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Agrément Certificate
03/4003
Product Sheet 3

DON & LOW ROOF TILE UNDERLAYS

BREATHABLE DALTEX ROOFTX FOR USE IN TIMBER FRAME CONSTRUCTION

This Agrément Certificate Product Sheet(1) relates to Breathable Daltex RoofTX(2) membranes, for use in timber-frame walls with a cavity and a masonry outer leaf, weatherboarding or tile/slate cladding.

(1) Hereinafter referred to as 'Certificate'.
(2) Daltex and RoofTX are registered trademarks of Don & Low Limited.

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 6).

Risk of condensation — the products have low resistance to water vapour transmission and can contribute to reducing the risk of interstitial condensation (see section 7).

Strength — the products have adequate strength to resist damage during the construction of walls (see section 8).

Durability — the products will have a life equal to that of the building in which they are installed (see section 11).

The BBA has awarded this 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

Date of Fourth issue: 18 March 2016

Originally certificated on 9 October 2009

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

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, Breathable Daltex RoofTX for use in Timber Frame Construction, 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: **C2(b)** **Resistance to moisture**
Comment: The products will contribute to a wall meeting this Requirement. See section 6.1 of this Certificate.

Requirement: **C2(c)** **Resistance to moisture**
Comment: The products can contribute to limiting the risk of condensation. See section 7.1 of this Certificate.

Regulation: **7** **Materials and workmanship**
Comment: The products are acceptable. See section 11 and the *Installation* part of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation: **8(1)** **Durability, workmanship and fitness of materials**
Comment: The use of the products satisfies this Regulation. See section 11 and the *Installation* part of this Certificate.

Regulation: **9** **Building standards applicable to construction**
Standard: 3.10 Precipitation
Comment: The products will contribute to a wall satisfying clauses 3.10.1[(1)(2)] and 3.10.8[(1)(2)] of this Standard. See section 6.1 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[(1)] and 3.15.4[(1)] of this Standard. See section 7.1 of this Certificate.

Standard: 7.1(a) Statement of sustainability
Comment: The products 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 products 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)(iii)(b)(i)** **Fitness of materials and workmanship**
Comment: The products are acceptable. See section 11 and the *Installation* part of this Certificate.

Regulation: **28** **Resistance to moisture and weather**
Comment: The products will contribute to a wall satisfying this Regulation. See section 6.1 of this Certificate.

Regulation: **29** **Condensation**
Comment: The products can contribute to limiting the risk of condensation. See section 7.1 of this Certificate.

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2007

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

See sections: 1 *Description* of this Certificate.

Additional Information

NHBC Standards 2016

NHBC accepts the use of Breathable Daltex RoofTX for use in Timber Frame Construction, provided they are installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.2 *External timber framed walls.*

CE marking

The Certificate holder has taken the responsibility of CE marking the products in accordance with harmonised European Standard BS EN 13859-2 : 2014. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

Breathable Daltex RoofTX for use in Timber Frame Construction are composite structures, comprising water vapour permeable film and two layers of nonwoven polypropylene fabrics. The products have the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	RoofTX Optima	RoofTX Prime	RoofTX Ultra	RoofTX	RoofTX Maxi	RoofTX Extra
Thickness (mm)	0.35	0.40	0.40	0.50	0.60	0.75
Mass per unit area* ($g \cdot m^{-2}$)	92	102	112	125	170	208
Roll length* (m)	50	50	50	50	50	50
Roll width* (m)	1.0/1.5(1)	1.0/1.5(1)	1.0/1.5(1)	1.0/1.5(1)	1.0/1.5(1)	1.0/1.5(1)
Colour						
upper	various	various	various	various	various	various
lower	various	various	various	various	various	various
Tensile strength* ($N \cdot 50\ mm^{-1}$)						
longitudinal	230	250	260	285	400	470
transverse	125	140	150	165	260	300
Elongation* (%)						
longitudinal	65	60	80	70	90	20
transverse	70	70	90	90	110	15
Tear resistance* (N)						
longitudinal	75	100	105	125	190	300
transverse	80	95	100	120	190	290
Resistance to penetration of air ($m^3/m^2 \cdot h^{-1} \cdot 50\ Pa^{-1}$)	0.01	0.01	0.01	0.01	0.01	0.01
Watertightness*						
unaged	W1	W1	W1	W1	W1	W1
aged(2)	W1	W1	W1	W1	W1	W1
Water vapour transmission* (S_d) (m)	0.029	0.029	0.029	0.029	0.029	0.029
Vapour resistance ($MN \cdot s \cdot g^{-1}$)	0.145	0.145	0.145	0.145	0.145	0.145

(1) Other widths are available.
(2) Aged in accordance with BS EN 13859-2 : 2014, Annex C.

2 Manufacture

2.1 The membranes are manufactured by lamination of a water vapour permeable film between two layers of non-woven polypropylene spunbonded to form a flexible, vapour permeable membrane.

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 being operated by the manufacturer are being maintained.

2.3 The management system of Don & Low Ltd Nonwovens has been assessed an registered as meeting the requirements of BS EN ISO 9001 : 2008 by BSI (Certificate FM 45536).

3 Delivery and site handling

3.1 Rolls are delivered to site individually wrapped in polythene. A technical leaflet bearing the product name is included with each roll and the BBA logo, including the number of this Certificate, is shown on the leaflet.

3.2 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 for use in Timber Frame Construction.

