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Agrément Certificate
21/5982
Product Sheet 1

THE A PROCTOR GROUP VAPOUR CONTROL LAYERS

PROCHECK A2

This Agrément Certificate Product Sheet[1] relates to Procheck A2, a reinforced foil laminate membrane for use for use as a low-emissivity, insulating vapour control layer in roofs, walls and suspended floors in domestic and non-domestic buildings.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Condensation — the product will reduce the risk of interstitial condensation (see section 6).

Thermal insulation — the product can contribute to limiting heat loss through the external structure (see section 7).

Strength — the product has adequate strength to resist damage during installation (see section 8).

Properties in relation to fire — the product is classified as A2-s1, d0 in accordance with BS EN 13501-1 : 2018 and its use is unrestricted by the documents supporting the national Building Regulations (see section 9).

Durability — the product will have a lifetime equal to that of the building element in which it is installed (see section 11).

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.

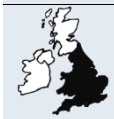
On behalf of the British Board of Agrément

Date of First issue: 27 July 2022

Hardy Giesler
Chief Executive Officer

Regulations

In the opinion of the BBA, Procheck A2 , 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 presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

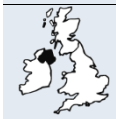
Requirement:	**B3(4)**	**Internal fire spread**
Comment:		The product can contribute to satisfying this Requirement. See sections 9.1 of this Certificate.
Requirement:	**B4(1)**	**External fire spread**
Comment:		The product is unrestricted by this Requirement. See section 9 of this Certificate.
Requirement:	**C2(c)**	**Resistance to moisture**
Comment:		The product can contribute to limiting the risk of interstitial condensation. See section 6.3 of this Certificate.
Requirement:	**L1(a)(i)**	**Conservation of fuel and power**
Comment:		The product can contribute to satisfying this Requirement. See sections 7 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The product is acceptable. See section 11 and the *Installation* part of this Certificate.
Regulation:	**26**	**CO_2 emission rates for new buildings**
Regulation:	**26A**	**Fabric energy efficiency rates for new dwellings (applicable to England only)**
Regulation:	**26A**	**Primary energy consumption 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. See section 7 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)**	**Durability, workmanship and fitness of materials**
Comment:		The product can contribute to a construction satisfying this Regulation. See section 11 and the *Installation* part of this Certificate.
Regulation:	**9**	**Building standards applicable to 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 9 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can contribute to limiting the risk of interstitial condensation, with reference to clauses 3.15.1[(1)(2)] and 3.15.5[(1)(2)] of this Standard. See section 6.3 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying the requirements of these Standards, with reference to clauses 6.1.1[(1)], 6.1.2[(2)], 6.2.4[(1)], 6.2.6[(2)], 6.2.10[(1)], 6.2.11[(1)(2)], 6.2.12[(2)] and 6.2.13[(2)]. See section 7 of this Certificate.

Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The product can contribute to meeting 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 applicable to 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) (iii)(b)(i)**	**Fitness of materials and workmanship**
Comment:		The product is acceptable. See section 11 and the *Installation* part of this Certificate.
Regulation:	**29**	**Condensation**
Comment:		The product can contribute to limiting the risk of interstitial condensation. See section 6.3 of this Certificate.
Regulation:	**35(4)**	**Internal fire spread - structure**
Comment:		The product can contribute to satisfying this Regulation. See section 9 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
Comment:		The product is unrestricted by this Requirement. See section 9 of this Certificate.
Regulation:	**39(a)(i)**	**Conservation measures**
Regulation:	**40(2)**	**Target carbon dioxide emission rate**
Regulation:	**43B**	**Nearly zero-energy requirements for new buildings**
Comment:		The product can contribute to satisfying these Regulations. See section 7 of this 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.

See sections: 1 *Description* (1.2) and 3 *Delivery and site handling* (3.1) of this Certificate.

Additional Information

NHBC Standards 2022

In the opinion of the BBA, Procheck A2, 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 6.2 *External timber framed walls*, 6.9 *Curtain walling and cladding*, 6.10 *Light steel framed walls and floors*, 7.2 *Pitched roofs* and 9.2 *Wall and ceiling finishes*.

