

CONSTRUCTION OVERVIEW

This construction overview provides examples of how our building materials can be used in structures, with specified U-values, fire resistance and sound reduction.

Exterior wall using CLT



SPECIFICATIONS

	Type	Description	Dimensions
1	Wood	Cross-laminated timber (CLT)	100mm
2	Application	Hunton I-Beam	SJ45/200mm (7% timber fraction)
3	Insulation	Hunton Nativo Wood Fibre Insulation	200mm
5	Top/bottom plate/window framing	Hunton glulam beams	48x200mm
6	Wind barrier	Hunton Windproof	19mm ¹

PROPERTIES

U-value ²	0.165 W/m ² K (applies to both Nativo Boards and Nativo Blown-in).
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¹ When using Nativo Wood Fibre Insulation Blown-in, square edge Windproof, minimum 19 or 25mm, must be used
When using Nativo Board, all thicknesses of Windproof can be used

² The assumptions used to calculate U-values are specified on the last page

Exterior wall using I-Beams



SPECIFICATIONS

	Type	Description	Dimensions
1	Interior cladding	Gyproc GN13 or Fermacell gypsum fibreboard	12.5mm
2	Vertical or horizontal service zone	C24 timber	48x48mm
3	Insulation	Hunton Nativo Wood Fibre Insulation	50mm
4	Vapour control layer (VCL)	Hunton Intello Plus or Hunton SD10	
5	Stud	Hunton I-Beam	SJ45/200mm (7% timber fraction)
6	Insulation	Hunton Nativo Wood Fibre Insulation	200mm
7	Wind barrier	Hunton Windproof	19mm ¹

PROPERTIES

U-value ²	0.156 W/m ² K (Nativo Board) 0.167 W/m ² K (Nativo Blown-in)
Fire resistance Tested according to DIN-EN 1365/DIN-EN 1363	REI 30 (interior fire load) REI 45 (exterior fire load) ³

¹ When using Nativo Wood Fibre Insulation Blown-in, square edge Windproof, minimum 19 or 25mm, must be used
When using Nativo Board, all thicknesses of Windproof can be used

² The assumptions used to calculate U-values are specified on the last page

³ Requires minimum 19mm facade cladding with fire rating class D – s2 d0

Exterior wall with timber studs and Windproof



SPECIFICATIONS

	Type	Description	Dimensions
1	Interior cladding	Standard plasterboard (Gyproc GN13)	12.5mm
2	Vertical or horizontal service zone	C24 timber	48x48mm
3	Insulation	Hunton Nativo Wood Fibre Insulation	50mm
4	Vapour control layer (VCL)	Hunton Intello Plus or Hunton SD10	
5	Stud	C24 timber	48x198mm (12% timber fraction) 36x198mm (9% timber fraction)
6	Insulation	Hunton Nativo Wood Fibre Insulation	200mm
7	Wind barrier	Hunton Windproof	19mm ¹

PROPERTIES

U-value ²	12% timber fraction = 0.165 W/m ² K (Nativo Board) 9% timber fraction = 0.160 W/m ² K (Nativo Board) 12% timber fraction = 0.178 W/m ² K (Nativo Blown-in) 9% timber fraction = 0.171 W/m ² K (Nativo Blown-in)
Airborne sound Rw (lab.)*	49 dB ⁴
Fire resistance Tested according to NS-EN 13501-2:2016	REI 45 ³ /REI 90 ^{3, 4} (interior fire load) REI45 ⁵ (exterior fire load)

¹ When using Nativo Wood Fibre Insulation Blown-in, square edge Windproof, minimum 19 or 25mm, must be used
When using Nativo Board, all thicknesses of Windproof can be used

² The assumptions used to calculate U-values are specified on the last page

³ Requires timber with thickness of 48mm

⁴ Requires 2 layers of plasterboard: 1 layer standard plasterboard (Gyproc GN13) + 1 layer fire resistant plasterboard (Gyproc GF15) facing interior space

