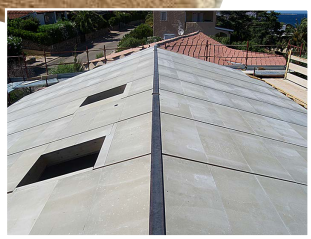
Betonfiber

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

Beton Wood

Building insulating panels with coupled cement bonded particle boards



| AREAS OF APPLICATION

Beton Fiber 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 wood fiber, a natural insulator with high thermal performance, are combined with those of cement bonded particle boards, high density natural material, wich allows excellent results in thermal displacement, sound insulation and mechanical resistance.
All the materials used for the production of Beton Fiber panel are obtained with the use of wood obtained solely from forests managed in a responsible manner, as attested by the FSC certification.

The Betonfiber 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 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

Beton fiber 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 wood fiber FiberTherm has a density of 160 kg/m³.

| 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 (δ =1350 Kg/m³) and with the following thermo-dynamics characteristics: declared thermal conductivity λ=0,26 W/mK, specific heat c=1,88 KJ/Kg K, water vapour diffusion resistance factor μ=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 represent the insulating layer and is realized in wood fiber FiberTherm processed according to the standards EN 13171 and EN 13986 under constant quality control.
The material is chacterized with the following thermo-dynamic characteristics: density δ=160 Kg/m³, declared thermal conductivity λ=0,039 W/mK, specific heat c=2.100 J/Kg K, water vapour diffusion resistance factor μ=5 and fire reaction class E, according to the standards EN 13501-1.
The wood used in the processing comes from forests controlled by FSC reforestation cycles.

| TECHNICAL CHARACTERISTICS Beton fiber

Cement bonded particle board

Density	ρ [kg /m³]	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 /mm²]	min.9
Transversal tensile strength	N [N /mm²]	min.0,5
Air permeability	l/min. m² Mpa	0,133
Modulus of elasticity	E [N /mm²]	4500
Shear strength	τ [N /mm²]	0,5
Resistance to distributed load	kPa	9000
Resistance to concentrated load	kN	9

| TECHNICAL CHARACTERISTICS Beton fiber

Wood fober panels FiberTherm

Produced and supervised according to	DIN EN 13171
Board designation	WF-EN 13171-T4-CS(10 \Y)50-TR 2,5-WS 2,0-AF100
Fire class according to EN 13501-1	E
Declared thermal conductivity λ_D W/(m*K)	0,039
Declared thermal resistance R_D (m²*K)/W	2,10(80) / 2,60(100) / 3,15(120) / 3,65(140) / 4,20(160)
Density kg/m³	approx. 160
Water vapour diffusion resistance factor μ	5
sd value (m)	0,4(80)/0,5(100)/0,6(120)/0,7(140)/0,8(160)
Specific heat capacity c J/(kg*K)	2.100
Minimum compression strength at 10% deformation σ_{10} (N/mm²)	0,05
Minimum compression strength (kPa)	50
Tensile strength perpendicular to face ⊥ (kPa)	≥2,5
Declared level of airflow resistance (kPa*s)/m²	≥100
Raw material	wood fiber, glue between layers
Waste code (EAK)	030105/170201

The Betonfiber 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.

Beton Wood

| AVAILABLE DIMENSIONS Beton fiber

	Min. 300 mq Combinable thicknesses	FiberTherm wood fiber							
		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	•	•	•	•	•	•	•	•
Grater thicknesses for dry screeds/floors	20	•	•	•	•	•	•	•	•
	24	•	•	•	•	•	•	•	•
	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 Betonfiber 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 ON REQUEST, EVEN UNTIL 3000X1200	1200 x 500	1200 x 600
Cement bonded particle board with a thickness of 20 mm SANDED AND STEPPED	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. Larger formats are also available (3200x1250, 2800x1250, 2600x1250).
For the above-mentioned sizes with cement bonded particle boards thicknesses grater than 20 mm or for any other customization, minimum orders of 300 square meters are required.

The insulation panel can be also combined with cement bonded particle boards with stepped edges to improve its installation, in particular for the construction of dry and radiant screeds/floors.

| CERTIFICATIONS

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

CE

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