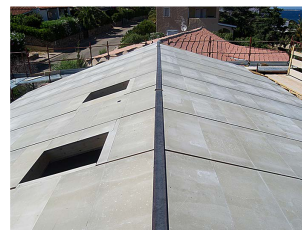


Betoneco

Building insulating coupled panels with cement bonded particle board and mineralized wood fiber

Beton Wood

Building insulating panels with coupled cement bonded particle boards



| AREAS OF APPLICATION

Betoneco is a building coupled panel for thermo-acoustic insulation in buildings made of wood or made in traditional systems.

In a single panel the advantages of mineralized wood fiber, a natural insulator with high thermal performance, are combined with those of cement bonded particle boards, high density natural material, which allows excellent results in thermal displacement, sound insulation and mechanical resistance.

All the materials used for the production of Betoneco panel are obtained with the use of wood obtained solely from forests managed in a responsible manner, as attested by the FSC certification.

The Betoneco panel is proposed as building material with a completely natural thermal-acoustic insulation.

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 wood fiber 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.betowood.com



| MATERIAL

Betoneco panels in cement bonded particle boards and insulating wood fiber are industrially coupled. The cement bonded particle boards BetonWood has an high mechanical strenght and an high density 1350 kg/m³; the other panel in natural insulating mineralized wood fiber BetonWool.

| 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.

High thermo-acoustic insulating panel in mineralized wood fiber BetonWool panel. The panel is made with red Spruce wood wool (50%), agglomerated with only Portland cement (50%), and is characterized by the following thermodynamic characteristics: coefficient of thermal conductivity $\lambda = 0,063 \text{ W/mK}$, specific heat $c = 2030 \text{ J/Kg K}$, coefficient of resistance to vapor penetration $\mu = 3 \div 5$ and B-s1-d0 fire reaction class, according to EN 13501-1. The dimensions of the panel correspond to 2000 x 600 mm for a thickness of ... mm. The wood used in the processing comes from forests controlled by FSC reforestation cycles.

| TECHNICAL CHARACTERISTICS Betoneco

Cement bonded particle board

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

| TECHNICAL CHARACTERISTICS Betoneco

Mineralized wood fiber

Thickness	mm	15 - 75
Size (length x width)	mm	2000 x 600
Fire reaction - Euroclass	-	B-s1, d0
Thermal conductivity λ_D	(W/m·k)	0,063
Thermal resistance R_D	m ² K/W	0,20(15) / 0,30(20) / 0,35(25) / 0,45(30) / 0,55(35) / 0,75(50) / 1,15(75)
Surface mass	kg/m ²	8,5(15) / 10(20) / 11,5(25) / 13(30) / 14,5(35) / 19,5(50) / 28(75)
Compression strenght	kPa	>150
Flexural strenght	kPa	2000(15)/1600(20)/1200(25)/1000(30) / 850(35) / 600(50) / 400(75)
Resistance to water vapor passage μ		3 ÷ 5
Thickness tolerance Δd	mm	-5/+s.c.
Specific heat c	[J/(kg·K)]	2030

The Betoneco 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 Beton eco

Min. 300 mq Combinable thicknesses		Mineralized wood fiber BetonWool							
		15	20	25	30	35	50	75	
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 **Betoneco** insulating panel can be screwed to the wooden structures or tessellated on any type of masonry and floors/ceilings.

Dry panels can be installed as floating screeds.

Standard sizes		
Cement bonded particle board with a thickness from 8 to 40 mm <i>ON REQUEST, EVEN UNTIL 3000X1200</i>	1200 x 500	1200 x 600
Cement bonded particle board with a thickness of 20 mm <i>SANDED AND STEPPED</i>	1200 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 **Betoneco** panels are produced with CE certified materials in accordance with current regulations. Product certificates are available on request.



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