⁵ Requires minimum 19mm facade cladding with fire rating class D - s2 d0

* Conversion number for spectrum for extended frequency range C₅₀₋₅₀₀₀ -1 dB

Exterior wall using CLT and Hunton Windproof



SPECIFICATIONS

	Type	Description	Dimensions
1	Interior cladding	Standard plasterboard (Norgips type A)	12.5mm
2	Vertical or horizontal service zone	C24 timber	48x48mm
3	Insulation	Hunton Nativo Wood Fibre Insulation	50mm
4	Vapour control layer (VCL)	Hunton Intello Plus or Hunton SD10	
5	Stud	C24 timber	48x198mm (12% timber fraction)
6	Insulation	Hunton Nativo Wood Fibre Insulation	200mm
7	Wind barrier	Hunton Windproof	25mm

PROPERTIES

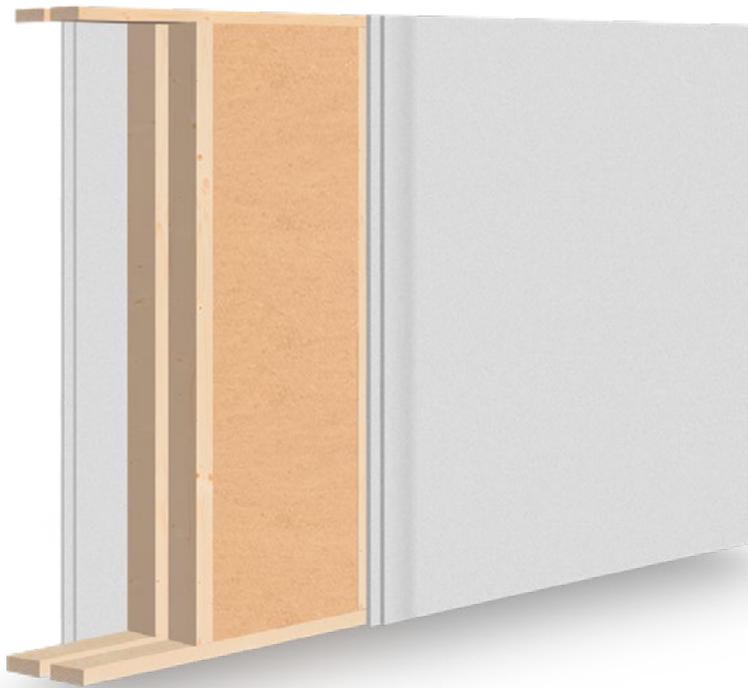
U-value ¹	12% timber fraction = 0.162 W/m ² K (Nativo Board) 12% timber fraction = 0.174 W/m ² K (Nativo Blown-in)
Airborne sound Rw (lab.)*	49 dB ²
Fire resistance Tested according to NS-EN 13501-2:2016	REI 90 ³ (exterior fire load)

¹ The assumptions used to calculate U-values are specified on the last page

² Requires 2 layers of plasterboard: 1 layer standard plasterboard (Gyproc GN13) + 1 layer fire resistant plasterboard (Gyproc GF15) facing interior space

³ Requires minimum 23mm facade cladding with fire rating class D – s2 d0

Acoustic partition with plasterboard



SPECIFICATIONS

	Type	Description	Dimensions
1	Interior cladding	2 layers standard plasterboard (Gyproc GN13)	12.5+12.5mm
2	Stud	C24 timber	48x98mm C24 c/c 600mm
3	Insulation	Hunton Nativo Wood Fibre Insulation	100mm
4	Space between partitions	Cavity	30mm
5	Stud	C24 timber	48x98mm C24 c/c 600mm
6	Insulation	Hunton Nativo Wood Fibre Insulation	100mm
7	Interior cladding	2 layers standard plasterboard (Gyproc GN13)	12.5+12.5mm

