

Up-Way Systems

Travessa José Oliveira Mendes,
n.º 87 e n.º 103 Calendário,
4760-912 Vila Nova de Famalicão,
Portugal

Tel: 00 351 252 085 574 Fax: 00 351 252 081 644

e-mail: geral@upwaysystems.com

website: www.effisus.com



Agrément Certificate

21/5951

Product Sheet 2

EFFISUS ECOFACADE ENVELOPE SYSTEM

EFFISUS BREATHER FR MEMBRANE SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to the Effisus Breather FR Membrane System, a breather membrane for use on walls of timber-frame, steel-frame and masonry constructions, behind lightweight cladding panels and masonry facades.

(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

Weathertightness — the product is W2 and will contribute to protecting a wall against water penetration (see section 6).

Condensation — the product has a low resistance to water vapour transmission and will reduce the risk of interstitial condensation (see section 7).

Strength — the product has adequate strength to resist the loads associated with the construction of the wall (see section 8).

Properties in relation to fire — the system is classified as A2-s1,d0 in accordance with EN 13501-1 : 2007, (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: 17 February 2022

Hardy Giesler
Chief Executive Officer

The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk
Readers MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

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

British Board of Agrément

Bucknalls Lane
Watford
Herts WD25 9BA

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tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Regulations

In the opinion of the BBA, Effisus Breather FR Membrane System, 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 section 9.1 of this Certificate.
Requirement:	B4(1)	External fire spread
Comment:		The product may be unrestricted by this Requirement. See section 9 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The product will contribute to a wall satisfying this Requirement. See section 6.1 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The product can contribute to limiting the risk of interstitial condensation. See section 7.1 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part 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 <i>Installation</i> 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 9.1 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product will contribute to a wall satisfying clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.5 ⁽¹⁾⁽²⁾ of this Standard. See section 6.1 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 sections 7.1 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 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(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	28(a)	Resistance to moisture and weather
Comment:		The product will contribute to a wall satisfying this Regulation. See section 6.1 of this Certificate.
Regulation:	29	Condensation
Comment:		The product can contribute to limiting the risk of interstitial condensation. See section 7.1 of this Certificate.
Regulation:	35(4)	Internal fire spread - structure
Comment:		The product can contribute to satisfying this Regulation. See section 9.1 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 section: 1 *Description* (1.2) of this Certificate.

Additional Information

NHBC Standards 2022

In the opinion of the BBA, Effisus Breather FR Membrane System, 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*.

CE marking

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

Technical Specification

1 Description

1.1 Effisus Breather FR Membrane System is a breather membrane and is a polymer compound impregnated fibreglass fabric.

1.2 The product has the nominal characteristics of:

Thickness (mm)	0.21
Mass per unit area ($\text{g}\cdot\text{m}^{-2}$)	225
Roll length (m)	78.74
Roll width (m)	1.27
Equivalent air layer thickness — s_d (m)	0.013
Watertightness	
unaged	Class W2
aged ⁽¹⁾	Class W2

Tensile strength (N per 50 mm)	
longitudinal	2015
transverse	1725
Elongation at maximum tensile force (%)	
longitudinal	4
transverse	3
Nail tear (N)	
longitudinal	328
transverse	255
Colour	white inner/outer

(1) Aged in accordance with EN 13859-2 : 2014, Annex C.

1.3 Air and vapour control layers (AVCLs) or air leakage barriers can be used in conjunction with the product. See Product Sheet 1 of this Certificate.

1.4 Ancillary items, within the scope of the Certificate, for use with the product include:

- Effisus 2Bond DS Tape – a double-sided tape for bonding/sealing between the same material or two different materials
- Effisus 2Adjoin DF Tape – a double-sided airtight and moisture-resistant sealing tape for weathertight / airtight joints for the Effisus Membranes
- Effisus Bonding KF+P Adhesive – a solvent-free adhesive / sealant paste for bonding Effisus Membranes to conventional building substrates
- Effisus Coat NP Primer – a primer for porous surfaces
- Effisus Coat SP Primer – a primer for porous surface
- Effisus Setup PR Cleaner – a surface cleaner used prior to the application of the adhesives and primer.

2 Manufacture

2.1 The base product is manufactured by impregnating fiberglass fabric with a liquid polymer compound, drying, and winding onto spools.

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 with plastic wrappings bearing the Certificate holder's name, product name, date of production and batch number.

3.2 The rolls should be stored flat on their sides, 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 Effisus Breather FR Membrane System.

