

SINTEF confirms that

## Dörken DELTA®-VENT-WB

has been found to be fit for use in Norway and to meet the provisions regarding product documentation given in the regulation relating to the marketing of products for construction works (DOK) and regulations on technical requirements for building works (TEK), with the properties, fields of application and conditions for use as stated in this document



### 1. Holder of the approval

Dörken GmbH & Co. KG  
 Wetterstr. 58  
 58313 Herdecke / Germany  
[www.doerken.de](http://www.doerken.de)

### 2. Product description

DELTA®-VENT-WB wind barrier is a triple layer membrane, made of a vapour open microporous functional polypropylene film sandwiched between two layers of nonwoven, spunbonded polypropylene. DELTA®-VENT-WB is white at the "inside" and light grey at the "outside". Measures and weight are shown in table 1.

DELTA-VENT WB can be purchased together with several accessories, described in table 3.

Table 1  
 Measures and tolerances for DELTA®-VENT-WB

Property	Measure	Tolerance	Unit
Roll width	1,30 / 2,80	- 0,5 % / + 1,5 %	m
Roll length	25,0 / 50,0	- 0	m
Mass per unit	120	- 10 % / + 20 %	g/m <sup>2</sup>

Measured according EN 1848-2 and EN 1849-2.

### 3. Fields of application

DELTA®-VENT-WB is intended for use as an external wind barrier in thermal insulated wooden walls with aerated cladding and wooden roof construction, see fig. 1 and fig. 2.

DELTA®-VENT-WB can be used as wind barrier on walls in hazard class 1-6 in fire class 1 in buildings up to three floors if each dwelling unit has direct access to the ground level (not via stairs or staircases). For other use, a fire safety analysis must be performed.

### 4. Properties

#### Material properties

Material characteristics for DELTA®-VENT-WB wind barrier are shown in Table 2.

#### Safety in case of fire

Reaction to fire performance for the product has not been determined.

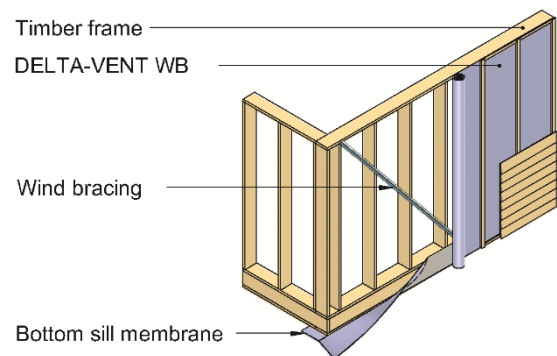


Fig. 1  
 DELTA®-VENT-WB wind barrier used in a timber frame wall.

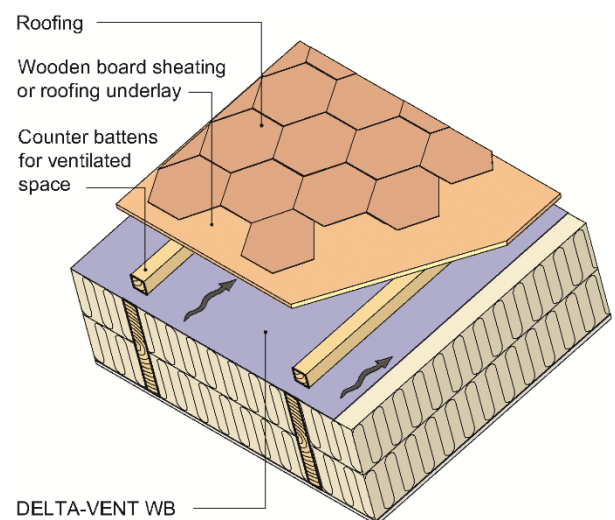


Fig. 2  
 DELTA®-VENT-WB wind barrier used in a thermal insulated roof construction.

#### Airtightness

The airtightness of DELTA®-VENT-WB makes it possible to fulfil any requirements regarding airtightness  $n_{50}$  given in the building regulations, and in the Norwegian passive house standards before the vapour barrier is installed.

SINTEF is the Norwegian member of European Organisation for Technical Assessment, EOTA, and European Union of Agrément, UEAtc

Table 2  
Product characteristics for fresh material of DELTA®-VENT-WB wind barrier

Property	Test method EN	DELTA®-VENT-WB		Unit	
		Declaration of performance <sup>1)</sup>	Control limit <sup>2)</sup>		
Water tightness	1928 (A)	W1	W1	-	
Air permeability (material)	12114	-	≤ 0,25	m <sup>3</sup> /m <sup>2</sup> h50Pa	
Air permeability (construction) - horizontal installation 2,80 m (roll width) - vertical installation 1,30 m (roll width)	12114	- -	≤ 0,1 <sup>3)</sup> ≤ 0,15 <sup>3)</sup>	m <sup>3</sup> /m <sup>2</sup> h50Pa m <sup>3</sup> /m <sup>2</sup> h50Pa	
Water vapour permeability	ISO 12572 Alt. 1931	0,04 (- 0,01 / + 0,04)	≤ 0,08	m (s <sub>d</sub> value)	
Tensile strength	- Longitudinal - Transversal	12311-1 13859-2	210 ± 42 125 ± 19	≥ 168 ≥ 106	N / 50 mm N / 50 mm
Elongation	- Longitudinal - Transversal	12311-1 13859-2	20 – 100 20 – 100	≥ 20 ≥ 20	% %
Resistance to tearing	- Longitudinal - Transversal	12310-1 13859-2	- -	≥ 100 ≥ 130	N N
Dimensional stability	- Longitudinal - Transversal	1107-2	- -	≤ 2,0 ≤ 0,8	% %