PROPERTIES

Airborne sound R_w (lab.)*	64 dB
Fire classification Tested according to NS-EN 13501-2:2016	REI 45 ¹ (load-bearing)/EI 60 (fire cell limiting)

¹ Fire classification REI 45 has been tested at 15 kN/m (9 kN/m per stud at c/c 600mm)
* Conversion factor for spectrum for extended frequency range $C_{50-5000} -2$ dB

Acoustic partition with gypsum fibreboard



SPECIFICATIONS

	Type	Description	Dimensions
1	Interior cladding	1 layer Fermacell gypsum fibreboard	12.5mm
2	Stud	C24 timber	48x98mm C24 c/c 600mm
3	Insulation	Hunton Nativo Wood Fibre Insulation	100mm
4	Space between partitions	Cavity	30mm
5	Stud	C24 timber	48x98mm C24 c/c 600mm
6	Insulation	Hunton Nativo Wood Fibre Insulation	100mm
7	Interior cladding	1 layer Fermacell gypsum fibreboard	12.5mm

PROPERTIES

Airborne sound R_w (lab.)*	64 dB
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* Conversion number for spectrum for extended frequency range $C_{50-5000}$ -3 dB

Interior wall with plasterboard



SPECIFICATIONS

	Type	Description	Dimensions
1	Interior cladding	1 layer standard plasterboard (Gyproc GN13)	12.5mm
2	Stud	C24 timber	48x98mm C24 c/c 600mm
3	Insulation	Hunton Nativo Wood Fibre Insulation	100mm
7	Interior cladding	1 layer standard plasterboard (Gyproc GN13)	12.5mm

PROPERTIES

Airborne sound R_w (lab.)*	40 dB (applies to both 70mm and 100mm Nativo Wood Fibre Insulation)
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* Conversion number for spectrum for extended frequency range $C_{50-5000}$ -3 dB

Interior wall with gypsum fibreboard



SPECIFICATIONS

	Type	Description	Dimensions
1	Interior cladding	1 layer Fermacell gypsum fibreboard	12.5mm
2	Stud	C24 timber	48x98mm C24 c/c 600mm
3	Insulation	Hunton Nativo Wood Fibre Insulation	100mm
7	Interior cladding	1 layer Fermacell gypsum fibreboard	12.5mm

PROPERTIES

Airborne sound R_w (lab.)*	46 dB (applies to both 70mm and 100mm Nativo Wood Fibre Insulation)
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* Conversion number for spectrum for extended frequency range $C_{50-5000}$ -2 dB

Hunton floor™ with plasterboard in ceiling



SPECIFICATIONS

	Type	Description	Dimensions
1	Load bearing panel	Fermacell gypsum fibreboard	10mm
2	Sound absorption board	Hunton Silencio	36mm
3	Subfloor	Chipboard	22mm
4	Joist	Hunton I-Beam	SJ45/300mm c/c 600mm
5	Insulation	Hunton Nativo Wood Fibre Insulation ¹	Min. 200mm
6	Acoustic profile	Gyproc AP25	25mm
7	1 layer ceiling	Standard plasterboard (Gyproc GN13)	12,5mm
8	2 layer ceiling (facing room)	Fire resistant plasterboard (Gyproc GF15)	12,5mm

PROPERTIES

Expected sound reduction values (field)	Airborne sound (R'_w) \geq 56-57 dB Impact sound ($L'_{n,w}$) \leq 51-53 dB
Fire resistance Tested according to NS-EN 13501-2:2016	REI 60 (one-sided fire load from underneath)

¹ When using Hunton Nativo Wood Fibre Insulation Blown-in, a Hunton SD10 vapour control layer (VCL) must be installed between the joist and acoustic profile

