

SINTEF Building and Infrastructure confirms that

## Hunton Vindtett / Hunton Bitroc

meets the provisions regarding product documentation given in Norwegian building regulations, with properties, fields of application and conditions as stated in this document

### 1. Holder of the approval

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

### 2. Manufacturer

Hunton Fiber A/S, NO-2810 Gjøvik

### 3. Product description

Hunton Vindtett are 12 mm thick soft fiberboards impregnated with bitumen. The boards are intended for use as sheathing in timber frame construction, and have a special high density bitumen layer on one side in order to make the boards airtight.

The product is sold in the Norwegian market with the product name Hunton Vindtett. The product is sold in some export markets with the product name Hunton Bitroc.

The boards have square edges on all four sides, or rebated edges at the long sides. Standard width is 1200 mm (net). Standard lengths are 2440 mm and 2740 mm. Special dimensions are delivered on request.

### 4. Field of application

Hunton Vindtett can be used as combined sheathing and breather membrane in thermal insulated timber frame construction, see fig. 1 and 2.

### 5. Properties

#### General

Product properties and performance are shown in Table 1. The boards satisfy the requirements for softboards type SB.HLS according to EN 622-4.

#### Strength

Boards with dimension 1200 mm x 2400 mm and square edges may be regarded as adequate wind bracing of walls and roof in ordinary timber frame houses of maximum 2 stories, when the boards are fastened along all four edges as specified in clause 7.

#### Properties related to fire

The boards are classified as class F according to EN 13501-1 (no performance determined), and as combustible material according to NS 3919.

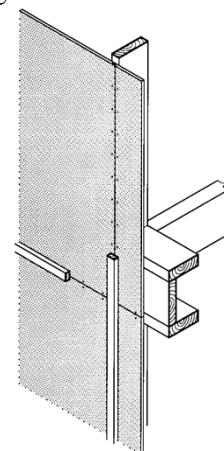


Fig. 1  
Hunton Vindtett used as wall sheathing and breather membrane.

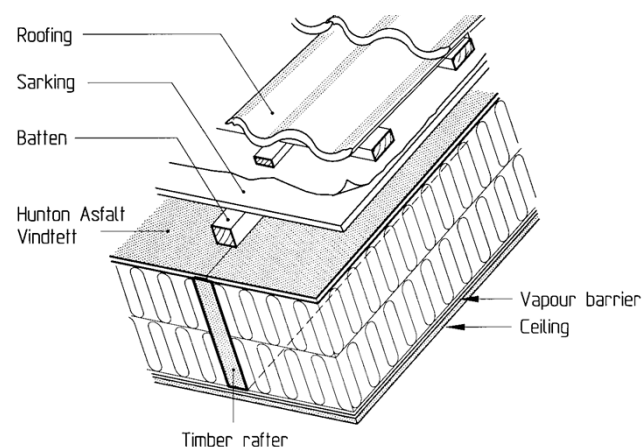
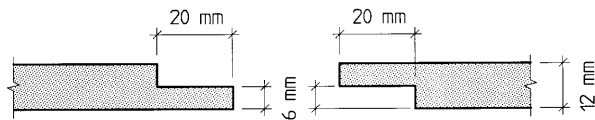


Fig. 2  
Hunton Vindtett used as breather membrane in thermal insulated roof structure.



Asfalt Vindtett with rebate

Fig. 3  
Edge profiles.

Table 1  
Hunton Vindtett, product characteristics

Property	Value	Test method
Air permeability of the material <sup>2)</sup>	$\leq 0.008$ $\text{m}^3/\text{m}^2\text{hPa}$	NS 3261
Air permeability as wall sheathing <sup>1)</sup>	0.014 $\text{m}^3/\text{m}^2\text{hPa}$	EN 12114
Water vapour resistance <sup>2)</sup>	$s_d \leq 0.2$ m	EN ISO 12752 50/93 % RF 23°C
Moisture movement <sup>1)</sup>	$\leq 0.3$ %	EN 318 (30-90 % RF)
Thickness swelling <sup>2)</sup>	$\leq 5$ %	EN 317
Water absorption <sup>2)</sup>	$\leq 30$ %	EN 317
Thermal resistance <sup>1)</sup>	0.25 $\text{m}^2\text{K/W}$	EN 12667
Bending strength <sup>2)</sup>	$\geq 1.6$ $\text{N/mm}^2$	EN 310 EN 622-4
E-modulus in bending <sup>2)</sup>	$\geq 140$ $\text{N/mm}^2$	
Racking resistance, 2.4 m high wall <sup>3)</sup> - With butt edges - With shiplap joints	3.3 $\text{kN/m}$ 2.0 $\text{kN/m}$	NT Build 362

1) Results from type testing

2) Limit at control testing

3) Recommended design values for wind loads at ultimate limit state

#### Properties related to fire

The boards are classified as class F according to EN 13501-1 (no performance determined), and as combustible material according to NS 3919.

