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08/4548

Product Sheet 10 Issue 1

TYVEK<sup>(1)</sup> ROOF LINING SYSTEMS

# **DUPONT AIRGUARD A2 FR**

This Agrément Certificate Product Sheet<sup>(2)</sup> relates to DuPont AirGuard<sup>(1)</sup> A2 FR, a reinforced foil laminate membrane for use as a low-emissivity, insulating air and vapour control layer (AVCL) in roofs and ceilings.

- (1) Tyvek and AirGuard are registered trademarks.
- (2) Hereinafter referred to as 'Certificate'.

### The assessment includes

### **Product factors:**

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

### Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

### Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review



### **KEY FACTORS ASSESSED**

- Section 1. Mechanical resistance and stability
- Section 2. Safety in case of fire
- Section 3. Hygiene, health and the environment
- Section 4. Safety and accessibility in use
- Section 5. Protection against noise
- Section 6. Energy economy and heat retention
- Section 7. Sustainable use of natural resources
- Section 8. Durability

The BBA has awarded this Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of issue: 22 January 2024

Hardy Giesler Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation. The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly. The Certificate should be read in full as it may be misleading to read clauses in isolation.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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# SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

# **Compliance with Regulations**

Having assessed the key factors, the opinion of the BBA is that DuPont AirGuard A2 FR, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations:

| E State   | The Bui                                      | ilding Regulations 2010 (England and Wales) (as amended)  |
|---|--|---|
| Requirement:<br>Comment:  | B3(4)  | Internal fire spread<br>The product can contribute to satisfying this Requirement. See section 2 of this<br>Certificate.  |
| <b>Requirement:</b><br>Comment:   | B4(1)  | <b>External fire spread</b><br>The product may be restricted by this Requirement. See section 2 of this Certificate.  |
| Requirement:<br>Comment:  | C2(c)  | <b>Resistance to moisture</b><br>The product can contribute to a roof satisfying this Requirement. See section 3 of this<br>Certificate.  |
| Requirement:<br>Comment:  | L1(a)(i)                                     | <b>Conservation of fuel and power</b><br>The product can contribute to satisfying this Requirement. See section 6 of this<br>Certificate.   |
| <b>Regulation:</b><br>Comment:  | 7(1)   | Materials and workmanship<br>The product is acceptable. See sections 8 and 9 of this Certificate.   |
| Regulation:<br>Regulation:<br>Regulation:<br>Regulation:<br>Regulation:<br>Regulation:<br>Regulation:<br>Comment: | 25B<br>26<br>26A<br>26A<br>26B<br>26C<br>26C | Nearly zero-energy requirements for new buildings<br>CO <sub>2</sub> emission rates for new buildings<br>Fabric energy efficiency rates (applicable to England only)<br>Primary energy consumption rates for new buildings (applicable to Wales only)<br>Fabric performance values for new dwellings (applicable to Wales only)<br>Target primary energy rates for new buildings (applicable to England only)<br>Energy efficiency rating (applicable to Wales only)<br>The product can contribute to satisfying these Regulations. See section 6 of this |

| El  | The Bu          | ilding (Scotland) Regulations 2004 (as amended)  |
|---|-----------------|--|
| Regulation:<br>Comment:                     | 8(1)            | Fitness and durability of materials and workmanship<br>The product can contribute to a construction satisfying this Regulation. See sections 8<br>and 9 of this Certificate.                               |
| <b>Regulation:</b><br>Standard:<br>Comment: | <b>9</b><br>2.4 | <b>Building standards – construction</b><br>Cavities<br>The product can contribute to satisfying this Standard with respect to clause 2.4.2 <sup>(1)(2)</sup> .<br>See section 2 of this Certificate.      |
| Standard:<br>Comment:                       | 2.6             | Spread to neighbouring buildings<br>The product is unrestricted under clauses 2.6.5 <sup>(1)</sup> and 2.6.6 <sup>(2)</sup> of this Standard, in some<br>circumstances. See section 2 of this Certificate. |

