



DuPont Engineering Products SA

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**Agrément
Certificate
No 01/3808**

Designated by Government
to issue
European Technical
Approvals

TYVEK SD2 AIR LEAKAGE BARRIER/ VAPOUR CONTROL LAYER

Membrane résistante à la vapeur d'eau
Dachabdichtungen

Product



• THIS CERTIFICATE RELATES TO TYVEK SD2 AIR LEAKAGE BARRIER/VAPOUR CONTROL LAYER.

• The product is a spunbonded polypropylene substrate coated with a polyolefin-copolymer.

• The product is for use:


(a) at ceiling level in flat and pitched cold roof constructions and at rafter line in warm pitched roofs

(b) in walls

(c) in floors.

Regulations

1 The Building Regulations 2000 (England and Wales)

 The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of vapour control layers with the Building Regulations. In the opinion of the BBA, TYVEK SD2 Air Leakage Barrier/Vapour Control Layer, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: Regulation 7

Materials and workmanship

Comment:

The product is an acceptable material. See section 1.2 of this Certificate.

Ceilings

Requirement: F2

Condensation in roofs

Comment:

The use of the product can contribute to enabling a roof to meet this Requirement. See section to 8.2 of this Certificate.

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2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, TYVEK SD2 Air Leakage Barrier/Vapour Control Layer, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards listed below.

Regulation:	10	Fitness of materials
Standard:	B2.1	Selection and use of materials and components
Comment:		The product complies with this Standard. See section 12 of this Certificate.
Regulation:	18	Resistance to condensation
Standard:	G4.1	Interstitial condensation
Comment:		The product can satisfy this Standard. See section 8.2 of this Certificate.

3 The Building Regulations (Northern Ireland) 1994 (as amended)



In the opinion of the BBA, TYVEK SD2 Air Leakage Barrier/Vapour Control Layer, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is an acceptable material. See section 12 of this Certificate.
Regulation:	C7	Condensation
Comment:		The product can contribute to satisfying the requirements of this Regulation. See relevant section 8.2 of this Certificate.

4 Construction (Design and Management) Regulations 1994

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See section: *6 Delivery and site handling.*

Technical Specification

5 Description

5.1 TYVEK SD2 Air Leakage Barrier/Vapour Control Layer consists of a spunbonded polypropylene substrate coated with a polyolefin-copolymer.

5.2 The finished rolls are available with nominal characteristics of:

roll width (m)	1.5
roll length (m)	50
thickness (mm)	0.25
weight per unit area (gm ⁻²)	108

5.3 The product is secured in place by nails or staples for timber constructions, and all laps are sealed with durable butyl strip sealant.

6 Delivery and site handling

6.1 Rolls are delivered to site packaged. Each package carries a label bearing the BBA identification mark incorporating the number of this Certificate.

6.2 Rolls should be stored on their sides, on a smooth, clean surface under cover and protected from direct sunlight.

Design Data

7 General

7.1 TYVEK SD2 Air Leakage Barrier/Vapour Control Layer is satisfactory for use as an alternative to traditional vapour control layers/air barriers in all normal structures.

7.2 Further information is given in BRE Guidance Report No 262 *Thermal insulation : avoiding the risks.*

7.3 Where constructions need to comply with NHBC Standards or Zurich Building Guarantees Technical Standards, specifiers should observe the requirements of these documents.

7.4 It is essential that proper care and attention be given to maintaining the vapour control layer's integrity and continuity.

7.5 In ceilings the product is placed directly between the underside of the rafters and the ceiling lining to cover the insulation on the warm side as an integrated vapour control layer/air barrier.

7.6 Flat roofs should be designed and constructed in accordance with BS 6229 : 1982.

7.7 Walls in new buildings should be designed and constructed in accordance with the relevant

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recommendations and codes of practice eg BS 5268-2 : 1996 and BS 5390 : 1976(1984).

7.8 Walls must be in a good state of repair with no evidence of rain penetration, damp or frost damage.

7.9 Suspended concrete and suspended timber ground floors incorporating the product must include suitable ventilation or a damp-proof membrane.

8 Condensation

8.1 The risk of condensation occurring 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 product's installation.



8.2 The product can contribute to meeting the relevant requirements of the national Building Regulations:

England and Wales

Requirement F2 (for ceilings only)

Scotland

Regulation 18, Standard G4.1

Northern Ireland

Regulation C7.

8.3 Consideration must be given in the overall installation to minimising penetrations by services. Joints at ceiling/wall and wall/floor must be sealed to offer significant resistance to water vapour transmission. Sealing should also be carried out in accordance with the Certificate holder's instructions.

8.4 The membrane has a nominal vapour resistance of not less than 10 MNsg^{-1} .

8.5 Constructions should be in accordance with the nominal recommendations of BS 5250 : 1989(1995) and favourably assessed in accordance with Appendix D.

9 Strength

The product can resist the normal stresses associated with installation.