#### Properties related to moisture and air tightness

The boards satisfy SINTEF's recommended requirements concerning water vapour resistance and air tightness for breather membranes.

#### Thermal insulation

The thermal resistance of the boards are shown in Table 1. Compared with the use of breather membranes made of roll products or thinner boards the use of Hunton Asfalt Vindtett gives approximately 0.02  $\text{W/m}^2\text{K}$  lower U-values for external timber frame walls with thermal transmittance in the range 0.23  $\text{W/m}^2\text{K}$  – 0.32  $\text{W/m}^2\text{K}$ . For walls with U-values in the range 0.14  $\text{W/m}^2\text{K}$  – 0.22  $\text{W/m}^2\text{K}$  the equivalent reduction is approximately 0.01  $\text{W/m}^2\text{K}$ .

#### Durability

Hunton Vindtett has been used extensively since 1969. Experience has shown that the boards have adequate durability as sheathing material in ordinary timber frame buildings.

## 6. 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.

### Effect on soil, surface water and ground water

The leaching properties of the product is evaluated to have no negative effects on soil and ground water.

### Waste treatment/recycling

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

### Environmental declaration

Specific environmental declaration has been worked out according to ISO 21930 "Environmental declaration of building products" for Hunton Vindtett. Environmental indicators are given in Table 2. For complete documentation see environmental declaration document NEPD No. 213N on <http://www.epd-norge.no/> (see "EPD-register").

Table 1

Environmental declaration according to ISO 21930 "Environmental declaration of building products" for Hunton Vindtett. Functional unit is 1  $\text{m}^2$  building boards, installed and maintained, with expected average service life of 60 years.

Indicators	
Global warming potential	2 kg $\text{CO}_2$ -ekv.
Energy consumption	49 MJ
Amount of renewable materials	80 %

## 7. Special conditions of 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 for walls and 525.101 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 supports shall be c/c 600 mm.

All panel edges shall be supported, and noggings must be used at any horizontal joints. Noggings must also 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 adequate fixing and air tightness of the joints.

The boards must only be applied behind a rain screen in the finished construction. All joints should be clamped by battens as shown in fig. 1 in order to secure long term air tightness.

#### *Installation*

The boards are installed with the air tight layer facing outwards.

The boards are fastened with 2.8 – 45 mm slate nails, using c/c 100 mm maximum nail spacing along the edges and c/c 250 mm at intermediate supports. Alternatively may corrosion-protected staples be used, provided the staples have min. 1.8 mm wide and 20 mm long back, and min. 28 mm long legs with glue. Staples are fastened with the back parallel to the board edges.

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 approx. on center of the supports in order to obtain adequate air tightness.

#### **8. Factory production control**

Hunton Vindtett is subject to supervisory factory production and product control according to contract between SINTEF Building and Infrastructure and Hunton Fiber AS concerning Technical Approval.

#### **9. 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. O 14361 dated 02.04.2004 (material tests)
- SINTEF Building and Infrastructure. Report no. 3D0304 dated 12.10.2010 (air- and raintightness)
- SINTEF Building and Infrastructure. Report no. 3D113701 dated 12.01.2010 (thermal resistance)
- SINTEF Building and Infrastructure. NEPD No.: 213N dated 31.05.2011 (Environmental declaration)

#### **10. Marking**

The boards shall be marked according to the provisions in EN 13986 and EN 622-4. The approval mark for Technical Approval No. 2002 may also be used.



Approval mark

#### **11. 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.

#### **12. Technical management**

Project manager for this approval is Hans Boye Skogstad, SINTEF Building and Infrastructure, dep. Materials and Construction, Trondheim.

for SINTEF Building and Infrastructure

Tore H. Erichsen  
Approval Manager