| Standard:<br>Comment:                  | 3.15                          | Condensation<br>The product can contribute to limiting the risk of interstitial condensation, with reference<br>to clauses $3.15.1^{(1)(2)}$ , $3.15.3^{(1)(2)}$ and $3.15.5^{(1)(2)}$ of this Standard. See section 3 of this<br>Certificate.                              |
|--|-------------------------------|---|
| Standard:<br>Standard:<br>Comment:     | 6.1(b)(c)(d)<br>6.2           | Carbon dioxide emissions<br>Building insulation envelope<br>The product can contribute to satisfying the requirements of these Standards, with<br>reference to clauses $6.1.1^{(1)}$ , $6.1.2^{(2)}$ , $6.2.4^{(1)}$ and $6.2.5^{(2)}$ . See section 6 of this Certificate. |
| Standard:<br>Comment:                  | 7.1(a)(b)                     | Statement of sustainability<br>The product can contribute to satisfying the relevant requirements of Regulation 9,<br>Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level<br>of sustainability as defined in this Standard.            |
| Regulation:<br>Comment:                | 12                            | <b>Building standards – conversions</b><br>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 $6^{(1)(2)}$ .  |
|  |                               | <ol> <li>Technical Handbook (Domestic).</li> <li>Technical Handbook (Non-Domestic).</li> </ol>  |
| and the second                         | The Build                     | ling Regulations (Northern Ireland) 2012 (as amended)   |
| Regulation:<br>Comment:                | 23(1)(a)(i)<br>(iii)(b)(i)    | Fitness of materials and workmanship<br>The product is acceptable. See sections 8 and 9 of this Certificate.  |
| <b>Regulation:</b><br>Comment:         | 29                            | <b>Condensation</b><br>The product can enable a roof to satisfy this Regulation. See section 3 of this Certificate.   |
| <b>Regulation:</b><br>Comment:         | 35(4)                         | Internal fire spread – structure<br>The product can contribute to satisfying this Regulation. See section 2 of this Certificate.  |
| <b>Regulation</b><br>Comment:          | 36(a)                         | <b>External fire spread</b><br>The product may be restricted by this Regulation. See section 2 of this Certificate.   |
| Regulation:<br>Regulation:             | 39(a)(i)<br>40(2)<br>42(1)(2) | Conservation measures<br>Target carbon dioxide emission rate  |
| Regulation:<br>Regulation:<br>Comment: | 43(1)(2)<br>43B               | Renovation of thermal elements<br>Nearly zero-energy requirements for new buildings<br>The product can contribute to satisfying these Regulations. See section 6 of this<br>Certificate.  |

# **Additional Information**

## **NHBC Standards 2024**

In the opinion of the BBA, DuPont AirGuard A2 FR, 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 7.2 *Pitched roofs* and 9.2 *Wall and ceiling finishes*.

# **Fulfilment of Requirements**

The BBA has judged DuPont AirGuard A2 FR to be satisfactory for use as described in this Certificate. The product has been assessed as a low-emissivity, insulating AVCL for use in roofs and ceilings.

## ASSESSMENT

## Product description and intended use

The Certificate holder provided the following description for the product under assessment. DuPont AirGuard A2 FR consists of:

- DuPont AirGuard A2 FR (5816X) a laminate of glass fibre-mesh and a lacquered aluminium foil. The product is
  printed with the brand name and logo in red
- Tyvek Metallised Tape (2060M) a silver, metallised single-sided Tyvek tape with acrylic adhesive for sealing the membrane lap, with 75 mm width, in roll lengths of 25 m
- Tyvek Double-sided Tape (1310D) an acrylic adhesive strip for surface fixing, with 50 mm width, in roll lengths of 25 m
- Tyvek FlexWrap EZ (2064FW) a heavy-duty, flexible single-sided tape with butyl adhesive for sealing penetrations, with 60 mm width, in roll lengths of 10 m.

