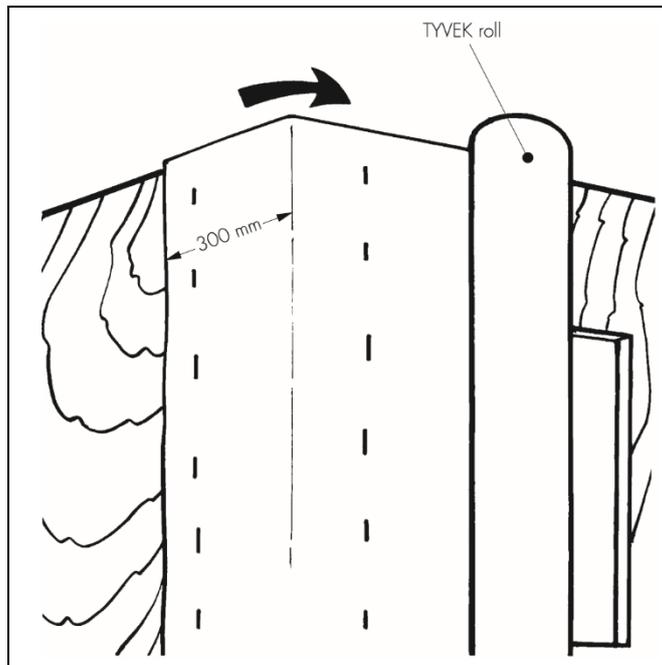
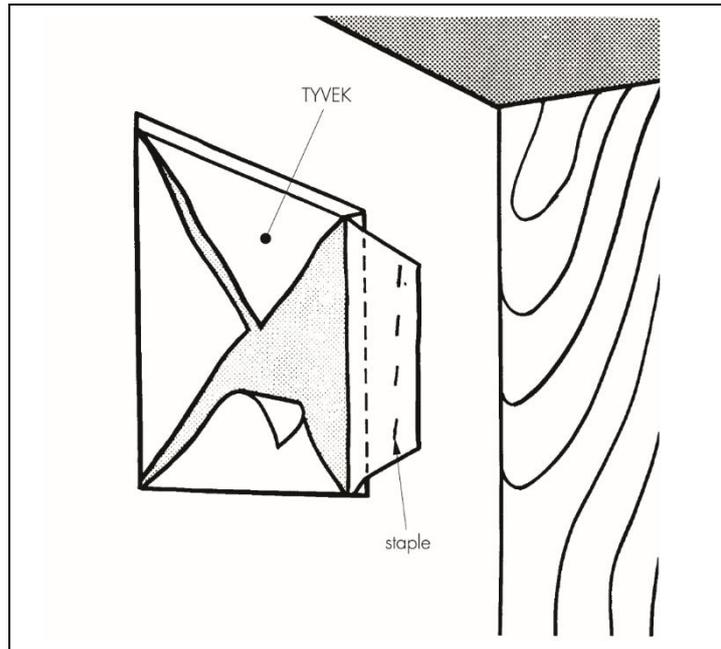


Figure 4 Site installation — opening (internal view of window)



9.1.9 Nails must be of galvanized or sherardized mild steel, austenitic stainless steel, phosphor bronze or silicon bronze. Staples must be of austenitic stainless steel.

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

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

9.1.12 When used in steel frame constructions, the product is fastened to the steelwork or the sheathing board using an appropriate fixing system, such as a 25 mm steel framing screw with an EPDM rubber washer, in accordance with the Certificate holder's instructions.

9.1.13 When used in masonry constructions, the product is fastened to the masonry using an appropriate anchor fixing system or a masonry nail/screw and an EPDM rubber washer. Fixing should be at maximum 500 mm centres. Tyvek Double-sided Tape (1310D) can be used to fix the membrane in addition to the mechanical method. For airtightness, Tyvek Butyl Tape (1311B) can be used at fixing points where a compressible washer is not employed. A primer can be applied to chalky or porous masonry to seal the surface and improve adhesion before applying adhesive tape.

9.2 Workmanship

Practicability of installation was assessed by the BBA, on the basis of the Certificate holder's information and a visit to site to assess the practicability of installation. 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.

9.3 Maintenance and repair

9.3.1 As the product is confined within a wall and has suitable durability, maintenance is not required.

9.3.2 Damage to the membrane must be repaired prior to the installation of the external walls or cladding, by laying another sheet over the damaged area and sealing correctly using Tyvek Acrylic Tape (2060B), ensuring water is shed away from the sheathing. Small linear tears can be fixed using a strip of Tyvek Acrylic Tape (2060B).

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 with paper wrappings bearing the marketing company's name, the grade identification, the technical specifications, installation instructions 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 Rolls must be stored flat on their sides, on a smooth, clean, dry 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.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard EN 13859-2 : 2010.

Management Systems Certification for production

The management systems of the manufacturer have been assessed and registered as meeting the requirements of EN ISO 9001 : 2015 by DQS GmbH (Certificate 000093 QM15) and EN ISO 14001 : 2015 by Lloyd's Register (Certificate 10322753).

Additional information on installation

Condensation

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

A.2 Convective water transfer into the wall construction can be reduced by installing a vapour control layer/air barrier such as the DuPont AirGuard AVCLs or air leakage barrier behind the internal lining (see Product Sheets 4, 5 and 10 of this Certificate).

Bibliography

BS 5250 : 2021 *Management of moisture in buildings – Code of practice*

BS EN 13501-1 : 2018 *Fire classification of construction products and building elements – Classification using data from reaction to fire tests*

BS EN 13823 : 2010 + A1 : 2014 *Reaction to fire tests for building products – Building products excluding floorings exposed to the thermal attack by a single burning item*

BS EN 13859-2 : 2014 *Flexible sheets for waterproofing – Definitions and characteristics of underlays Part 2: Underlays for walls*

BS EN 15725 : 2010 *Extended application reports on the fire performance of construction products and building elements*

BS EN ISO 11925-2 : 2020 *Reaction to fire tests – Ignitability of products subjected to direct impingement of flame – Part 2: single-flame source test*

CEN/TS 15117 : 2005 *Guidance on direct and extended application*

EN 13859-2 : 2010 *Flexible sheets for waterproofing – Definitions and characteristics of underlays Part 2: Underlays for walls*

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

EN ISO 14001 : 2015 *Environmental management systems – Requirements with guidance for use*

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.