

## Klober Ltd

Unit 6F, East Midlands Distribution Centre  
Short Lane  
Castle Donington  
Derbyshire DE74 2HA  
Tel: 01332 813051 Fax: 01332 814033  
e-mail: support@klober.co.uk  
website: www.klober.co.uk



Agrément Certificate  
**02/3958**  
Product Sheet 1

## KLOBER WALL MEMBRANES

### PERMO FRAME BREATHER MEMBRANE

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Permo Frame Breather Membrane, for use in timber-frame walls with a cavity and either a masonry outer leaf, weatherboarding or tile/slate cladding.

#### AGRÉMENT 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 will contribute to protecting a wall against water penetration (see section 5).

**Condensation risk** — the product has a low resistance to water vapour transmission and can contribute to reducing the risk of condensation (see section 6).

**Strength** — the product has adequate strength to resist damage during the construction of the wall (see section 7).

**Durability** — the product will have a life equal to that of the building in which it is installed (see section 10).

The BBA has awarded this Agrément 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

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 8 November 2011

Originally certificated on 24 September 2002

*The BBA is a UKAS accredited certification body — Number 1113. 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](http://www.bbacerts.co.uk)*

*Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.*

British Board of Agrément  
Bucknalls Lane  
Garston, Watford  
Herts WD25 9BA

tel: 01923 665300  
fax: 01923 665301  
e-mail: [mail@bba.star.co.uk](mailto:mail@bba.star.co.uk)  
website: [www.bbacerts.co.uk](http://www.bbacerts.co.uk)

©2011

# Regulations

In the opinion of the BBA, Permo Frame Breather Membrane, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



## The Building Regulations 2010 (England and Wales)

Requirement:	C2(b)	Resistance to moisture
Comment:		The product will contribute to a wall meeting this Requirement. See section 5.1 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The product can contribute to limiting the risk of condensation. See section 6.1 of this Certificate
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 10.2 and the <i>Installation</i> part of this Certificate.



## The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The use of the product satisfies the requirements of this Regulation. See section 10.2 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.10	Precipitation
Comment:		The product will contribute to a wall satisfying clauses 3.10.1 <sup>(1)(2)</sup> and 3.10.5 <sup>(1)(2)</sup> of this Standard. See section 5.1 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can contribute to limiting the risk of condensation, with reference to clauses 3.15.1 <sup>(1)(2)</sup> and 3.15.4 <sup>(1)(2)</sup> of this Standard. See section 6.1 of this Certificate.
Standard:	7.1(a)	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 – conversions
Comment:		Comments made in relation to this product under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



## The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 10.2 and the <i>Installation</i> part of this Certificate.
Regulation:	C4(b)	Resistance to ground moisture and weather
Comment:		The product will contribute to a wall satisfying this Regulation. See section 5.1 of this Certificate.
Regulation:	C5	Condensation
Comment:		The product can contribute to limiting the risk of condensation. See section 6.1 of this Certificate.

## Construction (Design and Management) Regulations 2007

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 1 *Description* (1.2) of this Certificate.

# Additional Information

## NHBC Standards 2011

NHBC accepts the use of Permo Frame Breather Membrane, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.2 *External timber framed walls*.

# General

The product is manufactured in South Africa by Spunchem Africa (Pty) Ltd.

# Technical Specification

## 1 Description

1.1 Permo Frame Breather Membrane is a single ply, spunbond, polypropylene membrane (100 g·m<sup>-2</sup>). The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (units)	Value	
Roll width (m)	1.5	2.7 and 3.0
Roll length (m)	50	100
Roll weight (kg)	7.5	27 and 30
Colour	charcoal	charcoal, blue, red, green

1.2 Klobber Tacto Tape, a double-sided adhesive tape, and Permo TR, a single-sided tape, are for use in sealing lap joints in the breather membrane.

1.3 Quality control checks are carried out on the incoming materials, during production and on the finished products.

## 2 Delivery and site handling

2.1 Rolls are delivered to site wrapped in polythene with a white label bearing the company name and product name. A label bearing the BBA identification mark incorporating the number of this Certificate is applied to the outer polythene wrapper.

2.2 Rolls should be stored on their side, on a smooth, clean 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 Permo Frame Breather Membrane.

## Design Considerations

### 3 General

3.1 Permo Frame Breather Membrane is satisfactory for use as on-site or factory-applied breather membrane in timber-frame walls with a cavity and either a masonry outer leaf, weatherboarding or tile/slate cladding.

3.2 In the absence of other guidance, suitable timber frame constructions are defined as those designed and built in accordance with *NHBC Standards*, Chapter 6.2 *External timber-framed walls*.

3.3 The product meets the NHBC requirements for minimum water penetration resistance and minimum tear resistance in any direction when dry or wet, for sites defined as standard exposure.

### 4 Practicability of installation

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

### 5 Weathertightness



5.1 The product resists liquid water penetration and wind-blown snow and will protect the sheathing and frame from external moisture.