DuPont AirGuard A2 FR has the nominal characteristics given in Table 1.

| Table 1 Nominal characteristics of DuPont AirGuard A2 FR |             |  |
|--|-------------|--|
| Characteristic (unit)                                    | Value       |  |
| Thickness (mm)   | 0.15        |  |
| Mass per unit area (g·m <sup>-2</sup> )                  | 165         |  |
| Width (m)  | 1.2 and 1.5 |  |
| Length (m)   | 50          |  |

#### Ancillary items

The Certificate holder recommends the following ancillary items for use with the product, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- Tyvek Butyl Tape (double-sided) for sealing penetrations, eg behind metal brackets and timber battens (under compression)
- DuPont AirGuard FR System Tape (1310FR) a reflective, single-sided Air & Vapour Control Layer Tape (AVCL), with for airtight sealing of laps, joints, junctions, windows and doors and sealing around penetrations such as pipework, wiring and structural elements
- Tyvek Metal a roofing drainage underlay, for draining away the condensation that can build up beneath the cladding on standing seam metal roofs.

#### **Applications**

The product is intended for use as an AVCL /air barrier in the following roof specifications:

- at ceiling level in slated or tiled pitched cold roof constructions
- at the rafter line in slated or tiled pitched warm roof constructions
- in conjunction with Tyvek Supro (see Product Sheets 1 and 2 of this Certificate).

#### Definitions for products and applications inspected

Pitched roofs are defined for the purpose of this Certificate as those having a fall in excess of 1:6.

### **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

Not applicable.

# 2 Safety in case of fire

Data were assessed for the following characteristics.

## 2.1 Reaction to fire

2.1.1 When tested and classified to EN 13501-1 :  $2007^{(1)}$ , DuPont AirGuard A2 FR achieved a reaction to fire classification of Class A2-s1,  $d0^{(2)}$ .

(1) Classification report KB-Hoch-200148-5, issued by Prüfinstitut Hoch. A copy of the report is available from the Certificate holder on request.

(2) The Classification is valid for the following fields of application:

- DuPont AirGuard A2 FR of width greater than or equal to 1200 mm placed in horizontal runs
- the aluminium side must not be facing towards the underlying substrate
- substrates\* used must have a classification of either A1 or A2-s1,d0 in accordance with EN 13501-1 : 2018
- when installed without an air gap between the product and the substrate, the substrate must be:
  - at least 20 mm thick, with a density of greater than or equal to 38 kg  $\cdot$  m<sup>-3</sup>, or
  - at least 6 mm thick, with a density of greater than or equal to 1350  $kg\cdot m^{-3},$  or
  - at least 12 mm thick, with a density of greater than or equal to 525  $kg\cdot m^{-3}$
- when installed with an air gap, minimum 40 mm, the substrate must be at least 9 mm thick, with a density of greater than or equal to 653 kg·m<sup>-3</sup>, gypsum plasterboards must not be used as a substrate.
- Horizontal joints and vertical joints with overlaps of 100 mm may be applied. The distance between overlaps must be at least of 1100 mm.
- The joints may be sealed with the adhesive tape DuPont AirGuard FR System Tape (1310 FR)\*

\* These materials have not been assessed by the BBA and are outside the scope of this Certificate

2.1.2 On the basis of data assessed, constructions including DuPont AirGuard A2 FR and meeting the requirements of section 2.1.1 will be unrestricted in terms of height and proximity to a relevant boundary by the documents supporting the national Building Regulations.

2.1.3 This performance declared in 2.1.1 may not be achieved by other combinations of materials and the classification and permissible areas of use of these must be established in accordance with the requirements of the documents supporting the national Building Regulations.

2.1.4 Designers must refer to the relevant national Building Regulations and guidance for alternative approaches and detailed conditions of use, particularly in respect of requirements for cavity closers and barriers, fire stopping of service penetrations and combustibility limitations for other materials and components used in the overall wall construction.