10 Properties in relation to fire

The product has properties in relation to fire similar to those of other polyolefinic sheets tending to melt and shrink away from a heat source but will burn in the presence of an ignition source. Therefore the product is unclassifiable in terms of the national Building Regulations and Standards. This should be considered when assessing the overall fire risk.

11 Maintenance

Damage to the vapour control layer can be made good by overlaying the damaged area with a new sheet sealed in place with double-sided acrylic adhesive tape.

12 Durability



The product is rot proof, does not tear easily and will have a life equal to that of the building in which it is installed.

Installation

13 General

13.1 Installation of TYVEK SD2 Air Leakage Barrier/Vapour Control Layer should be in accordance with Certificate holder's instructions and good building practice (see Figures 1 to 7).

Figure 1 Ceiling — cold pitched roof

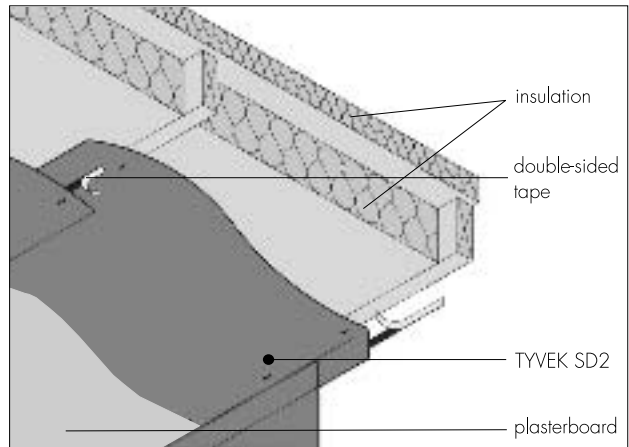


Figure 2 Warm pitched roof — rafter line

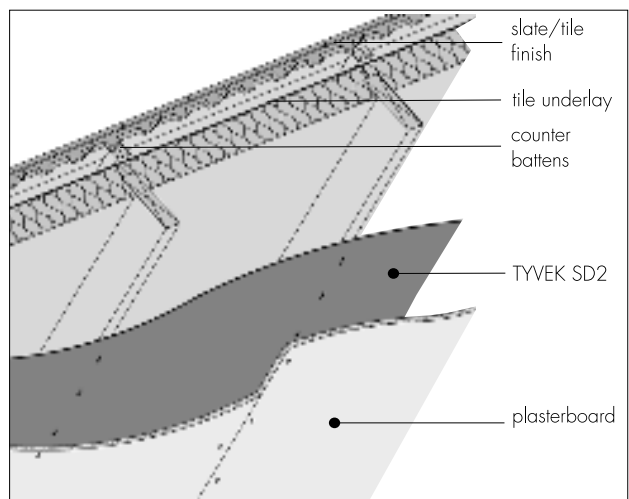


Figure 3 Flat roof

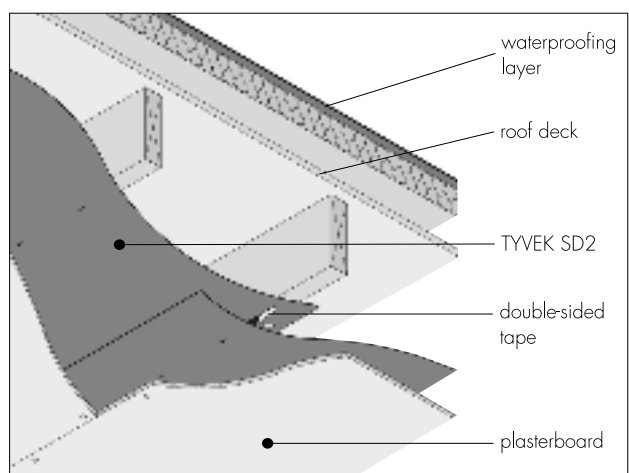


Figure 4 Solid wall

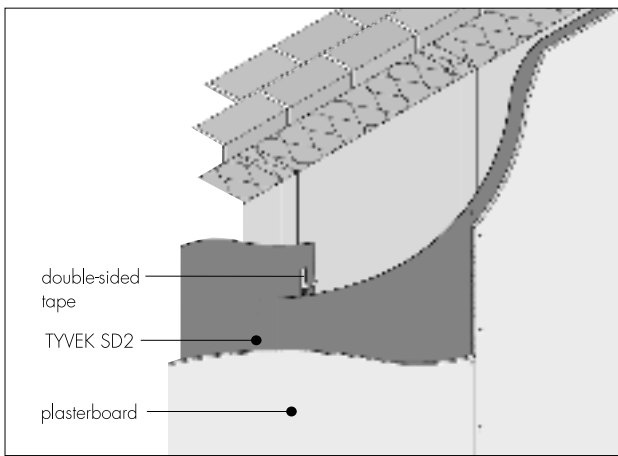


Figure 5 Cavity wall

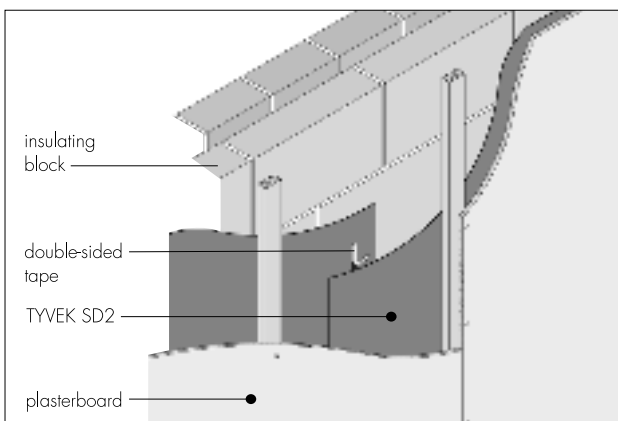


Figure 6 Timber floor

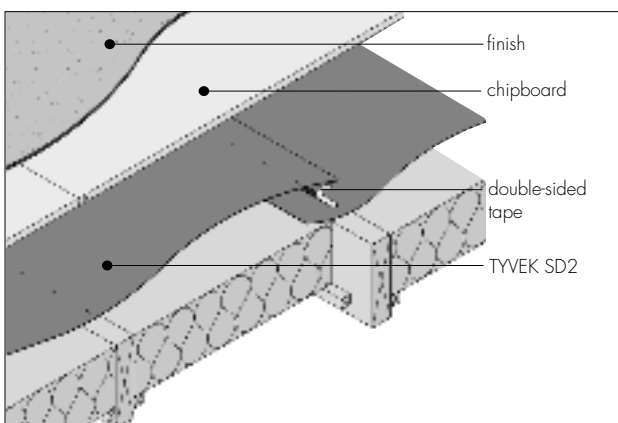
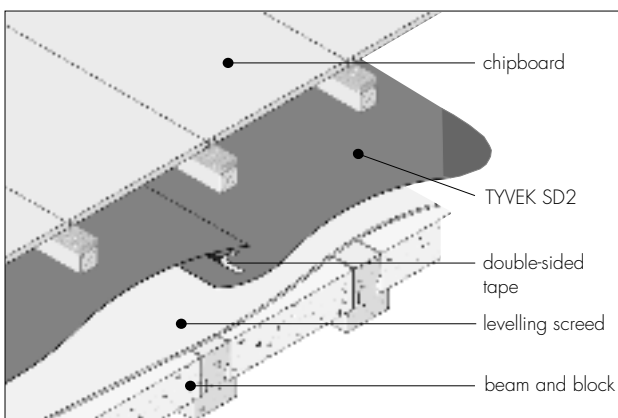


Figure 7 Suspended concrete floor



13.2 Where wood preservatives and damp-proofing treatments containing solvents have been applied, sufficient time must be allowed for solvents to disperse before the product is installed.

14 Procedure

14.1 The product should be positioned on the warm side of the thermal insulation and held in place by staples to the background structure. Joints between adjacent sheets of the material should be lapped 150 mm over a support and be sealed with a strip of double-sided acrylic adhesive tape.

14.2 At all penetrations and abutments the product should be cut neatly to fit as closely as possible and the joint sealed with a strip of double-sided acrylic adhesive tape.

14.3 Internal linings can be applied directly onto the product and fixed through it in the normal manner. Alternatively the internal lining may be set on spacer battens, leaving a gap behind the lining which can accommodate wiring and other services and reduce the need for penetrations of the vapour control layer/air leakage barrier.