Hunton floor™ with gypsum fibreboard in ceiling



SPECIFICATIONS

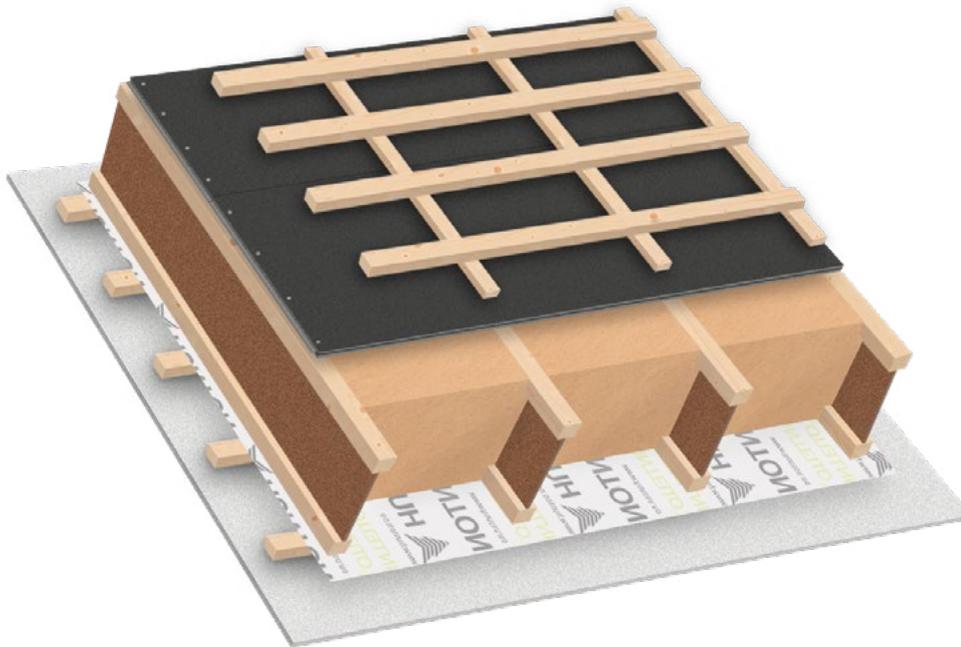
	Type	Description	Dimensions
1	Load bearing panel	Fermacell gypsum fibreboard	10mm
2	Sound absorption board	Hunton Silencio	36mm
3	Subfloor	Chipboard	22mm
4	Joist	Hunton I-Beam	SJ45/300mm c/c 600mm
5	Insulation	Hunton Nativo Wood Fibre Insulation ¹	Min. 200mm
6	Acoustic profile	Gyproc AP25	25mm
7	1 layer ceiling	Fermacell gypsum fibreboard	12.5mm
8	2 layer ceiling (facing room)	Fermacell gypsum fibreboard	12.5mm

PROPERTIES

Expected sound reduction values (field)	Airborne sound (R'_w) \geq 56-57 dB Impact sound ($L'_{n,w}$) \leq 51-53 dB
Fire resistance Tested according to NS-EN 13501-2:2016	REI 45 (one-sided fire load from underneath)

¹ When using Hunton Nativo Wood Fibre Insulation Blown-in, a Hunton SD10 vapour control layer must be installed between the joist and acoustic profile

Hunton roof™ with plasterboard or gypsum fibreboard



SPECIFICATIONS

	Type	Description	Dimensions
1	Sarket	Hunton Sarket	18mm
2	Rafter	Hunton I-Beam	SJ45/300mm c/c 600mm (4% timber fraction)
3	Insulation	Hunton Nativo Wood Fibre Insulation	300mm
4	Vapour control layer (VCL)	Hunton Intello Plus or Hunton SD10	
5	Service zone	C24 timber	48x48mm
6	Insulation	Hunton Nativo Wood Fibre Insulation	50mm
7	Interior ceiling	Fermacell gypsum fibreboard or plasterboard	12.5mm

PROPERTIES

U-value ¹	0.110 W/m ² K (Nativo Board) 0.116 W/m ² K (Nativo Blown-in)
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¹ The assumptions used to calculate U-values are specified on the last page

Assumptions

The U-values stated in this brochure were calculated on the basis of the assumptions and values specified below and calculations based on the standard, EN ISO 6946.

