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Agrément Certificate

89/2313

Product Sheet 1

DALTEX BREATHER MEMBRANE

DALTEX FRAMESHIELD 100

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Daltex Frameshield 100, for use as a breather membrane in timber-frame walls with a cavity and conventional masonry, weatherboarding, tile or 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).

Risk of condensation — the product has a low resistance to water vapour transmission and will reduce the risk of interstitial condensation (see section 6).

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

Durability — the product will have a service life comparable to other similar elements of construction, eg vapour control layers (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 Fourth issue: 13 May 2009

Originally certified on 14 November 1989

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 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.

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Regulations

In the opinion of the BBA, Daltex Frameshield 100, 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 2000 (as amended) (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 a wall meeting this Requirement with respect to interstitial condensation. See sections 6.1 and 6.2 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is an acceptable material. See section 10 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 this Regulation. See sections 9 and 10 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 ⁽¹⁾⁽²⁾ and 3.10.5 ⁽¹⁾⁽²⁾ of this Standard. See section 5.1 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can contribute to a wall satisfying clauses 3.15.1 ⁽¹⁾ and 3.15.5 ⁽¹⁾ of this Standard. See sections 6.1 and 6.2 of this Certificate.
Regulation:	12	Building standards — conversions
Comment:		All comments given for this product under Regulation 9, 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) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is an acceptable material. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The product does not normally require maintenance. See section 9 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 a wall satisfying this Regulation. See sections 6.1 and 6.2 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).

Non-regulatory Information

NHBC Standards 2008

NHBC accepts the use of Daltex Frameshield 100, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.2 *External timber framed walls*.

Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, Daltex Frameshield 100, when installed and used in accordance with this Certificate, satisfies the requirements of the *Zurich Building Guarantee Technical Manual*, Section 4 *Superstructure*, Sub-section *External walls — timber frame*.

General

This Certificate relates to Daltex Frameshield⁽¹⁾ 100, for use as a factory- or site-applied breather membrane in timber-frame walls with a cavity and conventional masonry, weatherboarding, tile or slate cladding.

The product is marketed by A. Proctor Group, The Haugh, Blairgowrie, Perthshire PH10 7ER; Tel: 01250 872261; Fax: 01250 872727; e-mail: insulation@proctorgroup.com; website: www.proctorgroup.com

(1) Daltex Frameshield is a registered trademark of Don & Low Limited (Nonwovens).

Technical Specification

1 Description

1.1 Daltex Frameshield 100 is manufactured by extruding polypropylene to produce fibres. The fibres are spun and bonded together using a combination of heat and pressure in a continuous process.

1.2 The product has the nominal characteristics of:

Thickness (mm)	0.5
Weight per unit area (gm ⁻²)	100
Standard roll length (m)	100
Roll width (m)	1.5 to 3.0
Standard roll weight (kg)	15 to 30
Pigment ⁽¹⁾	grey

(1) Other roll sizes and pigments are available to order.

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

- weight
- water penetration
- tear strength
- tensile strength and elongation.

2 Delivery and site handling

2.1 Rolls are delivered to site in polythene wrappers bearing the manufacturer's name, the grade identification and the BBA identification mark including the number of this Certificate.

2.2 The rolls should be stored flat or on end on a clean, level 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 Daltex Frameshield 100.

Design Considerations

3 Use

3.1 Daltex Frameshield 100 is satisfactory for use as a factory- or site-applied breather membrane in timber-frame constructions.

3.2 In the absence of other guidance, suitable timber-frame constructions are defined as those designed and built in accordance with *NHBC Standards 2008*, Chapter 6.2.

3.3 The product meets the requirements for a Type 1 material as defined in BS 4016 : 1972 and is suitable for use in constructions designed for use in very severe conditions as defined in the *NHBC Standards 2008*, Appendix 6.1-A. See also *NHBC Standards 2008*, Chapter 6.2, Clause M5.