Technical Investigations

The following is a summary of the technical investigations carried out on TYVEK SD2 Air Leakage Barrier/Vapour Control Layer.

15 Tests

Tests were carried out by the BBA to determine:

- nail tear strength
- leakage at joints
- water vapour permeability
- air permeability.

16 Investigations

An examination was made of data relating to:

- water vapour permeability
- flammability (B2 to DIN 4102-1 : 1998)
- tensile strength
- hydrostatic head
- nail tear strength
- elongation.

17 Other investigations

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

17.2 Calculations on the risks of interstitial condensation occurring in various constructions were carried out.

Bibliography

- BS 5250 : 1989(1995) *Code of practice for control of condensation in buildings*
- BS 5268 *Structural use of timber*
- BS 5268-2 : 1996 *Code of practice for permissible stress design, materials and workmanship*
- BS 5390 : 1976(1984) *Code of practice for stone masonry*
- BS 6229 : 1982 *Code of practice for flat roofs with continuously supported coverings*
- DIN 4102 *Fire behaviour of building materials and elements*
- DIN 4102-1 : 1998 *Classification of building materials — requirements and testing*

Conditions of Certification

18 Conditions

18.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (d) is copyright of the BBA.

18.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication,

shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

18.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;
- (b) continue to be checked by the BBA or its agents; and
- (c) are reviewed by the BBA as and when it considers appropriate.

18.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

18.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do 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 or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future 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 installation and use of this product.



In the opinion of the British Board of Agrément, TYVEK SD2 Air Leakage Barrier/Vapour Control Layer is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 01/3808 is accordingly awarded to DuPont Engineering Products SA.

On behalf of the British Board of Agrément

Date of issue: 23rd March 2001

Chief Executive

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