The stated difference in the U-value for structures insulated with Nativo Board and Nativo Blown-in is due to the difference in the filling rate of the interior lining (see point below).

Declared thermal conductivity λD (lambda)

timber fraction	0.120 W/mk
Nativo	0.038 W/mk
Windproof	0.050 W/mk
Plasterboard	0.210 W/mk

Thermal resistances

Interior (Rsi)	0.13 m ² K/W (horizontal heat flow)
Interior (Rse)	0.04 m ² K/W

Interior lining of exterior walls and roofs

Interior lining (48x48mm) is calculated as horizontal with c/c 0.6m.

When Nativo Board is used in exterior walls and for roofs, the calculations are based on an interior lining with 50mm of board insulation.

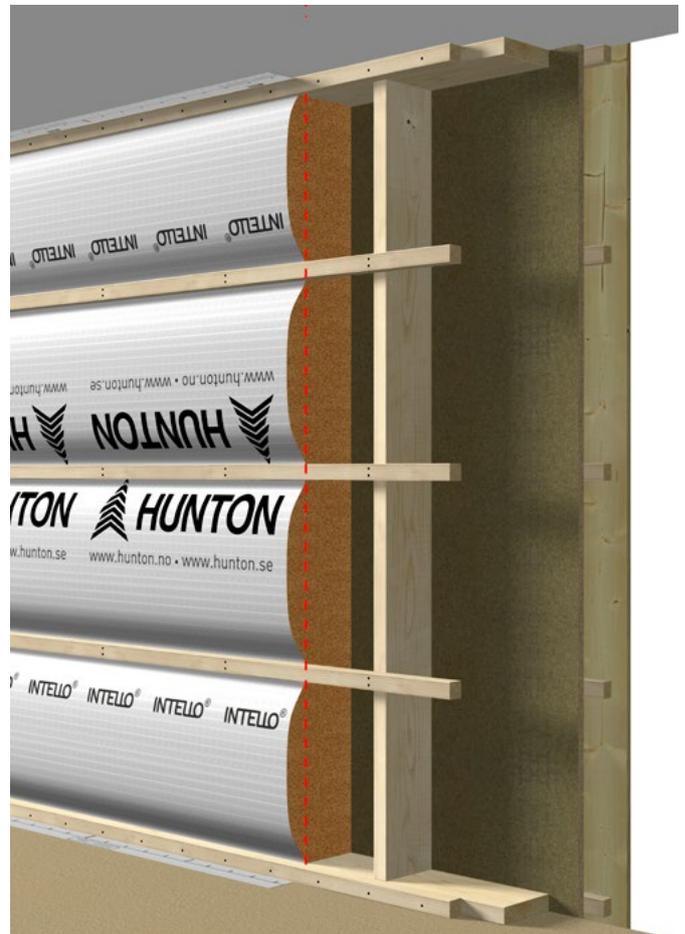
When Nativo In-blown is used in exterior walls and for roofs, all the insulation is installed on the cold side of a vapour control layer (VCL). This means that the interior lining will be partially insulated – see the illustration on the right. Therefore, the U-value will be higher than that for a similar structure insulated with Nativo Board.

Other assumptions

The timber fractions for exterior walls are based on a wall height of 2.4m, studs with c/c 0.6m and single top and bottom plates (total 2.45m studs per m²). Door and window framing, columns, strutting beams and similar, which can increase timber fractions, have not been taken into account.

Where manufacturer-specific plasterboard is specified, this is due to the product type used in fire and acoustic tests.

Illustration of exterior wall using Nativo Wood Fibre Insulation In-blown and partly insulated lining.



Hunton Sarket



Hunton I-Beam



Hunton Nativo Wood Fibre Insulation Board



Hunton Silencio sound absorption Board



Hunton Windproof



Hunton Nativo Wood Fibre Insulation Blown-in



The Hunton wall