CE marking

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

Technical Specification

1 Description

1.1 Procheck A2 is a low emissivity air and vapour control layer. The product is a laminate consisting of a clear lacquered aluminium foil bonded to a glass fibre fabric.

1.2 The product has the nominal characteristics:

Width (m)	1.2 and 1.5
Length (m)	50
Mass per unit area ($g \cdot m^{-2}$)	165
Equivalent air layer thickness — s_d (m)	1500
Water vapour resistance ($MN \cdot s \cdot g^{-1}$)	7500
Resistance to head of water	pass
Tensile strength (N per 50 mm)	
longitudinal direction	≥750
transverse direction	≥750
Elongation (%)	
longitudinal direction	≥2.5
transverse direction	≥2.5
Tear resistance (N)	
longitudinal direction	≥160
transverse direction	≥130

1.3 Procheck FR Tape is an aluminium foil tape coated with a clear or black, flame retardant lacquer on one side and adhesive on the reverse side, lined with a release paper to protect the adhesive face and is for use in conjunction with the product in sealing:

- joints in the product
- detailing
- penetrations
- fasteners
- repairs.

2 Manufacture

2.1 The product is manufactured by laminating a lacquered aluminium foil to a glass fibre scrim with an LDPE.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out 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.

3 Delivery and site handling

3.1 The product is delivered to site in rolls, wrapped in polythene film, with a label bearing the Certificate holder's name and contact details, the grade identification, roll dimensions, roll weight and CE mark. Rolls are packaged on Euro pallets, a maximum of 32 rolls per pallet and wrapped in polyethylene film.

3.2 The rolls should be stored flat on their sides or upright, on a smooth, clean, dry surface, under cover and protected from sunlight.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Procheck A2.

Design Considerations

4 Use

4.1 Procheck A2 is satisfactory for use as a low-emissivity, insulating vapour control layer in:

- walls in timber-frame, masonry and steel-frame constructions
- at the rafter line in slated or tiled pitched timber warm roof constructions in conjunction with an HR or LR underlay
- at ceiling level in warm pitched roof constructions
- at ceiling level in slated or tiled pitched ventilated cold roof constructions
- suspended floors.

4.2 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.

4.3 The product is effective in reducing the thermal transmittance (U value) of walls, roofs and floors in which it is installed (see section 7). Further information is given in BRE Report BR 262 : 2002.

4.4 Where constructions need to comply with *NHBC Standards* 2021, specifiers should observe the requirements given in Chapters 6.2, 6.10, 7.2 and 9.2.

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

4.6 New elements should incorporate the products 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.

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

4.8 Walls in new buildings should be designed and constructed in accordance with the relevant recommendations of BS EN 1996-1-1 : 2005 and BS EN 1996-2 : 2006, and their UK National Annexes.

4.9 Suspended concrete and suspended timber ground floors incorporating the product must include suitable ventilation.

5 Practicability of installation

The product is designed to be installed by competent installers experienced with these types of vapour control layer.

6 Condensation

6.1 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.

6.2 Consideration must be given in the overall installation to minimising penetrations by services. Joints at ceilings/ walls, wall/floor junctions and openings must be sealed to offer significant resistance to water vapour transmission. Sealing should also be carried out in accordance with the Certificate holder's instructions.

6.3 Constructions should 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^{-1}) for the product.

7 Thermal insulation

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 0.14 for the foil surface of the product. Where this faces into an unventilated cavity this corresponds to the following cavity thermal resistance values:

- walls

– a cavity > 20 mm thick, 0.51 $m^2 \cdot K \cdot W^{-1}$

- floors

– a cavity > 17 mm thick, 0.46 $m^2 \cdot K \cdot W^{-1}$

– a cavity > 25 mm thick, 0.59 $m^2 \cdot K \cdot W^{-1}$

- roofs

– a cavity > 13 mm thick, 0.38 $m^2 \cdot K \cdot W^{-1}$.

8 Strength

The product has adequate strength to resist damage during installation and subsequent works.

