

## Don & Low Ltd Nonwovens

Glamis Road  
Forfar  
Angus DD8 1EY  
Tel: 01307 452600 Fax: 01307 452610  
e-mail: nonwovens@donlow.co.uk  
website: www.donlow.com



Agrément Certificate  
**03/4003**  
Product Sheet 3

### BREATHABLE DALTEX ROOFTX MEMBRANES

### FOR USE IN TIMBER-FRAME CONSTRUCTIONS

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Breathable Daltex RoofTX Membranes, 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 products will contribute to protecting a wall against water penetration (see section 5).

**Risk of condensation** — the products have low resistance to water vapour transmission and can contribute to reducing the risk of interstitial condensation (see section 6).

**Strength** — the products have adequate strength to resist damage during the construction of walls (see section 7).

**Durability** — the products 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 products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Stuart Sadler  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of Second issue: 8 April 2011

Originally certified on 9 October 2009

*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, Breathable Daltex RoofTX Membranes, 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 products will contribute to a wall meeting this Requirement. See section 5.1 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The products can contribute to limiting the risk of condensation. See section 6.1 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.



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

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The use of the products satisfies this Regulation. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.10	Precipitation
Comment:		The products 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 products can contribute to limiting the risk of condensation with reference to clauses 3.15.1 <sup>(1)</sup> and 3.15.4 <sup>(1)</sup> of this Standard. See section 6.1 of this Certificate.
Regulation:	12	Building standards – conversions
Comment:		All comments given for these products under Regulation 9, 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 products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	C4(b)	Resistance to ground moisture and weather
Comment:		The products will contribute to a wall satisfying this Regulation. See section 5.1 of this Certificate.
Regulation:	C5	Condensation
Comment:		The products 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.

## Non-regulatory Information

### NHBC Standards 2011

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

## General

Daltex RoofTX is a registered trademark of Don & Low Ltd Nonwovens.

# Technical Specification

## 1 Description

1.1 Breathable Daltex RoofTX Membranes are composite structures, manufactured via lamination of a water vapour permeable film between two layers of nonwoven polypropylene spunbond, to form a flexible, vapour permeable, roof tile underlay for unsupported and fully supported specifications.

1.2 The products have the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (units)	Daltex RoofTX Optima <sup>(1)</sup>	Daltex RoofTX Ultra <sup>(1)</sup>	Daltex RoofTX	Daltex RoofTX Maxi <sup>(2)</sup>	Daltex RoofTX Extra <sup>(2)</sup>
Thickness (mm)	0.35	0.40	0.50	0.60	0.75
Weight per unit area (g·m <sup>-2</sup> )	92	112	125	165	208
Roll length (m)	50	50	50	50	50
Roll width (m)	1.0/1.5	1.0/1.5	1.0/1.5	1.0/1.5	1.0/1.5
Roll weight (kg)					
minimum	5	6	7	9	11
maximum	7	9	10	13	16
Colour					
upper	various	various	various	various	various
lower	various	various	various	various	various

(1) Subject of BBA Certificate 06/4334, Product Sheet 3.

(2) Subject of BBA Certificate 05/4209, Product Sheet 3.

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 individually wrapped in polythene. A technical leaflet bearing the product name is included with each roll and the BBA identification mark including the number of this Certificate is shown on the leaflet.

2.2 The rolls should be stored flat or on end, 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 Breathable Daltex RoofTX Membranes.

## Design Considerations

### 3 Use

3.1 Breathable Daltex RoofTX Membranes are satisfactory for use as on-site or factory-applied breather membranes 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 walls are defined as those designed and built in accordance with *NHBC Standards*, Chapter 6.2. *External timber framed walls*.

3.3 The products meet the requirements for a Class W1 material in accordance with BS EN 13859-2 : 2004 and meet the NHBC requirements given in *NHBC Standards*, Chapter 6.2, Clause M5 as a high-performance breather membrane for use in very severe conditions<sup>(1)</sup>.

(1) Very severe conditions are defined in the *NHBC Standards* 2011, Appendix 6.1A – Map showing categories of exposure to wind-driven rain.

### 4 Practicability of installation

The products can be installed by a competent general builder, or a contractor, experienced with this type of product.

### 5 Weathertightness



5.1 The products resist liquid water penetration, wind-blown snow and will protect the sheathing and frame from external moisture.

5.2 The products can be used as temporary weather protection during construction, prior to the completion of external brickwork or claddings. The period of such use, however, should be kept to a minimum. Advice should be sought from the Certificate holder.

## 6 Risk of condensation



6.1 For design purposes, the products have a resistance to water vapour transmission of less than or equal to  $0.6 \text{ MN}\cdot\text{s}\cdot\text{g}^{-1}$  and are classified as breather membranes 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 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 products will resist the normal loads associated with construction and installation of timber-frame constructions.

7.2 The products are not adversely affected by water and will retain their mechanical properties when wet.

## 8 Properties in relation to fire

8.1 The products will have similar properties to polyolefin membranes in relation to fire, tending to burn and shrink away from the heat source. The products are unclassifiable in terms of the Building Regulations and this should be considered when assessing the overall fire risk.

8.2 The products achieve a Class D classification in accordance with BS EN 13501-1 : 2002.

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

## 9 Maintenance

As the products are confined to the wall space and have suitable durability, maintenance is not required. However, it must be ensured that damage occurring before enclosure is repaired (see section 13).

## 10 Durability



The products 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

Breathable Daltex RoofTX Membranes must be installed in accordance with the Certificate holder's instructions, and the recommendations given in *NHBC Standards*, Chapter 6.2 *External timber-framed walls* where appropriate.