5.2 The period prior to the installation of the brickwork or cladding should be kept to a minimum. The membranes should not be used as a temporary waterproof covering during this time.

### 6 Condensation risk



6.1 For design purposes, the product has a resistance to water vapour transmission of less than or equal to 0.6 MN·s·g<sup>-1</sup> and is classified as breather membrane in accordance with BS 5250 : 2002. Walls incorporating the product will therefore adequately limit the risk of interstitial condensation when designed and constructed in accordance with BS 5250 : 2002, Section 8.3 and Appendix D.

6.2 The risk of condensation occurring within the wall of a timber-frame building will depend on the properties and vapour resistance of other materials used in the construction, the internal and external conditions, and the effectiveness of the internal vapour check.

### 7 Strength

7.1 The product will resist the loads associated with construction and installation of timber frame constructions.

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

## 8 Properties in relation to fire

8.1 The product has similar properties in relation to fire to other polyolefin membranes, tending to burn and shrink away from a heat source. The product is therefore unclassifiable in terms of the Building Regulations. This should be considered when assessing the overall fire risk.

8.2 Cavity barriers should be used to satisfy the requirements of the national Building Regulations.

## 9 Maintenance

As the product is enclosed once installed and has suitable durability, there are no maintenance requirements. However, it must be ensured that damage occurring before enclosure is repaired (see section 13).

## 10 Durability

10.1 The membrane can be damaged by high winds, prolonged exposure to UV, careless handling or by vandalism and must be covered as soon as possible on completion of installation. Any damaged areas should be repaired or replaced before completion in accordance with section 13.



10.2 The membrane will be unaffected by the normal conditions found in timber frame walls and will have a life equal to that of the building in which it is installed.

## Installation

### 11 General

11.1 Permo Frame Breather Membrane must be installed in accordance with the Certificate holder's instructions and the recommendations given in *NHBC Standards*, Section 6.2, where appropriate.

11.2 The membrane can be fixed directly over insulation and boarding materials.

### 12 Procedure

#### Lapping and jointing

12.1 The membrane should be fixed in such a way as to shed water away from the sheathing, and below the lowest timber member. Upper layers should be lapped over lower layers.

12.2 Horizontal laps should be at least 100 mm and vertical laps 150 mm. Vertical laps should be staggered a minimum of 300 mm. All laps should be taped and sealed using either Klobber Tacto Tape or Permo TR tape.

12.3 The membrane should be taken a minimum of 300 mm around external corners.

12.4 The membrane is secured into the supporting timber stud sections within the panels using nails or staples at 500 mm centres or less, to prevent wind damage to the membrane during the construction process.

12.5 Nails should be large, flat headed and either galvanized, sherardized, austenitic stainless steel, phosphor bronze or silicon bronze. Staples should be austenitic stainless steel or other material of similar strength and corrosion resistance.

12.6 The positions of studs should be marked to enable the placement of wall ties and cladding fixings.

12.7 The membrane should extend at least 50 mm below the lowest timbers in the wall.

### 13 Repair

The membrane can be damaged by high winds, careless handling or by vandalism. Damage to the membrane can be repaired prior to the installation of external walls or claddings by laying another sheet over the damaged area and sealing it correctly using Permo TR tape, ensuring water is shed away from the sheathing.

## Technical Investigations

### 14 Tests

Tests were carried out on Permo Frame Breather Membrane and the results assessed to determine:

- weight per unit area to EN 1849-1 : 1999
- tensile strength and elongation to EN 12311-1 : 2000 on control samples and on samples after joint heat/UVA ageing, after water immersion for 24 hours at 23°C, and after water soak for 56 days at 23°C
- tear resistance to EN 12310-1 : 1999
- water vapour transmission to BS 3177 : 1959
- hydrostatic head to EN 20811 : 1992
- Mullen burst strength to BS 3137 : 1972
- Eosin test to BS 4016 : 1997 on controls and after joint heat/UVA ageing
- resistance to water spray.

## 15 Investigations

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

### Bibliography

BS 3137 : 1972 *Methods for determining the bursting strength of paper and board*

BS 3177 : 1959 *Method for determining the permeability to water vapour of flexible sheet materials used for packaging*

BS 4016 : 1997 *Specification for flexible building membranes (breather type)*

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

BS EN 20811 : 1992 *Textiles — Determination of resistance to water penetration — Hydrostatic pressure test*

EN 12310-1 : 1999 *Flexible sheets for waterproofing — Determination of resistance to tearing (nail shank) — Bitumen sheets for roof waterproofing*

EN 12311-1 : 2000 *Flexible sheets for waterproofing — Determination of tensile properties — Bitumen sheets for roof waterproofing*

EN 1849-1 : 1999 *Flexible sheets for waterproofing — Determination of thickness and mass per unit area — Bitumen sheets for roof waterproofing*

## 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
- individual 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.

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.