HUNTON

HANDBOOK OF WOOD FIBRE INSULATION

HUNTON NATIVO® WOOD FIBRE INSULATION

Hunton Nativo® Wood Fibre Insulation can be used for new builds and renovations. Our insulation is predominantly made using wood chips from Norwegian pine forests and is age-resistant, provides excellent soundproofing simple to install and easy to work with.

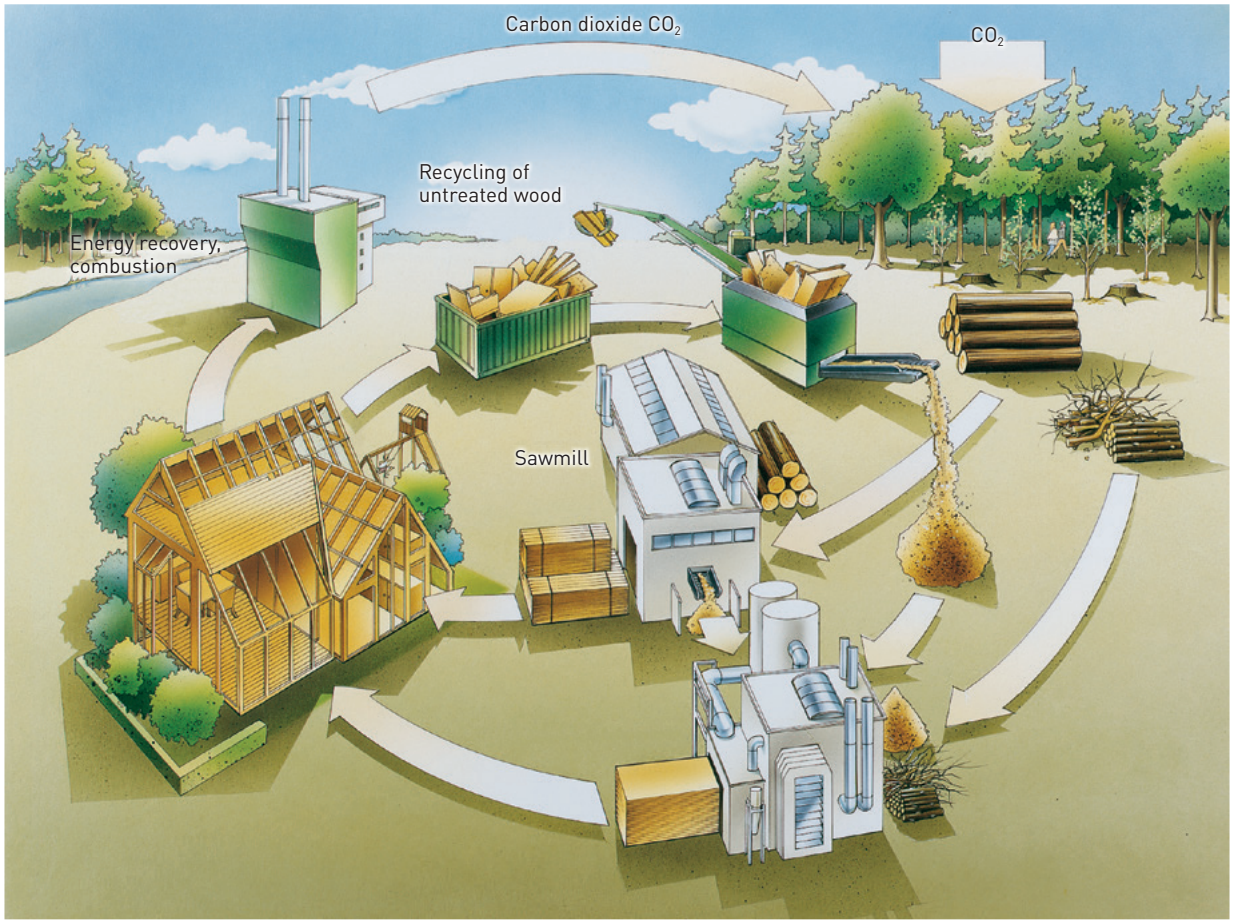
V02-05/24

From wood chips to wood fibre insulation

Wood chips are Hunton's most important raw material. The chips we use come from pine trees that have grown big and strong over many years in Norwegian forests.

The logs are processed by experts who get the absolute most out of them. The majority of logs are turned into lumber, while the rest is made into chips, sawdust and wood shavings. The wood chips are put through defibrators at our factory in Gjøvik and turned into wood fibres. We use these wood fibres to make building materials, such as wood fibre insulation. This means our products are made using renewable raw materials sourced locally.

