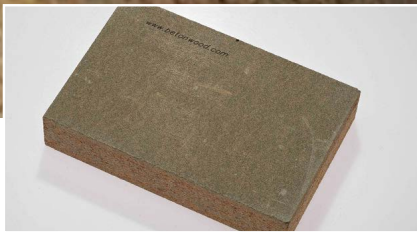
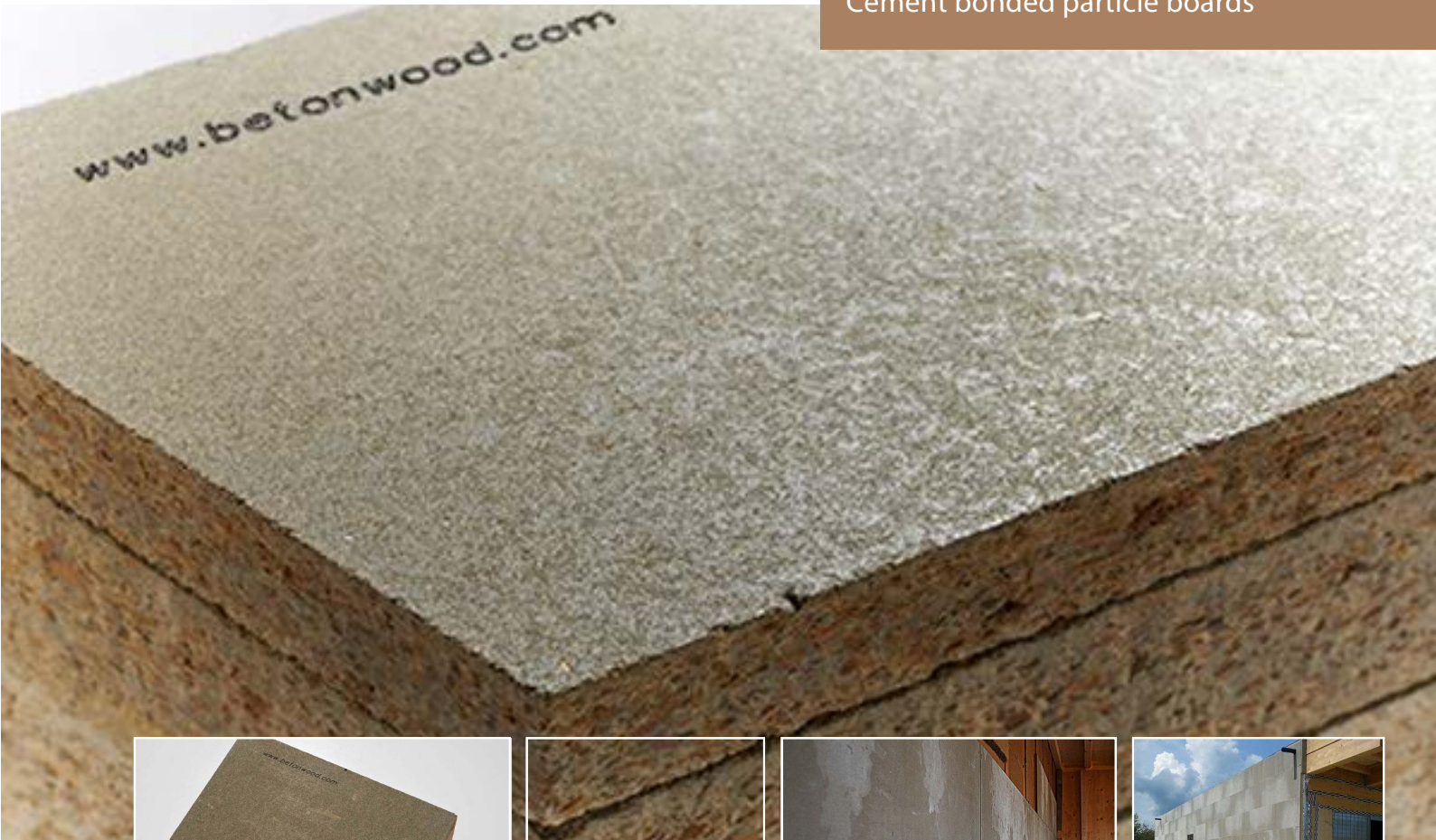


# BetonWood N

High density cement bonded particle boards (1350Kg/m<sup>3</sup>)  
The building product that substitutes Celenit panels.