9 Properties in relation to fire

9.1 The product is classified as Class A2-s1, d0 in accordance with BS EN 13501-1 : 2018, when used with or without an air gap and all exposed joints and edges protected with Procheck FR Tape, the tape must not exceed 10% coverage of the product surface.

9.2 Where the product forms the face of a cavity the spacing of cavity barriers is restricted by the documents supporting the national Building Regulations.

10 Maintenance

As the product is confined within the roof, wall or floor structure and has suitable durability (see section 11), maintenance is not required.

11 Durability

The product is rot-proof, durable and will have a life equal to that of the element in which they are installed.

Installation

12 General

12.1 Installation of Procheck A2 should be in accordance with Certificate holder's instructions, good building practice and this Certificate.

12.2 The product is installed with the reflective printed side facing the interior of the building on the warm side of the insulation or onto an external sheathing board.

13 Procedure

Walls and roofs

13.1 The product can be installed either horizontally or vertically. When used horizontally the product is installed from bottom to top to ensure the overlaps shed any moisture.

13.2 The product is unrolled flat against the substrate, ensuring no wrinkles are present.

13.3 Joints between adjacent sheets of the material should be lapped 150 mm over a support and be sealed with a strip of Procheck FR Tape.

13.4 The product is held in place by suitable mechanically fasteners at approximately 500 mm centres to the background structure (i.e. substrate, stud and fixing rail). The fasteners are sealed using Procheck FR Tape.

13.5 At all penetrations, abutments and perimeters the product is cut neatly to fit as closely as possible and the joint sealed with a strip of Procheck FR Tape. Penetrations must be kept to a minimum.

13.6 The product is sealed tight against door, window and loft frame with Procheck FR Tape.

13.7 To contribute to the thermal performance of a construction, the internal lining must be set on spacer battens, leaving a minimum gap of 25 mm behind the lining to accommodate wiring and other services and reduce the need for penetrations of the vapour control layer.

13.8 When used without a void, the product does not contribute to the thermal value of the construction but continues to act as a vapour control layer.

Floors

13.9 The product is rolled out loose over the floor insulation with adjacent membranes overlapped by 150 mm.

13.10 Joints in the product, sealing to other materials and detailing are carried out as described in sections 13.3 to 13.5.

13.11 The product is either installed above or beneath the floor boarding and beneath the internal floor finishes.

14 Repair

Damaged areas are made good by overlaying a new sheet and sealing as described in section 13.3. For areas of damage of less than 25 mm the product may be repaired with Procheck FR Tape alone.

Technical Investigations

15 Tests

15.1 Tests were carried out and the results assessed to determine:

- thickness
- mass per unit area
- emissivity – control, heat aged and combined heat/humidity aged
- tensile strength and elongation
- resistance to nail tear
- shear strength of joints – control and heat aged
- air permeability of joints.

15.2 An assessment was made of data in relation to:

- watertightness
- water vapour transmission properties – control and after ageing combined UV and heat ageing
- resistance to impact
- low temperature flexibility

- reaction to fire.

16 Investigations

16.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

16.2 An evaluation was made of the thermal performance of the product in typical constructions.

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 EN 1996-1-1 : 2005 + A1 : 2012 *Eurocode 6 — Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
NA to BS EN 1996-1-1 : 2005+ A1 : 2012 UK National Annex to *Eurocode 6 — Design of masonry structures — General rules for reinforced and unreinforced masonry structures*

BS EN 1996-2 : 2006 *Eurocode 6 — Design of masonry structures — Design considerations, selection of materials and execution of masonry*
NA to BS EN 1996-2 : 2006 UK National Annex to *Eurocode 6 — Design of masonry structures — Design considerations, selection of materials and execution of masonry*

BS EN ISO 6946 : 2017 *Building components and building elements. Thermal resistance and thermal transmittance. Calculation methods*

EN 13501-1 : 2018 *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*

16 Conditions

16.1 This Certificate:

- relates only to the product/system 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.

16.2 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.

16.3 This Certificate will remain valid for an unlimited period provided that the product/system 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.

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

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

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

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