



BETONYP[®]
building boards

The modern way of living.


FALCO
wood industry

SOLID

Tough for 40 years

Healthy, debarked pine wood and cement: the raw materials used to produce one of our most successful products for more than three decades. Our cement-bonded chipboard, called BETONYP®, is used where lightweight construction and facing elements require toughness and durability.

- **high abrasion and shock resistance**
- **moisture proof and frost resistant**
- **fungal and insect resistant**
- **flame resistance and anti-combustion properties**
- **free from formaldehyde and asbestos**
- **easy processing and fixation**
- **extended durability**
- **sustainable and recyclable**

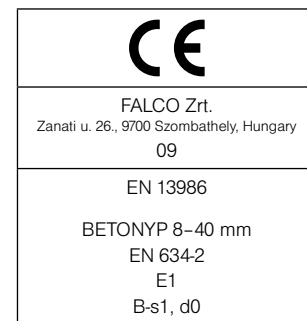
BETONYP[®] building boards

Cement-Bonded Chipboard

FALCO has been producing cement-bonded chipboards since 1977. Pine wood, a sustainable timber source, is exclusively used for production.

Quality

- The product is CE certified
- Fire class B-s1, d0 (according to EN 13501-1)
- Once a year, the production process is reviewed by ÉMI (accredited Hungarian control institute for the building industry)



Technical and Mechanical Characteristics

Product quality according to technical data sheet, important parameters / values:

Moisture content after acclimatisation	6-12%
Bending strength	8-40 mm min. 9 N/mm ²
Vertical tensile strength to the board	min. 0,5 N/mm ²
Modulus of elasticity	4500 N/mm ²
Swelling	after 24 hours of soaking 1.5%
Dimensional change effected by the humidity in longitudinal and lateral direction of the sheet respectively at a temperature of 20°C upon relative humidity increasing from 25% to 85%	max. 0,3%
Thermal conductivity*	0.26 W/mK
Steam diffusion resistance*	22,6
Air permeability*	0,133 l / min. m ² Mpa
Frost resistance*	no visible transformation
Sound absorption*	30 dB with a 12 mm thick sheet
Surface pH value*	11

*Values only for information

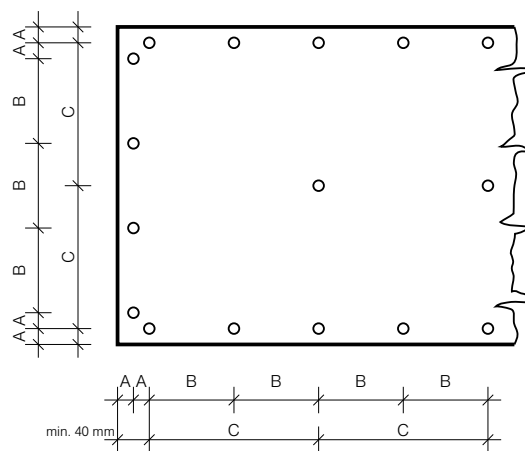
Formats

Standard sizes (mm)	3200 x 1250, 2800 x 1250									
Standard widths (mm)	8	10	12	14	16	18	20	24	28	40
Density	1350 ± 75 kg/m ³									

Fixing of the boards

- Cement-bonded chipboards can be fixed by pneumatic and manual nailing, spiral nailing, screwing and pneumatic clamping.
- The illustration and the table below show the required fixing distance for the most frequently applied board thicknesses.
- The fixing distances at corners are to be selected so that excessive weakening of cross-section may not occur.
- It is recommended to apply screwed fixing for boards with more than 16 mm thickness.
- It is required to use plated (corrosion resistant) fasteners and fittings (zinc-plated, cadmiated etc.)
- Proper support of boards should be provided during fixing for any assembly method.
- **Screwing:**
With pre-drilling. Bore diameter for drilling: $D=0,8-1,1 \times D_s$; D_s =diameter of screw.
- **Nailing:**
Without pre-drilling of boards with thickness under 10 mm. Above this thickness pre-drilling of chipboards recommended. Drilling diameter for nailing: $D=0,8 \times D_n$; D_n =diameter of nail shank.
- **Clamping:**
Recommended for cement bonded chipboards with thickness under 12 mm only using clamps with legs of intermediate length and an approved clamping tool.
- **Bonding:**
Provides additional joint for nailing and clamping. Use of alkaline reaction adhesives recommended.

Required fixing distances



Required distances depending on the most frequently used board thicknesses

Board thickness (mm)	Fixing distance in mm on board edge		
	A	B	C
8, 10, 12, 14	20 mm	200 mm	400 mm
16, 18, 20	25 mm	300 mm	600 mm
22, 24, 28	25 mm	400 mm	800 mm
40	40 mm	600 mm	1200 mm

Processing

- **Cutting to size**

It is necessary to use fine toothed, hard-metal tipped saw blades, sharpened slightly to alternating angles. Setting of cutting depth: overhang of saw blade should only exceed overall thickness to an extent that requires minimal cutting.

