

# SPANO DURÉLIS VapourBlock

Internal certified airtight and vapour control building board with a pre-applied airtightness layer

**Tested**  
in cooperation with  
the K.U. Leuven  
Passive house platform  
FraunhoferWKI



**VapourBlock®**

**MOISTURE RESISTANT**  
Wood Based Solutions

**TOPFINISH®**



*Durélis VapourBlock board sealed at joints with pro clima airtightness tapes as reliable internal airtightness and vapour control layer*

Durélis VapourBlock is a 12mm, 2400 x 1200mm high density chipboard with a factory fitted transparent airtightness and vapour control layer on one side. VapourBlock is for internal use. This board is specifically designed as a more reliable airtightness and vapour control layer compared to conventional plywood or OSB.

## Installation:

When installing Durélis VapourBlock boards, a 4mm expansion gap should be left around the edges of the board. Like all wood based boards, they will expand/shrink under variable humidity conditions, albeit to a lesser extent compared to Standard E1 boards. The board may be installed using either screws, nails or staples. Nails or screws should be galvanised, stainless steel or have similarly durable properties. These include wire nails, clout nails, annular ring shank nails and proprietary gun driven nails with a minimum diameter of 2.8mm and a minimum length of 50mm.

The type, size and spacing of fixings should be confirmed by the panel designer. The perimeter nail spacing should not exceed 150mm, but the spacing of the nails on intermediate studs can usually be increased to 300mm. The minimum recommended edge nailing distance is 8mm. It is recommended that boards are fixed in a consistent pattern working outwards from the centre of the board. Durélis VapourBlock is suitable for sheathing timber frame wall panels with stud framing not less than 38mm in width and at a maximum of 610mm centres. Suitable sawing, milling and drilling tools should always be used.

## Description:

- In comparison to conventional OSB sheeting Durélis VapourBlock guarantees a consistently high level of airtightness
- Joints, surface penetrations and junctions to adjoining structural elements must be airtightly sealed with suitable pro clima sealing solutions
- Durélis VapourBlock combines the benefits of high racking strength, with a high level of airtightness and vapour resistance which assists in the design of a healthy living environment and durable construction
- With a  $\mu$  value of 240, Durélis VapourBlock provides a high vapour resistance over the whole surface of the board
- Durélis VapourBlock is classified as a structural board which is suitable for use in humid conditions (P5) equivalent to OSB3
- Durélis VapourBlock is suitable for use in service class 2 (restrictions in temperature and ambient humidity) and can be used in biological hazard classes 1 and 2 of EN 335-3
- Durélis VapourBlock is also suitable for load-bearing applications in humid conditions (Service Class 2 to EN 1995-1-1)
- The board is easy to saw and screw into, and has a low formaldehyde emission (E1 class)

## Technical Characteristics:

To confirm the exceptional durability of the boards, Durélis VapourBlock meets the specifications of EN 312, P5, option 1, cyclic test, in which the board is immersed in water, frozen and finally dried. This cycle is repeated 3 times, after which the test specimens are tested for swelling and internal bond strength. The board is CE marked and production quality is checked daily by Spanogroup's in house quality control laboratory. Durélis VapourBlock is manufactured to the highest quality standards to comply with ISO 9001.

**For a nailed Durélis VapourBlock board-to-timber joint, the characteristic lateral load-carrying capacity per nail for a 2,8 x 51 mm diameter nail \* is 1117 N.**

Properties	Test method	Unit	OSB/3			P5 (DURÉLIS/VAPOURBLOCK®)	
			6 to 10	>10 and >18	18 to 25	Thickness (mm)	
						12	
Mechanical Resistance	Bending strength length	EN 310	N/mm <sup>2</sup>	22.0	20.0	18.0	18.0
	<b>Bending strength width</b>	EN 310	N/mm <sup>2</sup>	11.0	10.0	8.0	<b>18.0</b>
	Modulus of elasticity length	EN 310	N/mm <sup>2</sup>	3500	3500	3500	2550
	<b>Modulus of elasticity width</b>	EN 310	N/mm <sup>2</sup>	1400	1400	1400	<b>2550</b>
	<b>Internal bond</b>	EN 319	N/mm <sup>2</sup>	0.34	0.32	0.30	<b>0.45</b>
Durability on exposure to moisture	Thickness swelling after 24 hours	EN 317	%	15	15.0	15.0	<b>11.0</b>
	Internal bond after cyclic test	EN 321	N/mm <sup>2</sup>	0.18	0.15	0.13	<b>0.25</b>
	EN321 - option 1						
	Swelling after cyclic test	EN 321	%	-	-	-	<b>11</b>
	EN321 - option 1						
Physical construction properties	Formaldehyde emissions	EN 120	g/100 g	E1: <8			E1: <8
	Fire reaction classification	EN 13501-1	-	D-s2,d0   D <sub>tr</sub> -s1			D-s2,d0   D <sub>tr</sub> -s1
	Vapour resistance 12mm	EN 13986	MNs/g	9.8			14.7
	Air permeability	EN 13829	l/h/m <sup>2</sup>	15=0.0098 18=0.0049			[12=0.001]
	Diffusion resistance factor	EN 13986	μ	160			240
	Airborne sound insulation	EN 13986	dB	27.4 (18 mm)			27.4 (18 mm)
	<sup>1</sup> (600 kg/m <sup>3</sup>   1-3 kHz)						
	Sound absorption coefficient	EN 13986	-	250-500Hz: 0.10 1000-2000 Hz: 0.25			250-500Hz: 0.10 1000-2000 Hz: 0.25
	Thermal conductivity	EN 13986	W/mK	0.13			0.13
	Density test	EN 123	Kg/m <sup>3</sup>	650			720

\* using annularly ringed shank nails with tensile strength of 700 N/mm<sup>2</sup>; and solid timber of strength class C18 to EN 338.

Durélis VapourBlock is available in a range of alternative dimensions & thicknesses.

*Please contact Ecological for more details.*

## Spanogroup and the environment:

Spanogroup the manufacturers of Durélis VapourBlock use up to 80% recycled wood for the production of its structural construction panels. All wood for production is sourced from FSC or PEFC certified forests. During production wood is crushed and thoroughly purified, after which high quality construction panels are manufactured. Wood which is too heavily contaminated is separated and burnt in a bio-power station to produce energy for powering production. The goal of all these initiatives is to achieve CO2 neutral production by 2015.



## Storage:

During and especially after installation the boards must be protected from any direct contact with water. They must be stacked flat, on a pallet or using a sufficient number of cross members. Boards should not be stored vertically, unless ground contact can be avoided.



## pro clima airtightness sealing summary

pro clima have been providing Intelligent airtightness and windtightness solutions for over 2 decades with their products used in some of the most airtight constructions in Ireland, the UK and throughout Europe.

We would recommend the following pro clima tapes and glues for sealing the junctions of the Durélis VapourBlock board.

Joints: **UNI TAPE** or **TESCON NO1/VANA**

Service penetration: pro clima airtightness cable or pipe grommet or **TESCON NO1** flexible tape.

Windows and doors: **TESCON PROFIL** or **CONTEGA SL**.

Ceiling to floor: To concrete floor tape **DA-S** to vapourblock board with **TESCON VANA** and bond to concrete floor with **ORCON F** glue.

For ceiling injection holes where insulation is blown-in, pro clima **UNI TAPE** patches are available.

For ceiling corners: **TESCON PROFIL**

Prior to applying the internal lining an airtightness quality check may be carried out with a blowerdoor fan or pro clima **WINCON** test.

# ecological

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