SINTEF

SINTEF Certification

No. 2002

Issued: 30.12.1993
Revised: 17.12.2015
Valid until: 01.01.2021
Page: 1 of 4

Technical Approval

SINTEF Building and Infrastructure confirms that

Hunton Vindtett / Hunton Bitroc

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

Hunton Fiber AS
P.O.Box 633
NO-2810 Gjøvik
www.hunton.no

2. Product description

Hunton Vindtett is a porous fibreboard impregnated with bitumen intended for use as sheathing for houses. The product is available in several differnt thicknesses. A special bituminous layer makes the boards as airtight as needed for sheathing. The product sales in Norway with the product name Hunton Vindtett. The product sales in export markets with the product name Hunton Bitroc.

The approval consisting four different thicknesses: 12, 15, 19 and 25 mm. The boards have squared edges on all four sides, or shiplap edges at the long sides, as shown in fig. 3.

Standard width is 1200 mm (net). Standard lengths are 2440 mm and 2740 mm. Special formats for width, thickness or length can be delivered on request.

3. Fields of application

Hunton Vindtett 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. Hunton Vindtett satisfies the requirements for softboards type SB.HLS according to NS-EN 622-4.

Strength

With a satisfying number of not cut boards with a format of min. 1200 x 2400 mm with square edges are used and fixed at all four sides as described in point 7, Hunton Vindtett plates can be assumed to give satisfying stiffness to residential timber frame houses up to two floors.

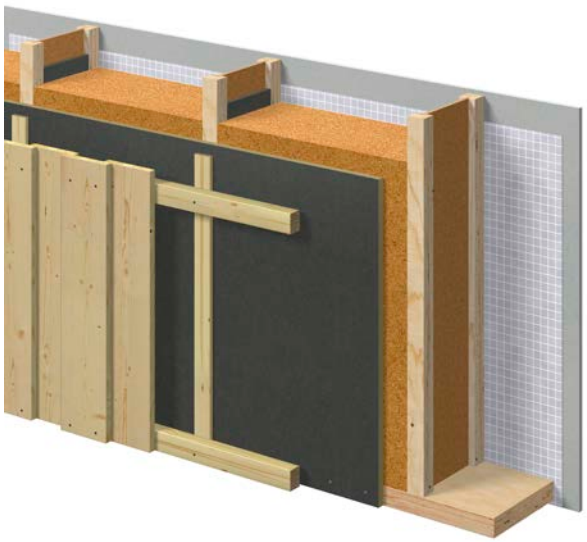

Fig. 1
Illustration for a typical wall-setup with Hunton Vindtett

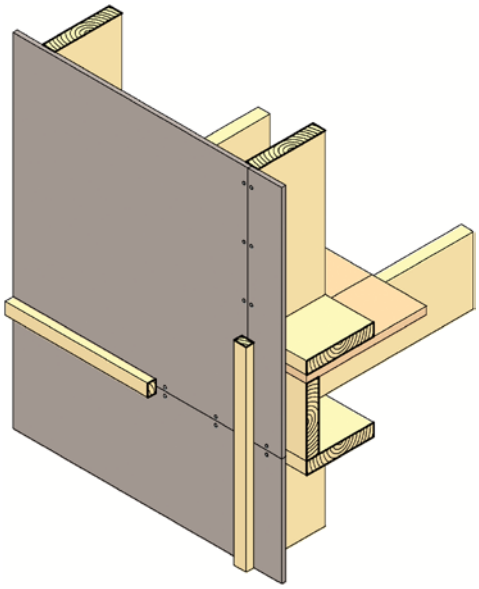

Fig. 2
Detail for Hunton Vindtett used as wind barrier sheathing.

Contact person, SINTEF Building and Infrastructure: Jan Ove Busklein Writer: Holger Halstedt

www.sintefcertification.no Phone: +47 73 59 30 00 E-mail: certification@sintef.no

Table 1
Relevant material- and construction-properties for Hunton Vindtett

Property	Test-method NS-EN (Conditions)	Hunton Vindtett thickness [mm]								Unit
		12		15		19		25		
		DoP[1]	Control limit[2]	DoP[1]	Control limit[2]	DoP[1]	Control limit[2]	DoP[1]	Control limit[2]	
Properties related to wind barrier function										
Air permeability material	12114	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	m^3/m^2h50Pa
Air permeability construction	12114	-	0,7[3]	-	0,7[3]	-	0,7[3]	-	0,7[3]	m^3/m^2h50Pa
Water vapour resistance s_d	ISO 12572 (50/93 %RF 23°C)	0,2	0,2	0,25	0,25	0,32	0,32	0,42	0,42	m
Thermal-conductivity λ_d	12667	0,049	0,049[3]	0,050	0,050[3]	0,050	0,050[3]	0,045	0,045[3]	W/mK
Absorption of condensation water	NT Build 304	-	1,3	-	1,3	-	1,3	-	1,3	kg/m^2
Properties related to structural functions										
Bending strength (vert. main surface)	310	1,4	1,4	1,6	1,6	1,3	1,3	1,1	1,1	N/mm^2
E-modulus bending (vert. main surface)	310	140	140	140	140	140	140	120	120	N/mm^2
Racking resistance F_{max} in main surface	594 Annex A (area 2,4 x 2,4 m)	-	4,68[4]	-	7,57[4]	-	7,35[4]	-	7,35[4]	kN
Racking resistance R in main surface	594 Annex A (area 2,4 x 2,4 m)	-	243[4]	-	285[4]	-	228[4]	-	228[4]	N/mm
Racking resistance for 2,4m high wall: - with squared edge - with shiplap edge	NT Build 362	-	 3,3[5] 2,0[5]	-	[5]	-	[5]	-	[5]	kN/m
Material related properties										
Moisture movement	318 (30 - 90 % RF)	-	≤0,3[3]	-	≤0,3[3]	-	≤0,3[3]	-	≤0,3[3]	%
Thickness swelling	317	≤6	≤6	≤6	≤6	≤6	≤6	≤6	≤6	%
Water absorption	317	-	≤30	-	≤30	-	≤30	-	≤30	%