- **Drilling**

The use of H8S steel drill is recommended. A clean drilling is produced at high revolutions; pitting of the rear face of the board can be avoided by using a hardwood pad.

- **Milling**

It is necessary to use hard metal tipped tools; it is recommended to work at medium cutting speed.

Surface

- The surface is not evenly gray. Without coating, as a visible surface, the way of use of the end-product is the responsibility of the architect or processor.

Format change, bending

- Betonyp is weather-resistant. Depending on the climatic conditions, the moisture of the boards changes, which might lead to changes in dimensions.
- In case of different climatic conditions, the boards bend on the upper and lower surface.
- The boards must be fastened as quickly as possible after installation.
- Open pallets must be fastened again with straps or loaded with another pallet.

Floor panels

- Due to their high thickness tolerance, sanded boards are recommended.
- The spring and the groove connection is asymmetrical, so the plates cannot be rotated in every direction. The surface, which is downside within the pallets, should be placed on top when laying.
- Due to the movement of the panels, expansion joints should be formed (between the walls and the panels; for larger surfaces, additional expansion joints each 20-30 sqm)
- The boards must be fastened as quickly as possible after installation.

Laying ceramic plates

- It is not possible to adhere ceramic to Betonyp boards directly.
- The load-bearing structure must particularly be stable and sufficient amount of expansion joints must be formed.
- An elastic material should be placed between the Betonyp board and the ceramic slab. (e.g. PS foam board, impregnated plasterboard, etc.)

Steel construction

- Changes in the climatic conditions cause opposite format changes in the Betonyp board and steel.
- Improper construction can cause cracks and breaks at the fastening points.

Application

- Facade cladding elements;
e.g. exterior facade cladding, counter ceiling, interior space divider
- Auxiliary panel elements for lightweight and traditional construction systems,
e.g. interior space divider panels, ceiling and flooring elements, facing panels
- Shuttering elements
- The surface of the board is not homogeneous cement-gray colour. The application as a final product without surface treatment should be considered by the designer or the final user.
- The movement of the boards caused by temperature and humidity change should be taken into consideration.

Product range

Thickness	Packaging	3200 x 1250 mm		2800 x 1250 mm	
(mm)	(pcs/pallet)	(sqm)		(cu m)	
8	60	240	1,92	210	1,68
10	50	200	2,00	175	1,75
12	40	160	1,92	140	1,68
14	35	140	1,96	122	1,71
16	30	120	1,92	105	1,68
18	30	120	2,16	105	1,89
20	25	100	2,00	88	1,75
24	20	80	1,92	70	1,68
28	20	80	2,24	70	1,96
40	15	60	2,40	53	2,10

*BETONYP® products are also available cut-to-size.

Storage and Transportation

- Protect against damage, contamination and the impact of weather
- Protect the top board of an open pallet against heat
- Keep dry

Product Characteristics

- Moisture proof and frost resistant
- Fungal and insect resistant
- Flame resistance and anti-combustion properties

Practical ways of application of Betonyp boards with pictures



BETONYP® as formwork



BETONYP® as noise reduction wall



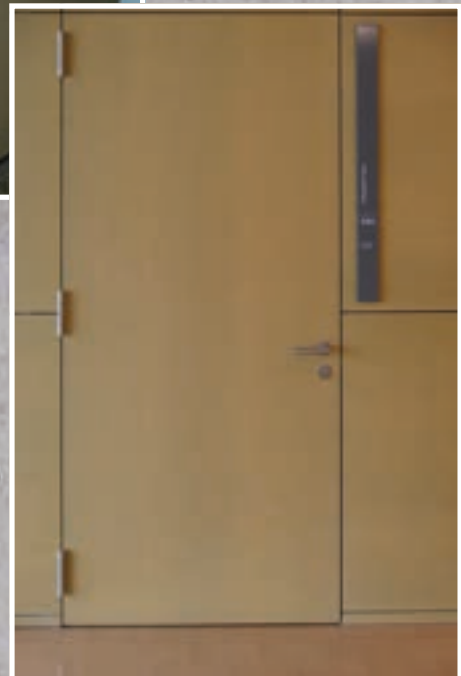
BETONYP® as laboratory furniture



Sanded BETONYP® board in a community building



BETONYP® building blocks with fire safety functions





FALCO Zrt.

Zanati u. 26. • 9700 Szombathely, Hungary

T +36 94 516-600 • F +36 94 516-693 • office@falco-woodindustry.com

www.falco-woodindustry.com