



PREFABRICATED STRUCTURES AND HOUSES

LIGHT WOODEN FRAME



> For our constructions, we use our own light wooden frame system. Although for people in Spain this might seem an innovation, the light wooden frame has been used in half the world for some centuries.

It has proven to be a quick, safe and highly efficient construction system.

We have improved, updated and prefabricated it and we are convinced we have achieved one of the best value for money systems on the market.



> Advantages



Fast assembly

Full assembly of the structure takes between three and five days.



High performance

The materials used are high quality and environmentally friendly.



Provision for installations

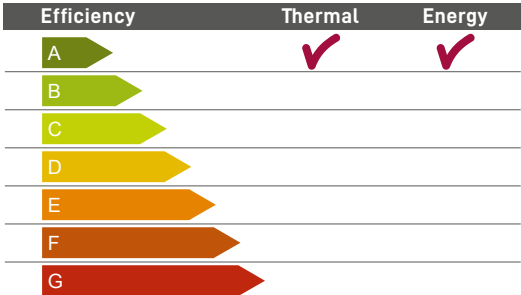
The walls include openings at the top and bottom to allow installations.



Technical Service in Spain

GRUPO PAGÈS BCN has a technical and sales service in Begues, Barcelona.

Invest in savings



Facade wall panel with rock wool

Ref. N110

> Description and uses:

Although this is our basic facade panel, it is a high-performance panel designed for use in outside walls. On the outside it has a SATE system ready for the final application of acrylic mortar. In this case, high-density rock wool is used.

Rock wool is also used as internal insulation in the structure and the cladding due to its thermal performance and as a safety measure because of its well-known fireproofing capacity.

As in other panels, a gap is left at the top and bottom of the internal cladding to allow the passage of installations and the proper sealing of the joints.

> Characteristics:

Total thickness: 27.4 cm

Weight: 59.7 kg/m²

Type of wood: Pinus Sylvestris

Strength class: C16, C18 or C24

Moisture content: between 12% and 16%

Optional insecticide, fungicide and fire-retardant treatment

> Performance:

Thermal transmittance of whole unit:
U=0.15 W/m²K*

> Composition:

SATE D150 rock wool - 50mm

12 mm wood cement board

Breathable waterproof sheet

45x145 mm wood casing

Paroc D30 rock wool - 150 mm

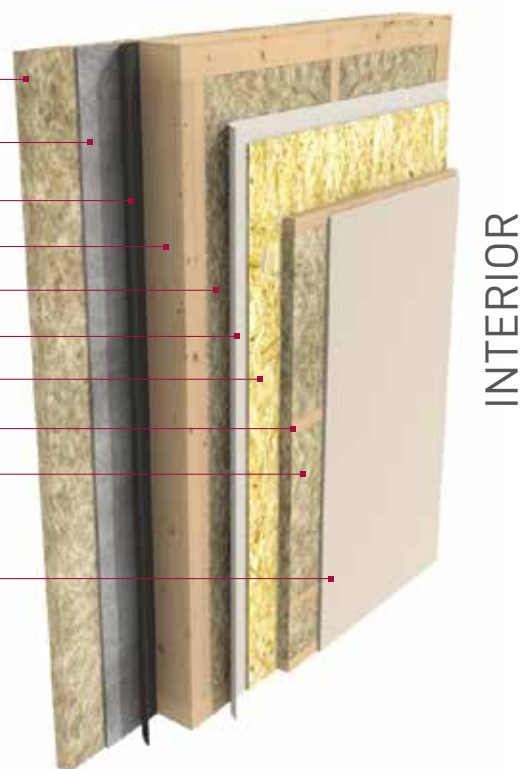
Vapour barrier

10 mm OSB

45x45 batten reinforcement

D30 horizontal rock wool - 50mm

12 mm plasterboard conglomerate



*Materials suitable for building passive houses.

Facade wall panel with wood fibre

Ref. N125

> Description and uses:

This is high-performance panel designed for use in outside walls. Like the N110, on the outside it has a SATE system ready for the final application of acrylic mortar. In this case, pressed wood fibre is used which, apart from being more environmentally friendly, offers a greater sensation of solidity to the touch. Rock wool is used as internal insulation in the structure because of its thermal performance and as a safety measure due to its well-known fireproofing capacity.

As in other panels, a gap is left at the top and bottom of the internal cladding to allow the passage of installations and the proper sealing of the joints.