Wood is a renewable material whose uses are increasing rapidly. Using wood helps society reduce its CO_2 footprint. All the chips we use are PEFC™ certified, meaning that the forests are sustainably managed, run according to strict regulations and operate replanting programmes. This promotes the natural cycle of the forests.



CO_2 is converted into wood and other biomass through photosynthesis. This CO_2 is part of the natural carbon cycle. When the tree is broken down naturally at the end of its life, this CO_2 is returned to the earth's carbon cycle. Building materials made from wood are an attempt at extending this cycle. Combined with the fact that new trees are growing in the forests, this increases carbon storage, thereby removing CO_2 from the atmosphere.

Properties of Nativo Wood Fibre Insulation

Extraordinary Soundproofing Properties

Nativo Wood Fiber Insulation has a high density (specific gravity) that positively affects the sound properties of structures. Upon Hunton's request, SINTEF has tested various structures with Nativo Wood Fiber Insulation in its laboratories. With a sound wall in class C, which is the construction between housing units, the minimum airborne sound value is 55 dB according to NS 8175:2012 referenced in TEK17. Test results for Hunton sound walls are measured Rw, 64dB according to NS 8175:2012. Thus, the standard requirements are met with a very wide margin This applies to both Nativo Panels and Nativo Blown-in insulation, see the picture below.

Hygroscopic and wet-treated materials

Wood is a hygroscopic material, meaning it absorbs and releases moisture depending on the relative humidity.

Wood fibre insulation can be combined with both vapour barriers and vapour retarders. Unlike a sealed vapour barrier, a vapour retarder aims to ensure that moisture can evaporate within the construction. This helps undesired moisture to evaporate faster. That's why we say that wood fibre insulation combined with a vapour retarder helps create a breathing structure.

Hunton sound wall with airborne sound measured Rw, 64dB according to NS 8175:2012

Heating

Nativo Wood Fibre Insulation Panels and Nativo Wood Fibre Blow-In Insulation both have a thermal conductivity λ (lambda) of 0.038 W/mK. This value is used to calculate a structure's thermal transmittance, or U-value.
The λ value is determined using a standardised programme according to "EN 12667 Thermal performance of building materials and products – Determination of thermal resistance by means of guarded hot plate and heat flow meter methods – Products of high and medium thermal resistance". Similar to CLT and log buildings, wood fibre has excellent thermal storage capabilities.

Thermal resistance R
The table below shows the thickness required to achieve specific levels of thermal resistance R (m^2K/W). The table shows thermal resistance in closed constructions. The values only apply to the wood fibre insulation's contribution to thermal resistance and other parts of the structure have not been taken into account.

Nominal thickness	Thermal resistance R	Nominal thickness	Thermal resistance R
45	1.18	145	3.82
48	1.26	148	3.89
50	1.32	150	3.95
70	1.84	170	4.47
95	2.50	195	5.13
98	2.58	198	5.21
100	2.63	200	5.26
120	3.16	220	5.79

Stability

Nativo Wood Fibre Insulation Panels and Nativo Wood Fibre Blown-In Insulation both have a high density and stiffness compared to other insulation products. This gives our wood fibre insulation outstanding stability. Nativo Wood Fibre Insulation Panels are held between studs and rafters, and do not loose shape or clamping force over time. They fit perfectly stable without loosing their shape over time. The stiffness of the material gives the installation engineer a control when it comes to avoiding air pockets in the construction.

The same goes for Nativo Wood Fibre Blow-in Insulation. The high density of the blown-in insulation and the extra friction between the wood fibres creates a strong three-dimensional network. This contributes to the excellent stability and prevents sinking and settling. Hunton's continuous production controls assure the quality of these properties.
The product is tested for sinking and settling using mechanical stresses and under various different climatic scenarios over time in accordance with the EN 15101 standard.

Usage of Nativo Wood Fibre Insulation

Nativo Wood Fibre Insulation can be used as insulation under floors, in walls, in between storeys and in roofs with load-bearing wooden or steel structures.

The product is equally suited to new builds, renovations, and prefab buildings.

Renovating a wall with Nativo Wood Fibre Insulation and Hunton Windproof.

Health & safety and environment

Indoor climate

Hunton Nativo Wood Fibre Insulation does not release any particles, gases or radiation that could have a negative impact on the indoor climate or negative health effects.