4 Use

4.1 Effisus Breather FR Membrane System is satisfactory for use as a breather membrane on walls of timber-frame, steel-frame and masonry constructions, behind close jointed lightweight cladding panels and masonry facades.

4.2 In the absence of other guidance, suitable wall constructions are defined as those designed and built in accordance with *NHBC Standards 2021*, Chapters 6.1, 6.2, 6.9 and 6.10.

4.3 The product satisfies the NHBC requirements given in *NHBC Standards 2021*, Chapter 6.2, as a breather membrane for use in severe conditions⁽¹⁾.

(1) Severe conditions are defined in *NHBC Standards 2022*, Chapter 6.1, section 6.1.6, Figure 1 Exposure zones map showing categories of exposure to wind-driven rain.

4.4 The product is breathable and will limit the risk of condensation within the wall structure.

4.5 The product can be damaged by high winds, careless handling or vandalism and should not be left exposed for longer than is absolutely necessary. Any damaged areas must be repaired or replaced before completion in accordance with section 15.

5 Practicability of installation

The product can be readily installed by operatives experienced with this type of product.

6 Weathertightness



6.1 The product is Class W2 in accordance with EN 13859-2 : 2014 and will resist liquid water penetration and wind-blown snow and will protect the sheathing and frame from external moisture in the geographical area defined as up to and including severe conditions (see section 4.3 of this Certificate).

6.2 The period prior to the installation of brickwork should be kept to a minimum. The membrane must be adequately secured during this time and suitable precautions taken during periods of high wind. Further advice can be provided by the Certificate holder.

7 Condensation



7.1 The product has a design resistance to water vapour resistance of $0.065 \text{ MN}\cdot\text{s}\cdot\text{g}^{-1}$ and is defined 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 the relevant clauses of BS 5250 : 2021.

7.2 The risk of condensation occurring within the wall of a 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 AVCL.

7.3 Convective moisture transfer into the wall construction can be reduced by installing a vapour control layer/air barrier such as Effisus Vapour FR Membrane System behind the internal lining (see Product Sheet 1 of this Certificate).

8 Strength

8.1 The product will resist the normal loads associated with construction and installation.

8.2 The product is not adversely affected by water and will retain its properties when wet.

9 Properties in relation to fire



9.1 The membrane in isolation is classified⁽¹⁾ as Class A1 in accordance with EN 13501-1 : 2019.

9.2 The system including 2Adjoin DF Tape and 2Bond DS Tape is classified⁽²⁾ as Class A2-s1, d0 in accordance with NP EN 13501-1 : 2007.

(1) Classification report 21/23931-157-2 issued by LGAI Technological Center, S.A. A copy of the report is available from the Certificate holder.

(2) Classification report LFF.2018.177 issued by INEGI Institute of Science and Innovation. A copy of the report is available from the Certificate holder.

9.3 This performance may not be achieved by other combinations of materials and these should be assessed in accordance with the requirements of the documents supporting the national Building Regulations.

9.4 Cavity barriers should be used to satisfy the requirements of the documents supporting the national Building Regulations.

10 Maintenance

As the product is confined within a wall construction and has suitable durability (see section 11), maintenance is not required. However, any damaged areas should be repaired or replaced before completion in accordance with section 14.

11 Durability



The product will have a lifetime equal to that of the building element in which it is installed.

Installation

12 General

The Effisus Breather FR Membrane System must be installed in accordance with the Certificate holder's instructions, the recommendations given in *NHBC Standards 2021*, Chapters 6.1 6.2, 6.9 and 6.10 and this Certificate.

13 Procedure

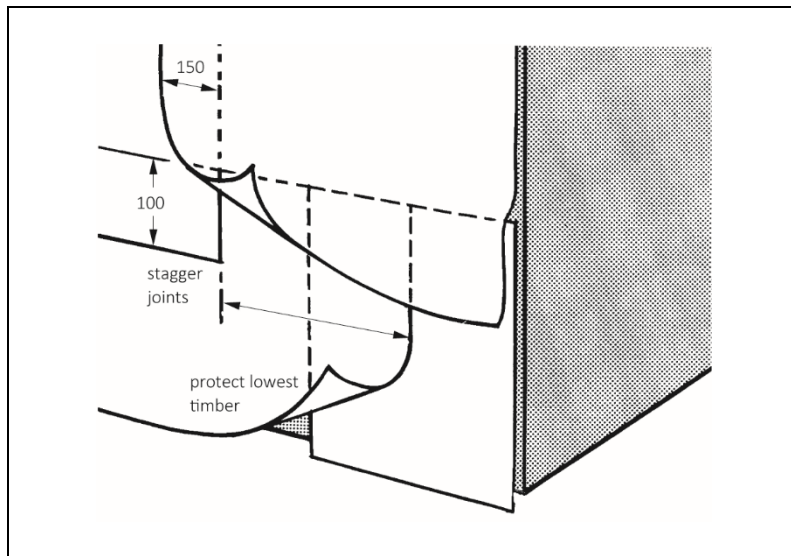
Lapping and jointing

13.1 The product should be fixed in such a way as to shed water away from the sheathing. Upper layers should be lapped over lower layers.