## 12 Procedure

12.1 The products 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

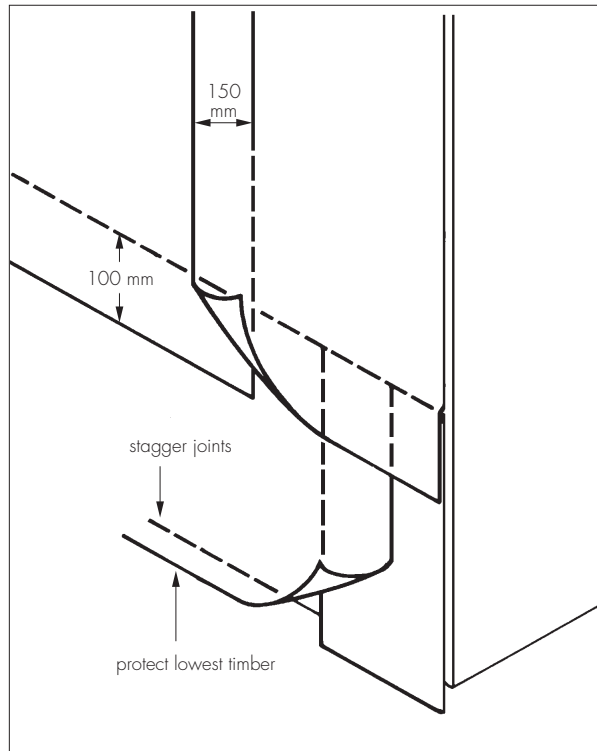
12.4 It is essential that the positions of studs are marked on the face of the breather membranes, usually by tape, to enable fixing of wall ties or battens.

12.5 It is essential that lowest timbers in the wall are protected by the breather membrane.

## 13 Repair

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

Figure 1 Membrane installation



## Technical Investigations

### 14 Tests

Samples of Breathable Daltex RoofTX Membranes were obtained from the Certificate holder for testing. The results of the tests carried out by, or on behalf of, the BBA are summarised in Tables 2 and 3.

Table 2 Physical properties — directional

Test (units)	Mean result					Method
	Daltex RoofTX Optima	Daltex RoofTX Ultra	Daltex RoofTX	Daltex RoofTX Maxi	Daltex RoofTX Extra	
Tensile strength (N per 50 mm)						BS EN 12311-1
unaged						
longitudinal	261	268	270	318	490	
transverse	134	138	150	189	310	
aged <sup>(1)</sup>						
longitudinal	197	205	200	286	415	
transverse	102	108	115	166	319	
Elongation at break (%)						BS EN 12311-1
unaged						
longitudinal	73	54	43	31	15	
transverse	86	62	57	43	13	
aged <sup>(1)</sup>						
longitudinal	34	30	26	22	14	
transverse	43	37	36	28	12	
Tear resistance (nail) (N)						BS EN 12310-1
unaged						
longitudinal	109	126	152	324	405	
transverse	63	93	196	211	315	

(1) UVA aged for 336 hrs at 50°C/heat aged for 90 days at 70±2°C.

Table 3 Physical properties — general

Test (units)	Mean result					Method
	Daltex RoofTX Optima	Daltex RoofTX Ultra	Daltex RoofTX	Daltex RoofTX Maxi	Daltex RoofTX Extra	
Mullen burst strength (kN·m <sup>-2</sup> )	438	438	459	–	–	BS 3137
Water vapour transmission (g·m <sup>-2</sup> ·day <sup>-1</sup> ) (25°C/75% RH)	1155	1367	1388	1387	1007	BS 3177
Vapour resistance (MN·s·g <sup>-1</sup> )	0.20	0.15	0.15	0.15	0.18	BS 3177
Low temperature flexibility (°C)	–	–	–40	–40	–40	EN 1109
Dimensional stability (%)						EN 1107-2
longitudinal	–1.27	–0.95	–	0.00	–0.42	
transverse	0.00	–0.22	–	0.00	–0.18	
Hydrostatic head (cm)	598	540	–	589	–	BS EN 20811
Resistance to water penetration						BS EN 1928 <sup>(2)</sup>
unaged	W1	W1	W1	W1	W1	
aged <sup>(3)</sup>	W1	W1	W1	W1	W1	

(1) As modified in accordance with BS EN 13859-1 : 2005.

(2) UVA aged for 336 hrs at 50°C/heat aged for 90 days at 70±2°C.

## 15 Investigations

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.

## 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 5250 : 2002 *Code of practice for control of condensation in buildings*
- BS EN 1928 : 2000 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of watertightness*
- BS EN 13501-1 : 2002 *Fire classification of construction products and building elements. Classification using test data from reaction to fire tests*
- BS EN 13859-1 : 2005 *Flexible sheets for waterproofing — Definitions and characteristics of underlays — Underlays for discontinuous roofing*
- BS EN 13859-2 : 2004 *Flexible sheets for waterproofing — Definitions and characteristics of underlays — Underlays for walls*
- 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 20811 : 1992 *Textiles — Determination of resistance to water penetration — Hydrostatic pressure test*
- EN 1107-2 : 2001 *Flexible sheets for waterproofing — Determination of dimensional stability — Plastic and rubber sheet for roof waterproofing*
- EN 1109 : 1999 *Flexible sheets for waterproofing — Bitumen sheets for roof waterproofing — Determination of flexibility at low temperature*

## 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.