Environment

Nativo Wood Fibre Insulation Panels and Blown-In Insulation have an Environmental Product Declaration (EPD) in accordance with EN 15804. For the full declaration, see EPD no. NEPD-2287-104. (www.epd-norge.no)

Waste management/recycling

Hunton Nativo Wood Fibre Insulation Panels must be sorted as wood by-products at your nearest recycling centre or approved waste processing facility capable of recycling wood by-products. Nativo Wood Fibre Insulation has waste code 030105/170201.

Use of PPE

Nativo Wood Fibre Insulation does not cause any irritation to skin, eyes or airways, and is completely safe if used properly. This means you can easily install the insulation without wearing gloves. However, we still recommend using PPE such as goggles and dust masks when working with the material for an extended period of time. This is according to the recommendations that apply generally to handling, sawing and planing wood.

Storage

Nativo Wood Fibre Insulation should always be protected during transport and storage in packaging that protects the product against moisture. The moisture before installation must not exceed. 10% (weighted percentage of water). The packaging must only be removed once the pallet is safely secured on firm, even ground.

Lars frode Mathisen, Smarte Boliger.

Product documentation

Hunton Nativo Wood Fibre Insulation Panels and Hunton Nativo Wood Fibre Blown-In Insulation have good documentation. The available information is listed below.

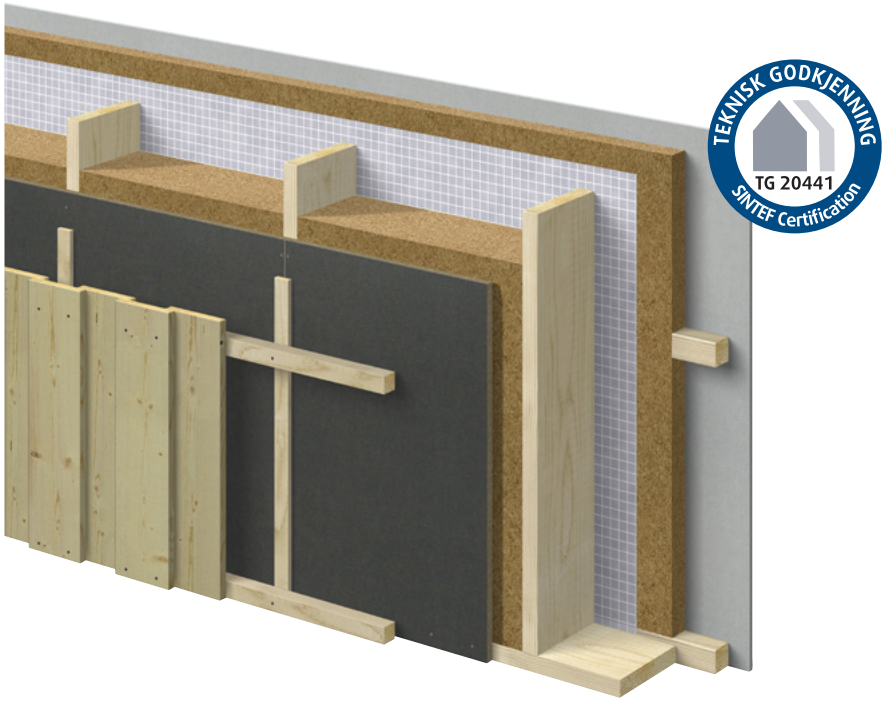
Hunton Nativo® Wood Fibre Insulation Panel	Hunton Nativo® Wood Fibre Blow-In Insulation
• SINTEF Technical Approval (no. 20440) • CE marking • DoP (no. 01-06-01) • Safety datasheet • FDV • Fire safety test acc. to NS-EN 13501-1 and 1365-1 • EPD-2287-1041-NO • PEFC™ certificate	• Sintef Technical Product Certificate (nr. 3397) • Safety datasheet • FDV • Fire safety test acc. to NS-EN 13501-1 (insulation) and 1365-1 • **EPD-2286-1041-NO** • PEFC™ certificate

Please have a look at huntonfiber.co.uk or hunton.no for further information.

Hunton Nativo Wood Fibre Insulation used in Hunton Walls

Hunton Nativo Wood Fibre Insulation is used in Hunton Walls. The walls are made from Fermacell® Fibreboard, Hunton I-beams, Hunton Intello® Vapour retarders, Nativo® Wood Fibre Insulation and Hunton Wind Barriers/ Hunton Wind Barriers Plus.

Hunton walls have SINTEF Technical Approval (no. 20441).