4 Practicability of installation

Installation can be carried out readily by operatives experienced with this type of product.

5 Weathertightness



5.1 The product resists liquid water penetration, wind-blown snow and will protect the sheathing and frame from external moisture (see section 14, Table for *Physical properties — general*).

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

6 Risk of condensation



6.1 The product has a design resistance to water vapour transmission of less than or equal to 0.6 m MNsg^{-1} and is defined as a 'breather membrane' in accordance with BS 5250 : 2002. Therefore, it will contribute toward minimising the risk of interstitial condensation in suitably designed walls (see section 14, Table for *Physical properties — directional*).

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

7 Strength

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

7.2 The product is not adversely affected by water and will retain its properties when wet (see section 14, Table for *Physical properties — directional*).

8 Properties in relation to fire

8.1 The product will have similar properties to polyolefin membranes in relation to fire, tending to burn and shrink away from the heat source. The product is unclassifiable in terms of the Building Regulations and 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 confined to the wall space and it has suitable durability (see section 10), maintenance is not required. However, it must be ensured that damage occurring before enclosure is repaired (see section 14).

10 Durability



The product will be virtually unaffected by the normal conditions found in a timber-frame wall and will have a life comparable with other similar elements of construction, eg vapour control layers.

Installation

11 General

Daltex Frameshield 100 must be installed in accordance with the marketing company's instructions and the recommendations given in *NHBC Standards 2008*, Chapter 6.2, *External timber framed walls*.

12 Procedure

12.1 The product must be secured at regular intervals not exceeding 500 mm with austenitic stainless steel staples or nails to prevent damage by wind action.

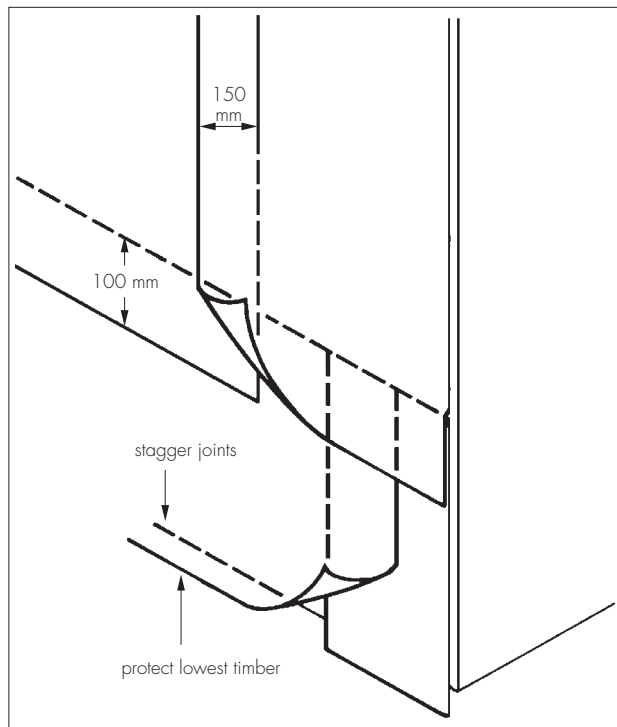
12.2 Upper layers should overlap lower layers to shed water away from the sheathing. Vertical laps should be staggered wherever possible (see Figure 1).

12.3 Laps should not be more than:

- horizontal — 100 mm
- vertical — 150 mm.

12.4 In accordance with *NHBC Standards 2008*, Chapter 6.2, it is essential that the lowest timbers are protected from moisture and that the positions of the studs are marked to facilitate wall tie fixings.

Figure 1 Membrane installation



13 Repair

The product may be damaged by careless handling, high winds or vandalism, and should not remain uncovered for longer than is necessary. Damage to the membrane can be repaired prior to the installation of the external walls or claddings by laying another sheet over the damaged area and sealing it correctly ensuring water is shed away from the sheathing.