## 3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Resistance to water and water vapour

3.1.1 Results of resistance to water and water vapour tests are given in Table 2.

| Product assessed      | Assessment method                           | Requirement                | Result |
|-----------------------|---|----------------------------|--------|
| DuPont AirGuard A2 FR | Water vapour diffusion equivalent air layer | ≥ 40 m                     | Pass   |
|                       | thickness to BS EN 1931 : 2000,             |                            |        |
|                       | test conditions 23°C/ 75% RH                |                            |        |
| DuPont AirGuard A2 FR | Resistance to water vapour transmission to  | ≥ 200 MN·s·g <sup>-1</sup> | Pass   |
|                       | BS EN 1931 : 2000,                          |                            |        |
|                       | test conditions 23°C/ 75% RH                |                            |        |
| DuPont AirGuard A2 FR | BS EN 1928 : 2000                           | No leakage after 24 hours  | Pass   |
|                       |   | at 2 kPa                   |        |

3.1.2 On the basis of data assessed, DuPont AirGuard A2 FR provides an effective control to the passage of liquid water and water vapour and can contribute to limiting the risk of interstitial condensation.

3.1.3 On the basis of data assessed, the product is suitable for use as an AVCL in roofs and ceilings and can contribute to satisfying the relevant requirements of the national Building Regulations.

### 3.2 Airtightness

3.2.1 Results of airtightness tests are given in Table 3.

| Table 3 Airtightness              |                           |                                |        |
|-----------------------------------|---------------------------|--------------------------------|--------|
| Product assessed                  | Assessment method         | Requirement                    | Result |
| DuPont AirGuard A2 FR with joints | Air permeability to       | No leakage                     | Pass   |
| sealed with Tyvek Metallised Tape | BS EN 12114 : 2000        |                                |        |
| DuPont AirGuard A2 FR with joints | Tensile shear of joint to | ≥ 200 N· (50 mm) <sup>-1</sup> | Pass   |
| sealed with Tyvek Metallised Tape | BS EN 12317-2 : 2010      |                                |        |

3.2.2 On the basis of data assessed, product joints can have a satisfactory resistance to air movement.

#### 3.3 <u>Resistance to mechanical damage</u>

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

| Table 4 R | Resistance | to meci | hanical | damage |
|-----------|------------|---------|---------|--------|
|-----------|------------|---------|---------|--------|

| Product assessed      | Assessment method                                     | Requirement    | Result                      |
|-----------------------|---|----------------|-----------------------------|
| DuPont AirGuard A2 FR | Nail tear to BS EN 12310-1 : 2000                     | ≥ 35 N         |                             |
|                       | modified in accordance with BS EN 13859-2 : 2014,     |                |                             |
|                       | Annex B   |                |                             |
|                       | longitudinal  |                | Pass                        |
|                       | transverse  |                | Pass                        |
| DuPont AirGuard A2 FR | Tensile strength to BS EN 12311-1 : 2000, modified in | Value achieved |                             |
|                       | accordance with BS EN 13859-2 : 2014, Annex A         |                |                             |
|                       | longitudinal  |                | 840 N·(50 mm) <sup>−1</sup> |
|                       | transverse  |                | 665 N·(50 mm) <sup>−1</sup> |
| DuPont AirGuard A2 FR | Elongation at maximum load to                         | Value achieved |                             |
|                       | BS EN 12310-1 : 2000, modified in accordance with     |                |                             |
|                       | BS EN 13859-2 : 2014, Annex B                         |                |                             |
|                       | longitudinal  |                | 2%                          |
|                       | transverse  |                | 2%                          |

3.3.2 On the basis of data assessed, the product has adequate strength to resist the loads associated with installation on the roof and service.

# 4 Safety and accessibility in use

Not applicable.

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# 5 Protection against noise

Not applicable.

## 6 Energy economy and heat retention

Data were assessed for the following characteristics.

### 6.1 Thermal performance

6.1.1 Calculations of thermal transmittance (U-value) must be carried out in accordance with BS EN ISO 6946 : 2017 and BRE Report BR 443 : 2019, using a corrected emissivity value of 0.09 for the foil surface of the product. Where this faces into an unventilated cavity at least 13 mm thick, this corresponds to a cavity thermal resistance value of 0.38  $m^2 \cdot K \cdot W^{-1}$ .

6.1.2 On the basis of data assessed, the product is satisfactory for use as a radiant barrier and is effective in reducing thermal transmittance of the roof when the foil surface is facing into an air space. Further information is given in BRE Report BR 262 : 2002.

