Betonstyr XPS

Building insulating coupled panels with cement bonded particle board and extruded polystyrene

Building insulating panels with coupled cement bonded particle boards

| AREAS OF APPLICATION

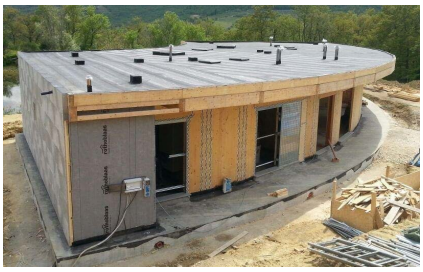
Betonstyr XPS is an extremely versatile product because it is suitable for many building applications. The advantages of two materials are joined in one coupled: on one hand the cement with a high mass, high density, high compressive strength, suitable for the direct gluing of ceramics and resilient floors, which is essential to obtain an adequate thermal displacement and a great noise reduction; on the other, an XPS extruded polystyrene panel characterized by lightness, high insulation capacity and ease of processing.
Both materials are of excellent quality, worked with the most advanced technologies, subjected to strict process controls, CE marked.

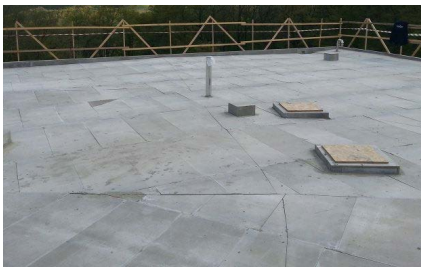
The Betonstyr XPS panel is proposed as construction material with thermo-acoustic insulation in extruded polystyrene incorporated on the part destined to the inside.
It adapts to any application in the field of thermal insulation and is particularly suitable for all cases where there is a strong moisture component and the need for a material with considerable compressive strength.

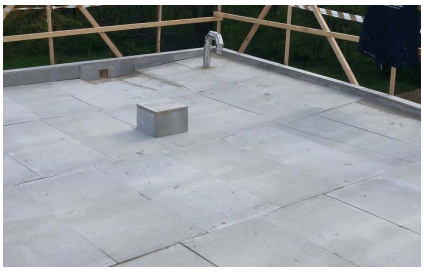
In particular it is used as:

- inverted roofs;
- insulation of roofs and floors;
- insulation of floors for raised floors;
- correction of thermal bridges;
- external and internal thermal coats;
- disposable formworks;
- insulating systems for window frames, in particular for the insulation of roller shutter boxes;
- dry screeds and radiant screeds.

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







| MATERIAL

Beton styr panels in cement bonded particle boards and insulating extruded polystyrene 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 insulating extruded polystyrene XPS type has a density of 15 ÷ 35 kg/m³. The polstyrene type can be changed depending on the COMPRESSION STRENGHT and the WATER VAPOR PERMEABILITY needs.

| 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 it is made in extruded polystyrene (XPS). This panel is characterized by the following thermodynamic characteristics: coefficient of thermal conductivity λ = 0,026 ÷ 0,036 W / mK, specific heat c = 1,450 J / Kg K, coeff. of resistance to vapor penetration μ = 50 ÷ 100. The panel is supplied already coupled with dimensions ... mm.

Building material certified CE.

| TECHNICAL CHARACTERISTICS Betonstyr XPS

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 Betonstyr XPS

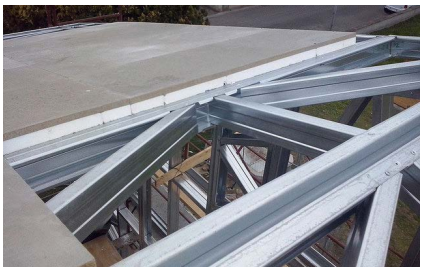
Extruded polystyrene XPS panel

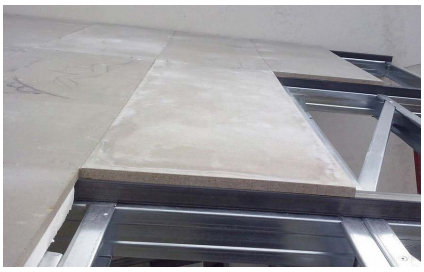
Density	ρ [kg /m³]	15 ÷ 35
Edges		sharp
Thermal conductivity coefficient λ_D [W /(m * K)]		0,026 ÷ 0,036
Specific heat	c [J /(kg * K)]	1.450
Water vapour diffusion resistance factor	μ	50 ÷ 100
Fire resistance class according to EN 13501-1		E
Compressive Stress at 10% deformation	kPa	120 ÷ 250
Compressive Creep	kPa	≤ 100 mm = 130 kPa > 100 mm = 110KPa
Dimensional stability under specified conditions 70°C; 90% r.h.	%	≤ 5
Deformation under specified compressive load of 40 kPa and temperature conditions at 70°C	%	≤ 5
Freeze-thaw resistance after long term water absorption by diffusion	vol. %	≤100mm ≤ 1 >100 ≤200mm ≤ 2
Modulus of elasticity		12.000

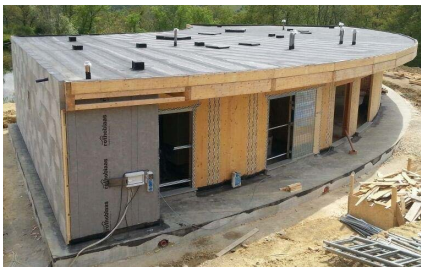
The insulating polystyrene panels are available in various types:

- extruded / expanded
- with an high compressioon strenght, or with an high thermal resistance value depending on the density and the use.

Beton Wood







| AVAILABLE DIMENSIONS Beton styr XPS

cement bonded particle board		Min. 300 mq Combinable thicknesses	extruded polystyrene XPS type							
			20	40	60	80	100	120	140	160
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

UNBEATABLE in case of INSULATION FLOORS as base RAISED OR FLOATING FLOORS.

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.
In the case of laying in particularly humid conditions, the use of extruded polystyrene, as an alternative to the expanded form, is suggested, because it has a closed cell structure impermeable to water.

| CERTIFICATIONS

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

CE

Standard sizes		
Cement bonded particle board with a thickness from 8 to 40 mm ON REQUEST, EVEN UNTIL 3000X1200	850 x 500	1000 x 500
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.
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.

BetonStyr, on request, can be realized with stepped or tongue&groove edges to obtain a better installation in case of continuous screed.
Our BetonElastic sealant is highly recommended for panels bonding.
In case of inverted roofs with double waterproofing, the BetonStyr screed must be contained with reinforced concrete curbs.

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

BTSTX IR.18.02

Beton Wood