Technical Investigations

14 Tests

The nominal characteristics of Daltex Frameshield 100 are given in section 1.2. The results of the confirmatory tests carried out by, or on behalf of, the BBA are summarised in Tables 1 and 2.

Table 1 *Physical properties — directional*

Test (units)	Mean result	Method ⁽¹⁾
Tensile strength (Nmm ⁻²)		BS 2782.3-320A
unaged		speed 500 mm (min) ⁻¹
longitudinal	7.5	
transverse	5.4	
heat aged ⁽²⁾		
longitudinal	7.8	
transverse	5.8	
UV aged ⁽³⁾		
longitudinal	7.9	
transverse	5.2	
wet strength ⁽⁴⁾		
longitudinal	6.9	
transverse	5.2	
water soak ⁽⁵⁾		
longitudinal	8.2	
transverse	5.8	
Elongation at break (%)		BS 2782.3-320A
unaged		speed 500 mm (min) ⁻¹
longitudinal	81	
transverse	96	
heat aged ⁽²⁾		
longitudinal	64	
transverse	72	
UV aged ⁽³⁾		
longitudinal	82	
transverse	90	
wet strength ⁽⁴⁾		
longitudinal	78	
transverse	85	
water soak ⁽⁵⁾		
longitudinal	81	
transverse	105	
Tear resistance (nail) (N)		MOAT 27 : 5.4
unaged		speed 500 mm (min) ⁻¹
longitudinal	115	
transverse	126	
Resistance to tear propagation (trouser tear) (Nmm ⁻¹)		BS 2782.3-360B
unaged		speed 500 mm (min) ⁻¹
longitudinal	88	
transverse	77	
heat aged ⁽²⁾		
longitudinal	63	
transverse	89	
water soak ⁽⁵⁾		
longitudinal	80	
transverse	81	

(1) The test documents are detailed in the *Bibliography*. Numbers in the table refer to sections/parts of the various documents.

(2) Heat aged for 56 days at 60°C.

(3) UV aged for 100 hours.

(4) Water soak for 24 hours at 20°C.

(5) Water soak for 56 days at 60°C.

Table 2 *Physical properties — general*

Test (units)	Mean result	Method ⁽¹⁾
Water vapour permeability at 25°C/75% RH (gm ⁻² day ⁻¹)	2 600	BS 3177
Water vapour resistance (MNsg ⁻¹)	0.1	BS 3177
Dimensional stability (%)	no measurable movement	MOAT 27 : 5.6.1.1
Spray test	no leakage	<i>ad hoc</i>
Resistance to water penetration (Eosin test)	pass	BS 4016
Mullen burst strength (kNm ⁻²)	514	BS 3137
Water pressure	leakage occurred at 100 mm height	MOAT 27 : 5.1.4.2 (modified)

(1) The test documents are detailed in the *Bibliography*. Numbers in the table refer to sections/parts of the various documents.

15 Investigations

15.1 The manufacturing process was assessed, including the method adopted for quality control, and details were obtained of the quality and composition of the materials used.

15.2 Visits were made to sites in progress to assess the practicability of installation.

15.3 An examination was made of independent fire test data from a UKAS approved testing authority.

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 2782-3.320A to 320F : 1976 *Methods of testing plastics — Mechanical properties — Tensile strength, elongation and elastic modulus*

BS 2782-3.360B : 1991 *Methods of testing plastics — Mechanical properties — Determination of tear resistance of plastics film and sheeting by the trouser tear method*

BS 4016 : 1972 *Specification for building papers (breather type)*

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

MOAT No 27 : 1983 *General Directive for the Assessment of Roof Waterproofing Systems*

16 Conditions

16.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- 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 and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

16.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant 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 In granting this Certificate, the BBA is not responsible for:

- 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 the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

16.5 Any information relating to the manufacture, supply, installation, use and maintenance 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 and maintained. It does not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date 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. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the manufacture, supply, installation, use and maintenance of this product/system.