



## | AREAS OF APPLICATION

Betoncork is characterized by excellent values of thermal insulation and breathability, typical of natural cork, which reduce the formation of mold and moisture compared to traditional products; another characteristic of the cork is that of guaranteeing an excellent soundproofing, which makes Betoncork ideal also for the realization of internal partitions. In one panel the advantages of blond cork are combined with those of cement bonded particle boards, a high density natural material, which allows to obtain excellent results of thermal displacement, acoustic insulation, mechanical resistance and fire resistance (class A2).

All the materials used for the production of Betoncork are natural and are made of recyclable raw materials and sustainable life cycles.

The Betoncork panel is the ideal product both for thermal and acoustic insulation with reduced thickness, as in the case of renovations or internal partitions, and for those with a high humidity component.

In particular, it is suitable for the production of acoustically insulated dry screeds and as an internal thermal coat.

It can be easily installed on floors, walls and roofs; it has excellent versatility, fire resistance in class A2, and can effectively isolate every part of the building:

- it can be used as a thermal and acoustic insulation of roofs and floors that require a high mass to increase the thermal displacement and the acoustic abatement;
- it is also ideal for the insulation of both flat and pitched roofs as the bonding surface protects the blond cork from atmospheric agents, humidity and fire. The panel is entirely walkable and therefore suitable for laying on horizontal surfaces;
- the panel is characterized by a high compressive strength of 9,000.00 kPa and is therefore suitable for use in public places such as schools, hospitals, libraries, offices, but also fire escape route and so on ..

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)



## MATERIAL

Beton cork panels in cement bonded particle board and insulating blond cork panel are industrially coupled. The cement bonded particle boards BetonWood has an high mechanical strenght and an high density 1350 kg/m<sup>3</sup>; the other panel in natural insulating blond cork panel has a density of 150 ÷ 160 kg/m<sup>3</sup>.

## SPECIFICATION

Supply and installation of external and internal reinforced insulation with panels already coupled of dimensions ... mm and thickness .... mm. The cement bonded particle board BetonWood is realized in cement conglomerate Portland type and debarked Pine wood fiber, with high density ( $\delta = 1350 \text{ Kg/m}^3$ ) and with the following thermo-dynamics characteristics: declared thermal conductivity  $\lambda = 0,26 \text{ W/mK}$ , specific heat  $c = 1,88 \text{ KJ/Kg K}$ , water vapour diffusion resistance factor  $\mu = 22,6$  and fire reaction class A2-fl-s1, according to the standard EN 13501-1.

The wood used in the processing of cement is from forests controlled by FSC reforestation cycles and pressed with water and hydraulic binder (Portland cement) with high cold compression ratios.

The other panel forms the insulating, breathable layer and is made of Corkpanels super-compressed blond cork.

The material is chacterized with the following thermo-dynamic characteristics: density 150 ÷ 160 kg/m<sup>2</sup>, declared thermal conductivity  $\lambda = 0,041 \text{ W/mK}$ , specific heat capacity  $c = 1674 \text{ J/kg K}$ , water vapour diffusion resistance factor  $\mu = 10 \div 13$  and fire reaction class 2, according to the standards Circ. Min. Interno 14/09/1961, n. 91.

The dimensions of the panel correspond to .... mm and a thickness of .... mm.

Manufactured with CE certified materials.

## TECHNICAL CHARACTERISTICS BetonCork

Cement bonded particle board

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

## TECHNICAL CHARACTERISTICS BetonCork

Natural compressed blond cork Corkpanels

Fire class according to EN 13501-1	class 2 self-extinguishing
Declared thermal conductivity $\lambda_D$ W/(m*K)	0,041
Density kg/m <sup>3</sup>	150 ÷ 160
Water vapour diffusion resistance factor $\mu$	10 ÷ 13
Specific heat capacity $c$ J/(kg*K)	1.674
Compression strength at 1mm deformation $\sigma$ (kg/cm <sup>2</sup> )	0,88
Flexural strength (kg/cm <sup>2</sup> )	3,42
Compression strength at 50% deformation $\sigma$ (kg/cm <sup>2</sup> )	12,95
Tensile strength parallel to faces (kg/cm <sup>2</sup> )	3
Soundproofing power 3cm external walls (dB)	58
Soundproofing power 4cm external walls (dB)	52
Sound absorption Between 800/5000 Hz - th.3 cm	0,73

The BetonCork panels are characterized by:

- excellent compression strenght (9.000,00 kPa);
- high acoustic abatment;
- fire resistant surface class A2;
- thanks to the high density we can obtain excellent results of thermal displacement;
- high breathability and protection against moisture and mold formation;
- quality assurance thanks to continuous checks and tests according to European standards.



## | AVAILABLE DIMENSIONS Betoncork

Min. 300 mq Combinable thicknesses		blond cork Corkpanels										
		3	6	20	40	60	80	100	120	140	160	
cement bonded particle board	Reduced thicknesses for restorations	8	•	•	•	•						
		10	•	•	•	•						
	Insulations for vertical insulations	12	•	•	•	•	•	•				
		14	•	•	•	•	•	•	•	•	•	•
		16	•	•	•	•	•	•	•	•	•	•
		18	•	•	•	•	•	•	•	•	•	•
		20	•	•	•	•	•	•	•	•	•	•
		24	•	•	•	•	•	•	•	•	•	•
	Grater thicknesses for dry screeds/floors	28	•	•	•	•	•	•	•	•	•	•
		40	•	•	•	•	•	•	•	•	•	•

## | USES

The installation mode is strictly linked to the type of use of the panel depending on which it will be appropriate to adopt the most suitable application method.

The **Betoncork** insulating panel can be screwed to the wooden structures or tessellated on any type of masonry and floors/ceilings. You can install the dry panel as a floating screed or even as a thermal coat (not afraid of outdoor exposure).

Standard sizes	
Cement bonded particle board with a thickness from 8 to 40 mm <i>ON REQUEST, EVEN UNTIL 3000X1200</i>	1000 x 500
Cement bonded particle board with a thickness of 20 mm <i>SANDED AND STEPPED</i>	1000 x 500

- combinations of standard thicknesses
- combinations of thicknesses on request

The table offers standard thicknesses and sizes according to the experience gained by our company in direct contact with the building world for years, to offer the best solutions in the field of thermal insulation.

For the above-mentioned sizes with cement bonded particle boards thicknesses greater than 20 mm or for any other customization, minimum orders of 300 square meters are required.

## | CERTIFICATIONS

The **Beton cork** panels are produced with CE certified materials in accordance with current regulations. Product certificates are available on request.



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