<sup>1)</sup> Manufacturers Declaration of Performance, DoP

<sup>2)</sup> Control limit shows values, product has to satisfy during internal factory production control and audit testing

<sup>3)</sup> Determined during type testing

Table 3  
Accessories for mounting of DELTA®-VENT-WB

Accessory	Material / Description	Used for	Measures
DELTA®-MULTI-BAND	Acryl-tape with PE-backing and reinforcement with synthetic strings	Taping of penetrations, alternative joining in small areas and connection to windows	Width: 60/100 and 150 mm Roll length: 25 m
DELTA®-FLEXX-BAND	Butyl-rubber tape with backing of nonwoven, spunbonded PP	Taping of penetrations and small repairs	Width: 100 mm Roll length: 10 m
DELTA®-SCHAUM-BAND (SB)	VPE foam	Sealing nail penetrations under counter battens	Width: 60 mm Roll length: 30 m
DELTA®-THAN	Permanently elastic, special rubber compound adhesive in cartridge	Additional tightening material in, for tape, inaccessible areas	Cartridge: 310 ml

#### Durability

DELTA®-VENT-WB wind barrier is considered to have satisfactory durability based on laboratory testing before- and after accelerated artificial climate ageing. The product must be protected against direct exposure to UV radiation in the complete construction. The product must be covered as soon as possible after installation at roofs and walls, without unnecessary delay.

Durability of DELTA®-MULTI-BAND is evaluated as satisfying, based on testing before and after artificial ageing. Product has shown satisfying durability tested on DELTA®-VENT-WB, untreated timber and galvanized steel.

#### 5. Environmental aspects

##### Substances hazardous to health and environment

DELTA®-VENT-WB contains no hazardous substances with priority in quantities that pose any increased risk for human health and environment. Chemicals with priority include CMR, PBT or vPvB substances.

##### Waste treatment/recycling

DELTA®-VENT-WB shall be sorted as plastic. The product shall be delivered to an authorized waste treatment plant for energy recycling.

#### Environmental declaration

No environmental declaration (EPD) has been worked out for DELTA®-VENT-WB.

#### Special conditions for use and installation

##### Installation

DELTA®-VENT-WB shall be installed on the external side of heat-insulated wall- or roof constructions. All joints shall have minimum 50 mm overlap. All joints, edges and connections to other components shall be clamped against the studs, sills, rafters etc. with battens fixed with nails or screws spaced at maximum 150 mm.

Battens shall be fixed in a way that ensures sufficient clamp for the joints of DELTA®-VENT-WB. There should not be used battens thicker than 36 mm. Minimum nail-length for squared nail shall be three times batten thickness. Minimum length for ribbed nails or screws shall be 2 times battens thickness. If screws are used it is recommended to use screws which are threadless in the part that penetrates the clamp-batten.

Wooden humidity in studs, rafters and battens shall be less than 20 % (weight percent) when the wind barrier shall be mounted. Shrinking in the wood shall not decrease the ability of clamping the overlaps of the membrane.

Incidentally, the wind barrier shall be used according to principles given in SINTEF Building Research Design Guides

- 523.255 Bindingsverk av tre. Varmeisolering og tetting
- 525.101 Isolerte skrå tretak med lufting mellom vindspærre og undertak

#### *Transport and storage*

DELTA®-VENT-WB is stored in plastic-wrapped rolls. In bigger quantities also on pallets. It is recommended to store the product upright standing, UV and weather protected.

#### **6. Factory production control**

DELTA®-VENT-WB is produced by Dörken GmbH & Co. KG, Wetterstr. 58, 58313 Herdecke, Germany.

The holder of the approval is responsible for the factory production control in order to ensure that DELTA-VENT WB is produced in accordance with the preconditions applying to this approval.

The manufacturing of DELTA®-VENT-WB is subject to continuous surveillance of the factory production control in accordance with the contract regarding SINTEF Technical Approval.

The manufacturer's quality management system is certified by TÜV Rheinland Cert GmbH according to ISO 9001, certificate no. 01 100 041012/03

The manufacturer's environmental system is certified by TÜV Rheinland Cert GmbH according to ISO 14001, certificate no. 01 104 042109/03

#### **7. Basis for the approval**

The evaluation of DELTA®-VENT-WB is based on reports owned by the holder of the approval.

The evaluation of design and technical solutions are based on recommendations given in SINTEF Building Research Design Guides.

#### **8. Marking**

DELTA®-VENT-WB shall be marked on the wrapping of each roll with the brand name, the manufacturer's name and a bar code for product identification including production date and time.

The approval mark for SINTEF Technical Approval No. 2586 may also be used.

#### **9. Liability**

The holder/manufacturer has sole product responsibility according to existing law. Claims resulting from the use of the product cannot be brought against SINTEF beyond the provisions of Norwegian Standard NS 8402

for SINTEF



Hans Boye Skogstad  
Approval Manager