Technical specifications

Hunton Nativo Wood Fibre Insulation Panels

Property	Control threshold	Unit	Performance/ value	Testing method
Length Tolerance	1220 / ± 2	mm	–	NS-EN 822
Width Tolerance	565 / ± 1,5	mm	–	NS-EN 822
Thickness Tolerance	-5mm /+15% el. max. 15mm	Class Tolerance	T2	NS-EN 823
Perpendicularity	⩽ 5	mm/m	–	NS-EN 824
Flatness	⩽ 6	mm	–	NS-EN 825
Tensile strength, angle from surface	⩾ 1.0	Class kPa	TR 1	NS-EN 1607
Water vapour resistance factor, μ, dry/wet	⩽ 5 / ⩽ 3	–	–	NS-EN ISO 12086
Heat conductivity, declared, λD	⩽ 0.038	W/mK	–	NS-EN 12667
Air flow resistance	6 / 6	kPa*s/m²	–	NS-EN 29053
Reaction to fire	–	–	E	NS-EN 13501-1
Density ρ	-	[kg/m³]	50	–
Specific thermal capacity c	-	[J/(kg*K)]	2100	–
Flow resistance	-	[(kPa * s)/m²]	⩾ 5	EN 29053
EAK/AVV code	-	-	030105/170201	-

Made in Norway	Art. no.	NOBB no.	Dimensions			Qty. per pallet panels/ packs.	Weight per pallet (kg)	m² per pallet
			Thickness	Width	Length			
Nativo Wood Fibre Insulation	9900	55409056	50	565	1220	90 / 10	186	62.03
Nativo Wood Fibre Insulation	9908	56253873	70	565	1220	70 / 10	170	48.25
Nativo Wood Fibre Insulation	9901	55406733	100	565	1220	48 / 12	170	33.09
Nativo Wood Fibre Insulation	9902	55412117	150	565	1220	30 / 10	155	20.07
Nativo Wood Fibre Insulation	9903	55413192	200	565	1220	24 / 12	170	16.54
Nativo Wood Fibre Insulation	9907	57324203	45	565	1220	100 / 10	155	68.93
Nativo Wood Fibre Insulation	9909	57326292	95	565	1220	50 / 10	164	34.47
Nativo Wood Fibre Insulation	9905	57323473	145	565	1220	32 / 8	160	22.06
Nativo Wood Fibre Insulation	9913	57329364	195	565	1220	24 / 12	162	16.54
Nativo Wood Fibre Blow-In Insulation 15kg/pack	9990	57168614				21	315	

Other dimensions and delivery times upon request.

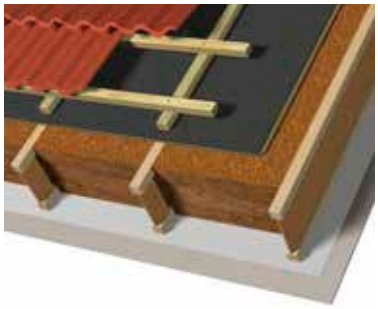
Hunton Nativo Wood Fibre Blow-In Insulation

Key properties	Performance/class	Standard
Fire rating	Class E	EN 15101:2013
Airflow resistivity (for floors)	5kPa*s/m^2	EN 15101:2013
Thermal resistance and conductivity (Lambda)	0.038 [W/(m*K)]	EN 15101:2013
Water vapour resistance	1-2	NS-EN ISO 12086
Thermal capacity	2100 [J/kg*K]	

Format	Packs, 15kg each
No. packs/kg per pallet:	21pcs/315kg
Pallet dimensions:	approx. 0.8 x 1.2 x 2.55m (l x b x h)

Recommended densities	
Open lofts and joists	approx. 32 kg/m^3
Floors and closed joists	approx. 32-38 kg/m^3
Roof less than 45 degrees	approx. 35-42 kg/m^3
Roof more than 45 degrees and outer wall	approx. 38-45 kg/m^3

Installation examples

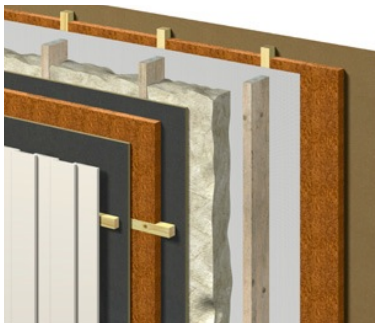


Roof construction with following products, internal view:

- Hunton Fermacell Fibreboard
- Hunton Intello Plus Vapour Retarder
- Hunton I-beam and Hunton Nativo Wood Fibre Insulation Panels or Blown-In Insulation
- Hunton Suspended Ceiling
- Battens, barges and tiles