6.1.3 When lapped, fixed and taped correctly, the product acts as an air barrier and can contribute to elements and junctions minimising heat loss by unplanned air infiltration and exfiltration. Guidance in this respect can be found in the documents supporting the national Building Regulations.

# 7 Sustainable use of natural resources

Not applicable.

## 8 Durability

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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 5.

| Table 5 Results of durability | tests  |                                |        |
|-------------------------------|--|--------------------------------|--------|
| Product assessed              | Assessment method  | Requirement                    | Result |
| DuPont AirGuard A2 FR         | Water vapour diffusion equivalent air layer thickness to | ≥ 40 m                         | Pass   |
|                               | BS EN 1931 : 2000, test conditions 23°C/75% RH,          |                                |        |
|                               | heat aged for 90 days at 70°C followed by 500 hours at a |                                |        |
|                               | relative humidity of 90 to 100% at 45°C                  |                                |        |
| DuPont AirGuard A2 FR         | Resistance to water vapour transmission to BS EN 1931 :  | ≥ 200 MN·s·g <sup>-1</sup>     | Pass   |
|                               | 2000, test conditions 23°C/75% RH,                       |                                |        |
|                               | heat aged for 90 days at 70°C followed by 500 hours at a |                                |        |
|                               | relative humidity of 90 to 100% at 45°C                  |                                |        |
| DuPont AirGuard A2 FR, with   | Tensile shear of joint to BS EN 12317-2 : 2010           | ≥ 200 N· (50 mm) <sup>-1</sup> | Pass   |
| joints sealed with Tyvek      | heat aged for 28 days at 80°C                            |                                |        |
| Metallised Tape               |  |                                |        |

8.3 The effect of ageing on emissivity was assessed using data for a representative related product.

### 8.4 Service life

Under normal service conditions, the product will have a life of at least equivalent to that of the building 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 <u>Design</u>

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 The product is effective in reducing the thermal transmittance (U-value) of roofs in which it is installed. Further information is given in BRE Report BR 262 : 2002.

9.1.3 Where constructions need to comply with *NHBC Standards* 2023, specifiers must observe the requirements given in that document.

9.1.4 It is essential that proper care and attention is given to maintaining the product's integrity and continuity.

9.1.5 New elements must incorporate the product on the warm side of the insulation, and the overall construction must be designed and constructed in accordance with the relevant good practice, statutory Regulations and Standards.

9.1.6 Existing elements must be in a good state of repair without evidence of rain penetration, damp or frost damage.

9.1.7 Roofs must be designed and constructed in accordance with BS 5534 : 2014 and BS 5250 : 2021.

9.1.8 The risk of condensation occurring 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 product's installation.

9.1.9 In the overall installation, consideration must be given to minimising penetrations by services. Joints at ceiling/ wall junctions and openings must be sealed to offer significant resistance to water vapour transmission. Sealing must also be carried out in accordance with the Certificate holder's instructions.

9.1.10 Constructions must be in accordance with the relevant recommendations of BS 5250 : 2021, using a minimum equivalent air layer thickness ( $S_d$ ) of not less than 1500 m (equivalent to a water vapour resistance of 7500 MN·s·g<sup>-1</sup>) for the product.

9.1.11 When used without a service void, the product acts as an AVCL but does not contribute to the thermal value of the construction.

9.1.12 The product is satisfactory for use as a radiant barrier when the foil surface is facing towards the interior of the building into an air space.

#### 9.2 Installation

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

9.2.2 Installation must be carried out in accordance with this Certificate and the Certificate holder's instructions, the relevant recommendations of BS 9250 : 2007 and good building practice.

9.2.3 The product must be positioned on the warm side of the thermal insulation and held in place by staples at approximately 500 mm centres to the background structure. Joints between adjacent sheets of the material must be lapped 100 mm over a support and be sealed with a strip of Tyvek Metallised Tape (2060M).

9.2.4 In ceilings, the product must be placed directly between the underside of the rafters and the ceiling lining to cover the insulation on the warm side as an air barrier.