Cement bonded particle boards



## | DESCRIPTION

The cement bonded particle boards BetonWood N is the product that gives the name of our company and it's a material which suits a great variety of applications in the building industry. Realized in Portland cement and wood fibers, this particular panel provides an excellent solution for interventions designed to achieve high levels of thermal lag, due to its high density which makes it also suitable for self-supporting dry screeds, radiant floors and stiffening structures.



## | MATERIAL

Cement bonded particle board BetonWood N in Portland cement and wood fibers. The BetonWood panel has a great density (1350 Kg/m<sup>3</sup>), it is a multiple-use material for green building.

The BetonWood N cement bonded particle boards combines the advanced features of the cement with the wood properties. The panel structure is realized with wood fibers, fragments and chips which are uniformly agglomerated by Portland cement. The surfaces are smooth, with the gray color typical of cement; however the product can undergo sanding operations becoming more brown.

- it has a lighter color than other traditional material for building;
- it is resistant to climatic changes and freezing;
- fungi and insects are not able to attack or damage it;
- thanks to its physical and mechanical features, the product is considered one of the better material for green building with light weight;
- it is incombustible (A2 according to Standard DIN 4102);
- it is formaldehyde-free and free from asbestos, ecc.;
- it is free from recycled inks (found in recycled cellulose materials);
- it is weather resistant;
- it can be processed with woodworking tools;
- it substitutes Celenit panels;

For more informations about the uses and the installation, our offices are ready to answer your questions on [www.betonwood.com](http://www.betonwood.com)



## | USES

The **BetonWood N** cement bonded particle boards can be used alone or with other materials, in order to provide a perfect response to most of the building needs. Used as a building panel **BetonWood N** is suitable for the realization of:

- radiant floors **BetonRadiant** and pre-armed floors;
- roofs with high thermal lag;
- ceilings, false ceilings and fire-resistant walls;
- fire and fire-resistant walls, self-supporting and sound-absorbing walls;
- floors and floating floors structures;
- load support for floors and walls;
- dividing walls for offices;
- fixtures;
- external and internal cladding;
- running boards benches, platforms and chutes;
- exhibitions and installations prefabricated boxes;
- road and railway noise barriers;
- formworks.

## | SPECIFICATIONS

High density cement bonded particle board **BetonWood N**. The panels is realized in cement mixing Portland cement type and debarked Pine wood fiber, with high density ( $\delta=1350 \text{ Kg/m}^3$ ) and the following thermodynamic properties: coefficient of thermal conductivity  $\lambda=0,26 \text{ W/mK}$ , specific heat equal to  $c=1,88 \text{ KJ/Kg K}$ , steam penetration resistance coefficient  $\mu=22,6$  and the reaction to fire class **A2-fl -s1**, according to the standard **EN 13501-1**. The panel sizes correspond to ... mm for a thickness equal to ... mm. The wood used in the processing of the panel comes from FSC controlled forests with reforestation cycles and it is pressed with water and hydraulic binders (Portland cement) with high cold compression ratios.

## | AVAILABLE DIMENSIONS AND THICKNESSES **Beton Wood N**

Thicknesses (mm)	Dimensions (mm)				
	870 x 515	1012 x 515	1025 x 515	1220 x 515	1220 x 520
18	•	•	•		
20				•	•

The **BetonWood N** cement bonded particle boards are available also in the **Sanded** version, these panels comes from standard panels appropriately smoothed and calibrated with appropriate machinery, to bring the thickness of the panels to lower dimensional tolerances. These particular panels have the characteristic of being aesthetically pleasing, as the wood contained inside stands out in the upper and lower part, compared to the standard panel, which has the particularity of having a totally cement-like appearance.