Wall construction with following products, internal view:

- Hunton Fermacell Fibreboard
- Hunton Nativo Wood Fibre Insulation Panel (completed installation view)
- Hunton Intello Plus Vapour Retarder
- Hunton I-beam and Hunton Nativo Wood Fibre Blown-In Insulation or Panels (completed installation view, new installation)
- Hunton Wind Barrier
- Barges and cladding



Wall construction renovation, from inside:

- Internal cladding (new installation)
- Hunton Nativo Wood Fibre Insulation Panel (completed installation view, new installation)
- Internal cladding (existing)
- Timber frame with insulation made of mineral wool, sawdust, wood s havings or similar (existing)
- Hunton Wind Barrier (existing)
- Hunton Nativo Wood Fibre Insulation Panel (completed, new installation)
- Hunton Wind Barrier (new installation)
- Barges and cladding (new installation)

Wall construction renovation, from inside:

- Internal cladding (existing)
- Old timber frame with re-insulated Hunton Nativo Wood Fibre Blow-In Insulation
- Hunton Wind Barrier (existing)
- Barges and cladding (existing)

Note: Internal and external surfaces left untouched.

Insulation with Nativo Wood Fibre Insulation Panels

Nativo Wood Fibre Insulation Panels are installed the same way as other types of insulation. The panels should be overcut and clamped between rafters/timber framing. The panels can be adjusted in all sorts of different ways. You can use handheld circular saws, mitre saws, reciprocating saws or Hunton handheld saws/knives that have been specially designed for this purpose.
This tool makes it incredibly easy to cut all dimensions and angles.

We recommend:

Hunton Insulation Saw
The wave-formed teeth on the Hunton Insulation Saw make it perfect for sawing wood fibre insulation, mineral wool, stone wool, EPS and XPS easily.
Thanks to the long sawblade, the insulation saw can saw through thick insulation material while cutting straighter than a knife, for example.
The saw has a two-part grip and 22" – 550mm blade with wave-formed teeth and comes with a sleeve to protect the saw against rust.
The saw can be sharpened like an ordinary knife using a whetstone, honing steel or other ordinary sharpening tool.

Nativo Insulation Knife
The Insulation Knife was developed with specially formed serrations to make it easy to adjust Nativo Wood Fibre Insulation Panels.

Nativo Cutting Board
Adapting wood fibre insulation is easy with the Hunton Nativo Cutting Board. The collapsible board has been specially developed to ensure precision and even easier insulation.

Construction and Retrofitting

Blown-in insulation of Nativo Wood Fiber Insulation is a fast and efficient insulation solution for all types of buildings. By using Nativo Wood Fiber Insulation Blown-in, carpenters save valuable work time. For example, in an open attic, we can insulate up to 1000 m^2 per day. This is about twice as fast as using boards.

- Blown-in insulation provides seamless insulation without joints and overlaps, and less convection is achieved in the structure
- Blown-in insulation is suitable for both rehabilitation, new construction, and modular construction
- Less waste

HUNTON NATIVO CERTIFIED PARTNER

V02-05/24 – Flisa Trykkeri AS

Why should you choose Hunton Nativo® Wood Fibre Insulation?

Renewable raw material that stores carbon
Nativo Wood Fibre Insulation is primarily made using wood fibres, a natural and renewable raw material.
All the chips we use come from 100% PEFC-certified forests, meaning that these forests are managed according to strict regulations. Wood fibre insulation helps to reduce carbon footprints because it stores carbon for the entire lifetime of the product.

Sound reduction
Nativo Wood Fibre Insulation has outstanding sound reduction qualities. The wood fibre insulation has high density.

Good moisture management properties
Nativo Wood Fibre Insulation has hygroscopic properties which allow it to deal with condensation and reduce damage caused by damp.

Stable dimensions and shape
Nativo Wood Fibre Insulation has stable dimensions and a stable shape, no matter if you're using the panels or the blown-in insulation. The wood fibre's natural ability to reduce air movements within the insulation creates excellent seals around windows and studwork. Blown-in insulation is also excellent at filling in gaps around connections in structures.

No itching or discomfort when during installation
Nativo Wood Fibre Insulation does not cause any irritation to skin or airways. Either during installation or for residents afterwards.

Additional fire retardants
Nativo Wood Fibre Insulation is impregnated with fire retardant and meets Euro Class E.
It can be used for fire rating 1 and in buildings up to three storeys high.