

SINTEF Building and Infrastructure confirms that

## Skano Vindiso

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

Skano Fibreboard OÜ  
Rääma 31  
80044 Pärnu  
Estonia  
[www.skano.com](http://www.skano.com)

### 2. Product description

Skano Vindiso is a 12 mm thick paraffin impregnated porous fibreboard softboard that has water resistant vapour permeable surface layer and is intended used as wind barrier in timber frame constructions.

The product is also sold in Finland and Estonia with the product name Tuulileijona® PRO.

Skano Vindiso has standard width 1200 mm and standard lengths are 2700 mm, 2740 mm and 3000 mm. The boards have squared edges on all four sides.

The product is CE marked in accordance with EN 13986

### 3. Fields of application

Skano Vindiso is intended for use as wind barrier sheathing in timber frame constructions (see fig. 1 and 2) in buildings in fireclass 1, and in buildings up to three floor, as long as every apartment has direct exit to terrain without exit via stair or staircase. For other purposes, a fire-technical analysis has to be performed.

### 4. Properties

#### General

Material and construction properties are shown in table 1. Skano Vindiso satisfies the requirements for softboards type SB.HLS according to NS-EN 622-4.

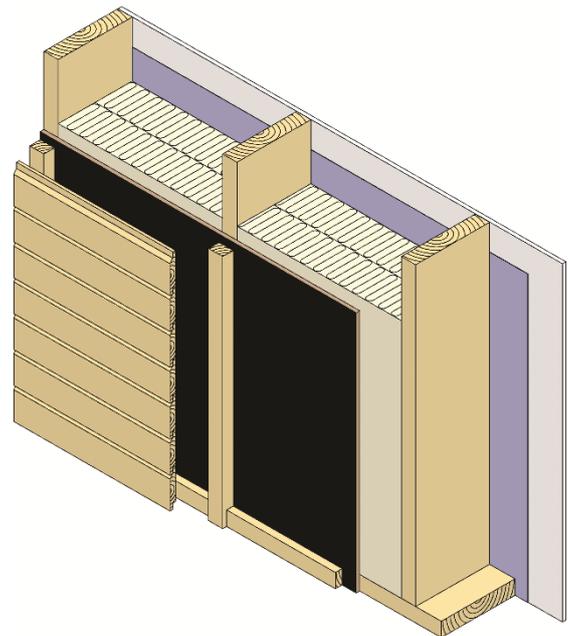


Fig. 1  
Illustration for a typical wall-setup with Skano Vindiso

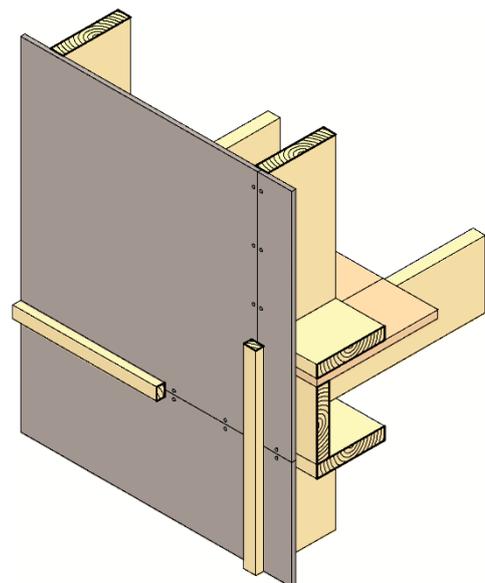


Fig. 2  
Detail for Skano Vindiso used as wind barrier sheathing.

Table 1 Product characteristics for Skano Vindiso

Property	Test-method NS-EN (Conditions)	Thickness 12 mm		Unit
		DoP <sup>1)</sup>	Control limit <sup>2)</sup>	
Properties related to wind barrier function				
Air permeability material	12114	$\leq 1.5$ $\leq 8.3 \cdot 10^{-6}$	$\leq 1.5$ $\leq 8.3 \cdot 10^{-6}$	m <sup>3</sup> /m <sup>2</sup> h50Pa (m <sup>3</sup> /m <sup>2</sup> sPa)
Air permeability construction	12114	2.5	2.5	m <sup>3</sup> /m <sup>2</sup> h50Pa
Water vapour resistance s <sub>d</sub>	ISO 12572 (50/93 %RF 23°C)	$\leq 0.18$	$\leq 0.18$	m
Thermal-conductivity λ <sub>d</sub>	12667	$\leq 0.049$	$\leq 0.049$	W/mK
Properties related to structural functions				
Bending strength	310	$\geq 1.6$	$\geq 1.6$	N/mm <sup>2</sup>
E-modulus bending	310	$\geq 200$	$\geq 200$	N/mm <sup>2</sup>
Racking resistance: Maximum racking load, F <sub>max</sub> Racking resistance, R	594 Annex A (area 2.4 x 2.4 m, vertical load 12 kN, fixed by staples)	-	7.94 <sup>3)</sup> 477 <sup>3)</sup>	kN N/mm
	594 Annex A (area 2.4 x 2.4 m, vertical load 12 kN, fixed by roofing nails)	-	8.92 <sup>3)</sup> 481 <sup>3)</sup>	kN N/mm
Racking resistance for a 2.4 m high wall -board with straight edges -board with tongue	14358	-	3.3 3.7	kN/m
Material related properties				
Moisture movement (in length)	318 (30 - 90 % RF)	$\leq 0.2$	$\leq 0.2$	%
Thickness swelling 2h	317	$\leq 6$	$\leq 6$	%