The **BetonWood N** cement bonded particle boards can be processed on the edges in order to facilitate the joints during installation:

- stepped edge for thicknesses less than 14 mm
- tongue and groove edge for thicknesses greater than 18 mm

## | STORAGE/TRANSPORT **Beton Wood N**

### Panels with sharp edges

Dimensions (mm)	Thickness (mm)	Panels / Pallet	m <sup>2</sup> / Pallet	Pallet size
870 x 515	18	70	31,365	0.87 x 1.03 x 0.7
1012 x 515	18	66	34,400	1.01 x 1.03 x 0.7
1025 x 515	18	66	34,840	1.02 x 1.03 x 0.7
1220 x 515	20	56	35,180	1.20 x 1.04 x 0.7
1220 x 520	20	56	35,530	1.22 x 1.04 x 0.7

### Panels with tongue and groove edges

Dimensions (mm)	Thickness (mm)	Panels / Pallet	m <sup>2</sup> / Pallet	Pallet size
1200 x 500	20	25	15,000	1.20 x 0.5 x 0.7

### Sanded panels with sharp edges

Dimensions (mm)	Thickness (mm)	Panels / Pallet	m <sup>2</sup> / Pallet	Pallet size
1220 x 520	20	56	35,530	1.22 x 1.04 x 0.7

### Sanded panels with tongue and groove edges

Dimensions (mm)	Thickness (mm)	Panels / Pallet	m <sup>2</sup> / Pallet	Pallet size
1200 x 500	20	56	33,600	1.20 x 1.04 x 0.7

- delivering the material is normally done by trucks, considering the high mass of the pallet is advisable that the recipient has suitable equipment and mechanical lifting devices with minimal flow rates of 35-40 quintals per unloading of the goods;
- it is advisable to deposit the panels overlapping one another and maintain them in a horizontal position, with supports with a square section and a minimum of 80 cm spacing;
- the transport of the individual sheets must take place never in horizontal way;
- avoid direct exposure to sunlight and adequately cover the material to prevent an excessive accumulation of dust;
- the pallets are provided with a top plate of protection, which must be repositioned from time to time above the other tables and ballasted superiorly to prevent distortion of the plates below it.



## COMBINATIONS

Available in combination with other materials, we can obtain coupled products specific for multiple-use in green building:

- **BetonEco** for thermo-acoustic insulation, combines the BetonWood panel to a layer of wood wool;
- **BetonCork** for thermo-acoustic insulation, combines the BetonWood panel to a layer of breathable and ecological cork;
- **BetonKenaf** for thermo-acoustic insulation, combines the BetonWood panel to a layer of vegetal fiber;
- **BetonStyr** for thermal insulation, unisce al combines the BetonWood panel to a layer of extruded polystyrene;
- **BetonWall** self-supporting sandwich block for dry dividing walls, combines two BetonWood panels and a layer of mineralized wood-wool inside them;
- **BetonStone** exterior or interior finishes, combines the panel BetonWood with a natural stone cladding;
- **BetonRadiant** for insulation of floor heating systems, available in the standard version or with bonded insulation.

## CERTIFICATIONS

BetonWood N cement bonded particle board is CE certified according to the standard UNI EN 13501-2.

Head office:  
Via Falcone e Borsellino, 58  
I-50013 Campi Bisenzio (FI)

T: +39 055 8953144  
F: +39 055 4640609

info@betonwood.com  
www.betonwood.com

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## TECHNICAL CHARACTERISTICS BetonWood N

Density $\rho$ [kg / m <sup>3</sup> ]		1350
Reaction to fire in order to the standard EN 13501-1		A2-fl-s1
Thermal conductivity coefficient $\lambda_D$ [W / (m * K)]		0,26
Specific heat $c$ [J / (kg * K)]		1.880
Steam penetration resistance $\mu$		22,6
Coefficient of linear thermal expansion $\alpha$		0,00001
Swelling in thickness after 24h of storage in water		1,5%
Superficial PH value		11
Flexural strength $\sigma$ [N / mm <sup>2</sup> ]		min.9
Transversal tensile strength $N$ [N / mm <sup>2</sup> ]		min.0,5
Air permeability $l$ /min. m <sup>2</sup> Mpa		0,133
Modulus of elasticity $E$ [N / mm <sup>2</sup> ]		4500
Shear strength $\tau$ [N / mm <sup>2</sup> ]		0,5
Resistance to distributed load kPa		9000
Resistance to concentrated load kN		9

## ACOUSTIC INSULATION BetonWood N

Thickness (mm)	Soundproofing power (dB)					
	100	200	400	800	1600	3150
	Frequency (hz)					
18	17,5	22,6	27,8	33,2	38,7	44,0
20	18,3	23,5	28,7	34,1	39,6	45,0

The installation is closely linked to the type of use of the panel according to what will be appropriate to adopt the most suitable method of application.

The BetonWood N cement bonded particle boards are also:

- outdoor resistant
- antifreeze
- free from formaldehyde, asbestos

