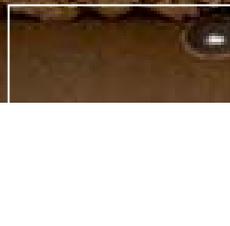


Betontherm cork

External-internal thermal insulation composite system
in insulating cork panels and cement bonded particle boards

Reinforced external-internal thermal
insulation composite systems



| AREAS OF APPLICATION

Betontherm cork is a modular system ideal for the realization of external/internal thermo-acoustic insulation composite systems (ETICS), with high mechanical resistance and high thermal displacement.

Thermal composite systems with an high insulating power, both internal and external, suitable for walls, ceilings, roofs. Suitable both for traditional constructions and dry wood systems in X-Lam or Platform frame.

Betontherm cork is a thermal ecologic composite system made by high density cement bonded particle board (1350 Kg/m³) BetonWood and natural wood fiber insulating panel Corkpanels (150 - 160 Kg/m³)

For more informations about the uses and the installation,
our offices are ready to answer your questions on www.betontherm.com



| MATERIAL

The **Betontherm** panels are provided in coupled solution with other insulating materials like cork (**Betontherm Cork**), or extruded polystyrene XPS (**Betontherm Styr XPS**), or other wood fiber panel types with reduced density like **Betontherm fiber top** or **Betontherm fiber dry**.

| SPECIFICATION

Supply and installation of external and internal reinforced insulation with panels already coupled of dimensions ... mm and thickness mm. **BetonTherm** is made with an hard panel 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 represent the insulating layer and it is made of compressed natural blond cork **Corkpanels**.

The material is characterized by the following thermodynamic characteristics: density $150 \div 160 \text{ kg/m}^3$, coefficient of thermal conductivity $\lambda=0,041 \text{ W/mK}$, specific heat $c=1674 \text{ J/kg K}$, coefficient of resistance to vapor penetration $\mu=10 \div 13$ and fire resistant class 2, according to Circ. Min. Interno 14/09/1961, n. 91.

The size of panels are mm and a thickness of mm.

| TECHNICAL CHARACTERISTICS **Betontherm cork**

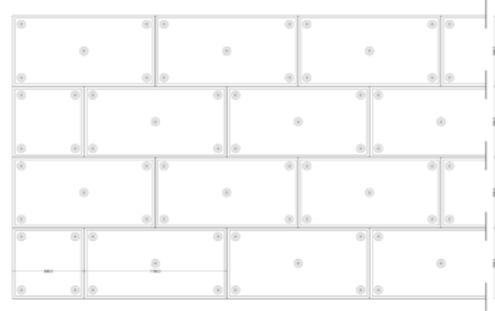
Cement bonded particle board

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 **Betontherm cork**

Natural compressed blond cork **Corkpanels**

Fire class according to EN 13501-1	class 2 self-extinguishing
Declared thermal conductivity λ_D W/(m*K)	0,041
Density kg/m ³	150 ÷ 160
Water vapour diffusion resistance factor μ	10 ÷ 13
Specific heat capacity c J/(kg*K)	1.674
Compression strength at 1mm deformation σ (kg/cm ²)	0,88
Flexural strength (kg/cm ²)	3,42
Compression strength at 50% deformation σ (kg/cm ²)	12,95
Tensile strength parallel to faces (kg/cm ²)	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



| AVAILABLE DIMENSIONS **Betontherm cork**

		cement bonded particle board (mm)		
thicknesses (mm)		16	18	20
blonde cork	40		•	•
	60		•	•
	80	•	•	•
	100	•	•	•
Size(mm)		1000 x 500		

| PLUS ADVANTAGES OF BETONTHERM SYSTEMS

+1 Fire resistant

The thermal composite systems **Betontherm fiber, cork and styr** thanks to the external cement bonded particle board with a fire class A2 are suitable for fire escape ways, schools, hospitals, public buildings in which there are insulation and safety needs.

+2 Excellent mechanical resistance

The thermal composite systems **Betontherm fiber, cork and styr** having a cement bonded particle boards with a thickness from 16 to 20 mm, offer a high mechanical resistance, not only for hanging accessories on the surface but also for resisting vandalism.

+3 Ecological material

The thermal composite systems **Betontherm fiber and cork** are produced and certified by greenbuilding because they are realized with natural, ecological and recyclable materials.

+4 High noise reduction

The thermal composite systems **Betontherm fiber, cork and styr**, combining panels with different densities, have the advantage of effectively breaking down a wide range of acoustic frequencies, even very high.

+5 Extreme ease of installation

The thermal composite systems **Betontherm cork** using for every panel 5 plugs with steel core and with a load capacity of 150 kg each, they allow the panels to be fixed securely to the masonry without gluing or without having to restore the underlying plaster.

+6 Safety first of all

The thermal composite systems **Betontherm cork** can be used as attic and ceiling insulation, increasing security in case of earthquakes/fire more effectively than traditional materials.

| CERTIFICATIONS

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



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| TECHNICAL DRAWINGS OF THE MODULAR SYSTEM **Betontherm cork**

Betontherm cork 1000x500 mm thickness 20 + 80
This is only one of the panels combinations.