> Characteristics:

Total thickness: 28.8 cm

Weight: 82 kg/m²

Type of wood: Pinus Sylvestris

Strength class: C16, C18 or C24

Moisture content: between 12% and 16%

Optional insecticide, fungicide and fire-retardant treatment

> Performance:

Thermal transmittance of whole unit:
U=0.15 W/m²K*

> Composition:

D180 wood fibre tongue-and-groove – 52 mm

12 mm wood cement board

Breathable waterproof sheet

45x145 mm wood casing

Paroc D30 rock wool – 150 mm

Vapour barrier

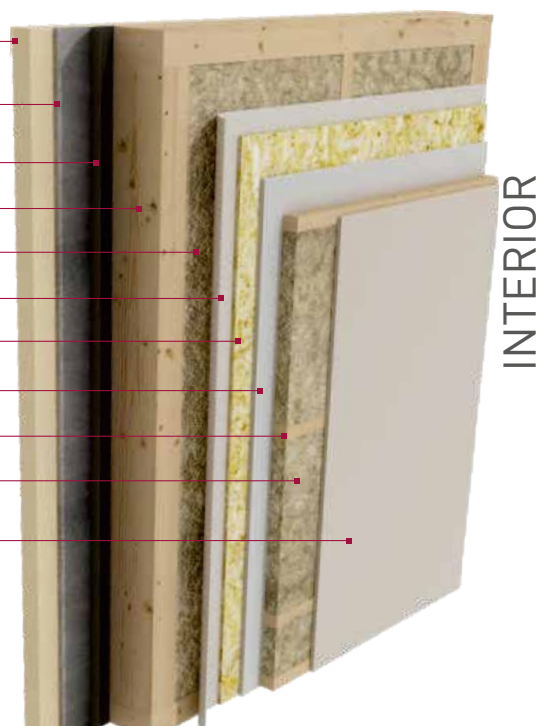
10 mm OSB

12 mm plasterboard

45x45 batten reinforcement

D30 horizontal rock wool - 50mm

12.5 mm gypsum-bonded chipboard



*Materials suitable for building passive houses.

Internal division panel

Ref. PG

> Description and uses:

For internal divisions, we offer two types of panels of different thicknesses:

PG95-20: This is the slimmest panel mounted on a 95 mm wooden structure designed for dividing walls that do not have to support the weight of the roof.

PG145-20: This is a panel mounted on a 145 mm wooden structure. It is mainly used as an internal load-bearing wall.

Both panels are faced with 10 mm OSB.

> Characteristics:

Total thickness:

PG95-20: 12.9 cm

PG145-20: 17.9 cm

Weight:

PG95-20: 43.9 kg/m²

PG145-20: 47.8 kg/m²

Type of wood: Pinus Sylvestris

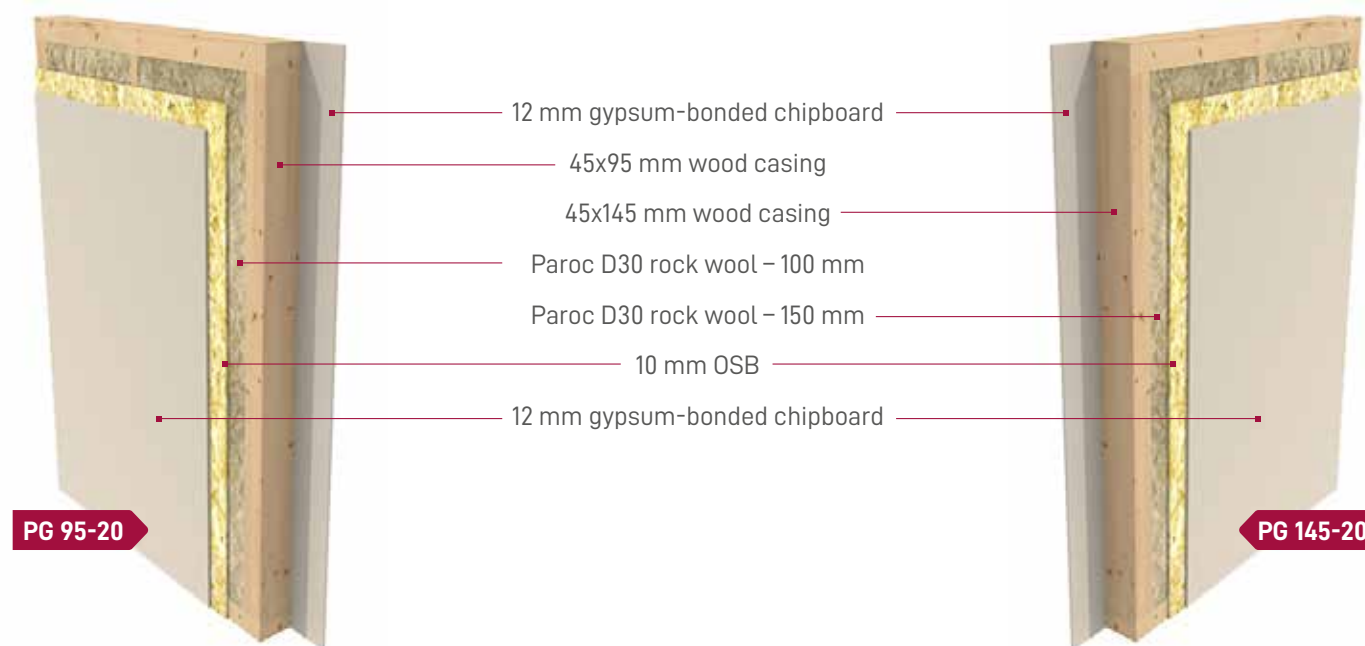
Strength class: C16, C18 or C24

Moisture content: between 12% and 16%

Optional insecticide, fungicide and fire-retardant treatment

The two panels can be used without the OSB facing at the customer's request, reducing the total thickness by 10 mm.

> Composition:



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Inclined, insulated roof panel

Ref. K20

> Description and uses:

This panel is designed for use in inclined, insulated roofs. The separation between beams is adapted to the loads it has to bear and the separation between battens (tile spacing) is agreed with the customer, depending on the type of tile to be used. This is a high-performance panel with 200 mm of rock wool, finished with wood plaster.

This panel can be used without insulation for roofs that already have an insulated intermediate ceiling.

> Characteristics:

Total thickness: 28 cm

Weight: 40.5 kg/m²

Type of wood: Pinus Sylvestris

Strength class: C16, C18 or C24

Moisture content: between 12% and 16%

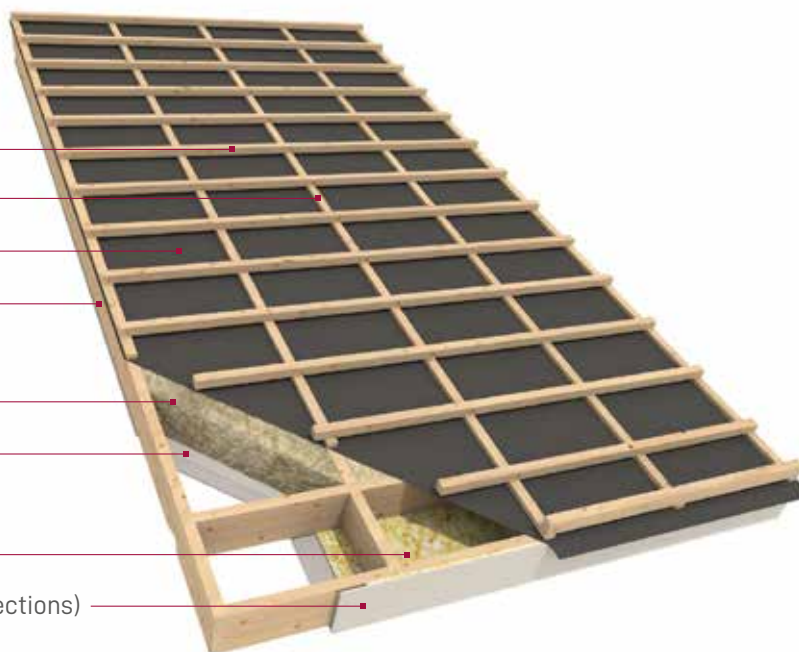
Optional insecticide, fungicide and fire-retardant treatment

> Performance:

Thermal transmittance of whole unit:
U=0.18 W/m²K*

> Composition:

- 45x45 horizontal batten for fitting tiles
- 25x45 fixing battens
- Breathable waterproof sheet
- 45x200 beams every 40 or 60 cm, depending on load
- Paroc D30 rock wool – 200 mm
- Vapour barrier
- 10 mm OSB
- 12 mm gypsum bonded plasterboard (on projecting sections)



*Materials suitable for building passive houses.