[1] The manufacturers Declaration of performance, DoP
[2] Control limit shows values, product has to satisfy during internal factory production control and audit testing.
[3] Result from type testing
[4] Characteristic values according to NS-EN 14358:2006
[5] Recomended design-capacity in case of damage by windload. Same value can be used on all thicknesses.

Properties related to fire

The boards have fire classification class F according to NS-EN 13501-1.

Thermal insulation

Hunton Vindtett´s thermal conductivities are shown in table 1 and are giving an advantage to the thermal insulation and can be used in calculation of the thermal transmittance, U-value.

Durability

Hunton Vindtett has been used since ca. 1969. Experiences have shown that Hunton Vindtett has adequate durability as sheathing material in ordinary timber frame buildings. Furthermore is Hunton Vindtett tested for durability behind "låvepanel" with 20mm gaps exposed for UV over 20 years without reduction of properties.

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 residual waste 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.

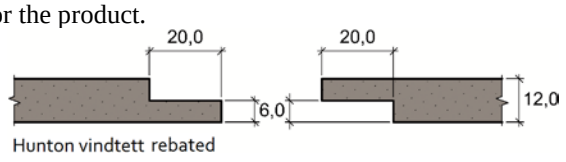

Fig. 3
Shiplap edge at long sides of Hunton Vindtett (12 mm)

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 Sheets, in particular no. 523.255 *Bindingsverk av tre. Varmeisolering og tetting* for walls and 525.101 *Isolerte skrå tretak med lufting mellom vindsperre og undertak* for roofs.

Transport and storage

The boards must be stored under dry conditions, 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. All panel edges shall be supported. Eventually have extra supports to be installed at any horizontal joints. Extra supports have also to be used around openings in the sheathing.

Boards with shiplap joints are recommended for application on studs or other supports with a thickness of less than 48 mm in order to obtain air tightness of the joints.

The boards have only 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.

Installation

The boards are installed with the bitumen treated, dark brown, air tight layer facing outwards.

The boards have to be fastened with slate nails, using c/c 100 mm maximum nail spacing along the edges and c/c 250 mm at intermediate supports. Recommended lengths are shown in table 2. Alternatively may corrosion-protected staples be used, provided the staples have a min. wire-diameter of 1.8 mm, a 20 mm long back, and a length of 2,5 times thickness of the board.

Nails and staples must be fixed with the head placed level with 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.

Tabell 2
Recommended nail lengths for different thicknesses

Thickness [mm]	Slate nail dimension [mm]
12	2,8 x 45
15	2,8 x 45
19	2,8 x 55
25	2,8 x 65

7. Factory production control

The product is produced by Hunton Fiber AS, NO-2810 Gjøvik, Norway.

The holder of the approval is responible 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.

Hunton Fiber AS, Gjøvik has a quality management system certified by "Det Norske Veritas" according NS-EN 9001:2008, certificate nr. 18372-2008-AQ-NOR-NA.

8. Basis for the approval

Hunton Vindtett is certified according to EN 13986, SINTEF Product Certification no. 1018. The approval is otherwise based on type testing and audit testing since 1987 and product properties documented in the following reports:

- Norwegian Building Research Institute. Report no. O14361 dated 02.04.2004 (material tests)
- SINTEF Building and Infrastructure. Report no. 3D0304 dated 12.10.2010 (air- and rain tightness)
- SINTEF Building and Infrastructure. Report no. 3D113701 dated 12.01.2010 (thermal resistance)
- SINTEF Building and Infrastructure. Report no. 3D094101 dated 05.08.2010 (racking resistance)
- SINTEF Building and Infrastructure. Report no. 102010772 dated 21.08.2015 (Measuring of properties)

9. Marking

Each board has to be marked with the batch number. The wrapping has to be marked according NS-EN 13986 and NS-EN 622-4.
The product is CE marked in accordance with EN 13986
The approval mark for SINTEF Technical Approval No. 2002 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 Building and Infrastructure

Marius Kvalvik
Approval Manager