<sup>1)</sup> The 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> Result from type testing/construction testing.

<sup>4)</sup> Recommended design condition at ultimate limit states by wind load.

### Strength

With a satisfying number of not cut boards with a format of min. 1200 x 2400 mm and fixed at all four sides and at intermediate supports as described in point 6, Skano Vindiso boards can be assumed to give satisfying stiffness to residential timber frame houses up to two floors. In houses with particular short stiffening walls the wind load capacity should yet be controlled. For buildings with two floors this should be done when the length of the cross walls minus openings in the first floor is less than the façade width multiplied with 2.5.

### Reaction to fire

Reaction to fire class according to NS-EN 13501-1 is not determined.

### Thermal insulation

Skano Vindiso's thermal conductivity is shown in table 1. The boards give an advantage to the thermal insulation and can be used in calculation of the thermal transmittance, U-value.

### Durability

Testing shows that Skano Vindiso has adequate durability as sheathing material in ordinary timber frame buildings.

## 5. Environmental aspects

### Substances hazardous to health and environment

The product 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

The product shall be sorted as wood on the building/demolition site. The product shall be delivered to an authorized waste treatment plant for energy recovery.

### Environmental declaration

No environmental declaration (EPD) has been worked out for the product.

## 6. Special conditions for use and installation

### General

The boards should be applied in accordance with the principles shown in the series of Building Research Design Guides, in particular no. 523.255 and 525.101

### Transport and storage

The boards must be stored under dry conditions at a firm and level surface, and be dry at the time of installation.

### Design considerations

Maximum spacing between studs, rafters or other supports, boards will be fixed to, shall be c/c 600 mm. The minimum width of the studs is 45 mm. All board edges shall be supported. Eventually extra supports are to be installed at any horizontal joints. Extra supports have also to be used around openings in the sheathing.

The boards have to be applied behind a rain screen in the finished construction. All joints should be clamped by battens as shown in fig. 2 in order to secure long term air tightness. Vertical battens to be min. 36 x 48 mm and horizontal battens, in between the vertical battens, to be minimum 23 x 36 mm.

### Installation

The boards should be installed with the coloured face outwards.

The boards have to be fastened with slate nails with a maximum nail spacing along edges of 100 mm and maximum 200 mm at intermediate supports.

The boards can be fastened with corrosion protected nails:

- Staples, 1.1x1.2 mm<sup>2</sup> with length 31.8 mm and base 9.5 mm
- Roofing nail 2.8 x 40 mm

Nails and staples must be fixed with the head placed flush to the board surface, not penetrating the air tight layer.

The panel joints must be positioned approximately on center of the supports in order to obtain adequate air tightness. Adjacent boards must have a 2-3 mm gap between edges.

## 7. Factory production control

The product is produced by Skano Fibreboard OÜ, Rääma 31, 80044 Pärnu, Estonia.

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

The manufacturing of the product is subject to continuous surveillance of the factory production control in accordance with the contract regarding SINTEF Technical Approval.

Skano Fibreboard OÜ has a quality system which is certified according to EN ISO 9001:2008, certificate number EST40515A-1.

## 8. Basis for the approval

The approval is based on documentation given in the following reports:

- SINTEF Building and Infrastructure. Report no. 102011294-4-1 Test report, Testing of Skano Vindiso, dated 28.06.2016 (type testing, air tightness construction)
- SINTEF Building and Infrastructure. Report no. 102011294-4-2, Report, Racking test of 12 mm Skano Vindiso boards fastened with nails and staples, dated 30.06.2016 (lateral bracing)
- SINTEF Building and Infrastructure. Report no. 102000844-1/821, dated 25.03.2018 (water vapour permeance)

## 9. Marking

Each board has to be marked with the batch number. The wrapping has to be marked according EN 13986 and EN 622-4. The product is CE marked in accordance with EN 13986.

The approval mark for SINTEF Technical Approval No. 20516 may also be used.



Approval mark

## 10. 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 Byggforsk

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