9.2.5 At openings, the product must be sealed tight against the frame with Tyvek Metallised Tape or tucked in and compressed by the frame. Internal corners must be detailed in accordance with the Certificate holder's instructions.

9.2.6 The product must be made vapour and convection tight at detailing. The membrane must be sealed tight against the frame with Tyvek Metallised Tape and/or Tyvek Double-sided Tape (acrylic), or tucked in and compressed by the frame.

9.2.7 All penetrations through the product, such as lighting, pipework or wiring, must be sealed with Tyvek FlexWrap EZ.

9.2.8 At all penetrations and abutments, the product must be cut neatly to fit as closely as possible and the joint sealed with a strip of Tyvek FlexWrap EZ. Penetrations must be kept to a minimum.

9.2.9 Where an internal lining (plasterboard) is being fitted, the product must be secured using a steel channel or lining bracket. Where channels brackets over the membrane are not being used, Tyvek Butyl Tape is applied to the structure beforehand and the staple is fixed through. Subsequent fixings for the internal lining must also be made through the Tyvek Butyl Tape to ensure airtightness.

9.2.10 The internal lining can be spaced off DuPont AirGuard A2 FR to create a services void. This avoids penetrations through the membrane by installations such as electrical sockets or light fittings, and maximises the reflective properties of the product. Steel channels of minimum 25 mm are used for this purpose. To improve air-sealing, Tyvek Butyl Tape is applied behind the channel.

9.2.11 The internal lining must be set on spacer battens, leaving a minimum gap of 25 mm behind the lining, which can reduce the need for penetrations of the AVCL/air barrier.

#### 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, installation of the product must be carried out by a competent contractor, experienced with this type of product.

### 9.4 Maintenance and repair

9.4.1 As the product is confined within a roof structure and has suitable durability (see section 8), maintenance is not required.

9.4.2 Damage to the product must be repaired prior to the installation of the building's internal lining. Small tears and punctures can be repaired with Tyvek Metallised Tape, but for larger areas new material must replace the damaged area.

### **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<br/>accordance with the documented process, and that equipment has been properly tested and calibrated.<br/>BBA 08/4548 PS10 Issue 1Page 9 of 13

† 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 Certificate holder's name, grade identification, 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 on their side, on a smooth, clean surface, under cover and protected from sunlight.

## **ANNEX A – SUPPLEMENTARY INFORMATION †**

Supporting information in this Annex is relevant to the product but has not formed part of the material assessed for the Certificate.

# <u>Construction (Design and Management) Regulations 2015</u> Construction (Design and Management) Regulations (Northern Ireland) 2016

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

## **CLP Regulations**

The Certificate holder has taken the responsibility of classifying and labelling the product under the GB CLP Regulation and CLP Regulation (EC) No 1272/2008 - classification, labelling and packaging of substances and mixtures. Users must refer to the relevant Safety Data Sheet(s).

### CE marking

The Certificate holder has taken the responsibility of CE marking the product, in accordance with harmonised European Standard EN 13984 : 2013.

## Bibliography

BRE Report BR 262 : 2002 Thermal insulation : avoiding risks

BRE Report BR 443 : 2006 Conventions for U-value calculations

BS 5250 : 2021 Management of moisture in buildings

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

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

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

BS EN 1931 : 2000 Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of water vapour transmission properties

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

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 12317-2 : 2010 Flexible sheets for waterproofing — Determination of shear resistance of joints — Plastic and rubber sheets for roof waterproofing

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* 

EN 13501-1 : 2007 Fire classification of construction products and building elements — Classification using test data from reaction to fire tests

EN 13984 : 2013 Flexible sheets for waterproofing — Plastic and rubber vapour control layers — Definitions and characteristics

## **Conditions of Certificate**

## Conditions

1 This Certificate:

- relates only to the product that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

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

5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product or any other product
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product
- actual installations of the product, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to UKCA marking and CE marking.

6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.

**British Board of Agrément** 1<sup>st</sup> Floor, Building 3, Hatters Lane Croxley Park, Watford Herts WD18 8YG