Design Considerations

4 Use

4.1 Breathable Daltex RoofTX for use in Timber Frame Construction are satisfactory for use as on-site or factory-applied breather membranes in timber-frame walls with a cavity and a masonry outer leaf, weatherboarding or tile/slate cladding.

4.2 In the absence of other guidance, suitable timber-frame walls are defined as those designed and built in accordance with *NHBC Standards* 2016, Chapter 6.2 *External timber framed walls.*

4.3 The products meet the requirements for a Class W1 material in accordance with BS EN 13859-2 : 2014 and meet the NHBC requirements given in *NHBC Standards* 2016, Chapter 6.2, as a high-performance breather membrane for use in very severe conditions[(1)].

(1) Very severe conditions are defined in the *NHBC Standards* 2016, Chapter 6.1, Clause 6.1.6 *Exposure* — see map showing categories of exposure to wind-driven rain.

5 Practicability of installation

The products are designed to be installed by a competent builder experienced with this type of product.

6 Weathertightness

6.1 The products are classified as Class W1* in accordance with BS EN 13859-2 : 2014. The products will resist liquid water penetration and wind-blown snow, and will protect the sheathing from external moisture.

6.2 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.

7 Risk of condensation

7.1 For design purposes, the products have a resistance to water vapour transmission of less than or equal to 0.6 $MN \cdot s \cdot g^{-1}$ and are classified as breather membranes in accordance with BS 5250 : 2011. Walls incorporating the products will therefore adequately limit the risk of interstitial condensation when designed and constructed in accordance with BS 5250 : 2011, Annex G.

7.2 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.

8 Strength

8.1 The products will resist the normal loads associated with construction and installation of timber-frame constructions.

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

9 Properties in relation to fire

9.1 When tested to EN ISO 11925-2 : 2002, RoofTX Optima, RoofTX Ultra, RoofTX, RoofTX Maxi and RoofTX Prime achieved a Class D, d2* classification and RoofTX Extra achieved a D* classification in accordance with BS EN 13501-1 : 2002.

9.2 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.

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

10 Maintenance

As the products are confined within the wall space and have suitable durability, maintenance is not required. However, any damage occurring before enclosure must be repaired (see section 15).

11 Durability

The products will be virtually unaffected by the normal conditions found in timber-frame walls and will have a life equal to that of the building in which they are installed.

12 Reuse and recyclability

The products contain polyolefins, which can be recycled.

Installation

13 General

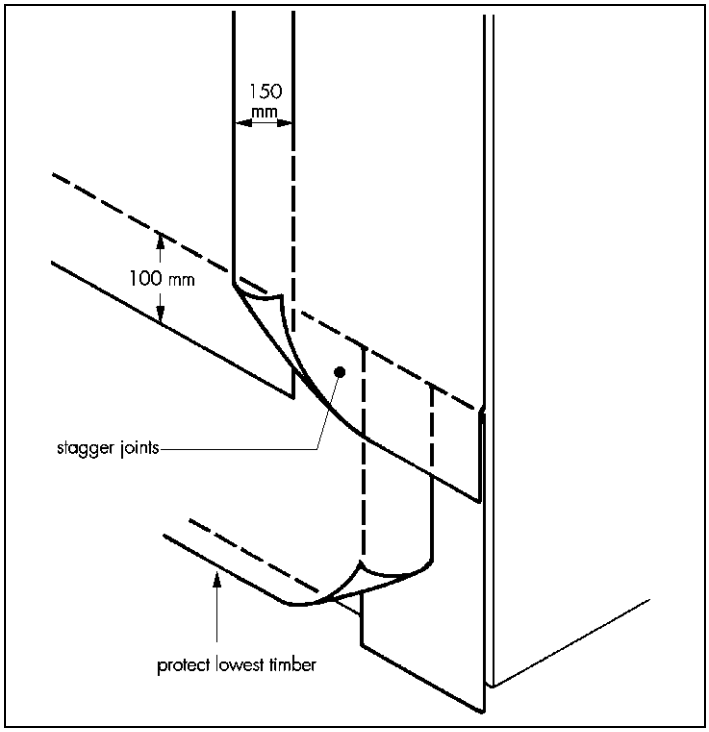
Breathable Daltex RoofTX for use in Timber Frame Construction must be installed in accordance with the Certificate holder's instructions and the recommendations given in *NHBC Standards,* Chapter 6.2 *External timber framed walls,* where appropriate.

14 Procedure

14.1 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.

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

Figure 1 Membrane installation



14.3 Horizontal laps should not be more than 100 mm and vertical laps not more than 150 mm.

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

14.5 It is essential that the lowest timbers in the wall are protected by the breather membranes.

15 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 areas and sealing it correctly, ensuring that water is shed away from the sheathing.

Technical Investigations

16 Tests

An assessment was made of data to BS EN 13859-2 : 2014 in relation to:

- dimensions
- mass per unit area
- tensile strength and elongation
- resistance to tear
- dimensional stability
- resistance to water penetration
- resistance to artificial ageing

- resistance to penetration of air.

17 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 : 2011 *Code of practice for control of condensation in buildings*
BS EN 13501-1 : 2002 *Fire classification of construction products and building elements. Classification using test data from reaction to fire tests*
BS EN 13859-2 : 2014 *Flexible sheets for waterproofing — Definitions and characteristics of underlays — Underlays for walls*
BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

18 Conditions

18.1 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 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.

18.2 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.

18.3 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.

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

18.5 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.

18.6 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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