13.2 The weatherproofing design of the installation should be carried out in detail, and on a case-by-case basis.

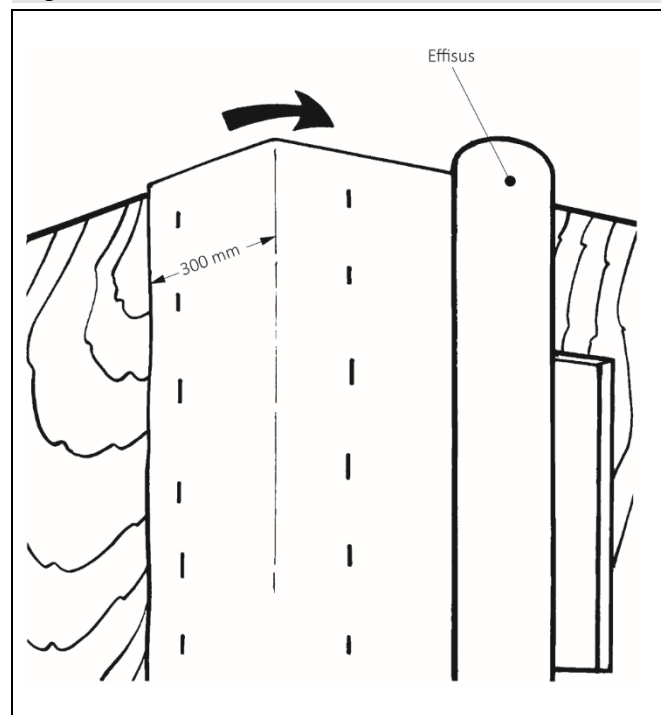
13.3 Horizontal laps should be at least 100 mm and vertical laps 150 mm. Vertical laps should be staggered wherever possible (see Figure 1).

Figure 1 Laps (dimensions in mm)



13.4 To assist in achieving the design air permeability, the lap joints and penetrations through the membrane can be sealed with Effisus 2Bond DS Tape or Effisus 2Adjoin DF Tape (see section 1.4). For detailing, all nail/screw perforations below 25 mm in diameter should be sealed with a patch (50 x 50 mm) of Effisus 2Bond DS Tape. Façade perforations with irregular shapes and above 25 mm in diameter should be studied in detail case by case.

Figure 2 Site installation — external corner



13.5 Membranes should be fixed to a rigid substrate at metal studs or sheathing board using 2Adjoin DF Tape with a maximum horizontally or vertically spacing of 500 mm.

13.6 If the Effisus Breather FR System is mechanically fixed using staples, or nails to a rigid substrate, all fixings should be corrosion resistant, and the Certificate holder should be contacted for advice.

13.7 Double-sided adhesive/sealant tape (thickness > 1.50 mm) should be applied continuously on the connections of the membrane edges/end laps to concrete, aluminium or any other substrate, always allowing for interface movement

14 Repair

Damage to the product can be repaired prior to the installation of the external walls or cladding by laying another sheet 100 mm greater than the damaged area and sealing it using either 2 beads of Effisus Bonding KF+P (diameter of 8 mm) or 2 bands of Effisus 2Bond DS Tape 25 mm width, with a distance of 25 and 50 mm from the membrane edge ensuring that water is shed away from the sheathing.

Technical Investigations

15 Tests

15.1 An assessment was made of data in relation to:

- tensile strength and elongation
- resistance to tear
- resistance to water penetration
- water vapour transmission
- reaction to fire classification.

15.2 The following tests were carried out:

- thickness and mass per unit area
- tensile strength and elongation
- resistance to water penetration
- shear strength of joints
- peel strength of joints

16 Investigations

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.

Bibliography

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

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

NP EN 13501-1 : 2007+A1 : 2013 *Fire classification of construction products and building elements; Part 1: Classification using test data from reaction to fire tests*

UNE EN 13501-1 : 2019 *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

17 Conditions

17.1 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.

17.2 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.

17.3 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.

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

17.5 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.

17.6 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.