Panel for intermediate floors

Ref. PM10

> Description and uses:

This panel is designed for use in for intermediate floors or between floors.

It is a very solid floor panel eliminating the floating sensation of the floor. Any type of finish (parquet, ceramic, etc.) can be applied to it.

It offers a high degree of soundproofing against footsteps.

Not recommending for spans of more than 5 m.

> Characteristics:

Total thickness: 23.2 cm

Weight: 49.6 kg/m²

Type of wood: Pinus Sylvestris

Strength class: C16, C18 or C24

Moisture content: between 12% and 16%

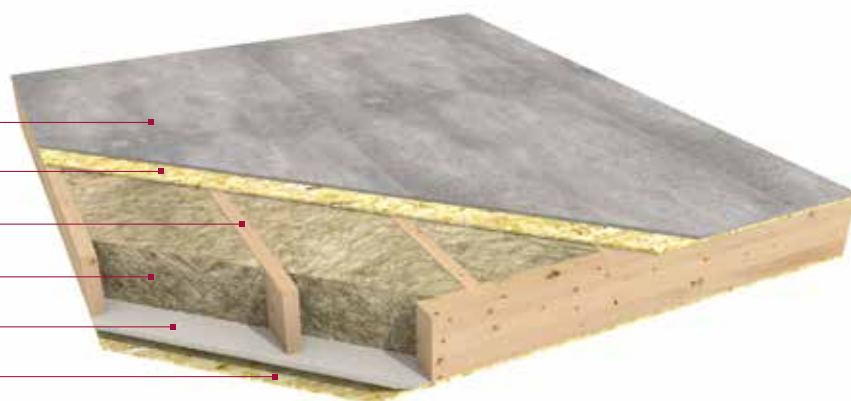
Optional insecticide, fungicide and fire-retardant treatment

> Performance:

Thermal transmittance of whole unit:
U=0.18 W/m²K*

> Composition:

- 12 mm wood cement board
- 10 mm OSB
- 45x200 wooden casing every 40 cm
- Paroc D30 rock wool – 200 mm
- Vapour barrier
- 10 mm OSB



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Panel for flat roofs and terraces

Ref. PP10

> Description and uses:

This panel is designed for use in flat roofs and terraces.

It is a light panel with a structure constructed with light ribs assembled with MiTek metal plates. This system helps form the slope necessary to remove rainwater. Its solid structure makes it ideal for covering large spans without difficulty.

It is used with aerators to ventilate the upper air chamber and prevent excess heat accumulating in summer.

> Characteristics:

Total thickness: On request

Weight: On request

Type of wood: Pinus Sylvestris

Strength class: C16, C18 or C24

Moisture content: between 12% and 16%

Optional insecticide, fungicide and fire-retardant treatment

> Performance:

Thermal transmittance of whole unit:
From $U=0.18 \text{ W/m}^2\text{K}^*$

> Composition:

12 mm wood cement board

10 mm OSB

Vertical and horizontal battens for ventilation

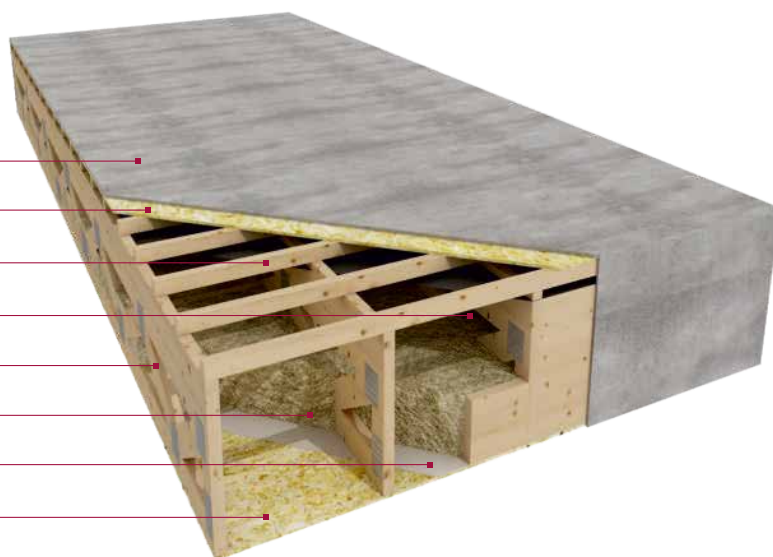
Breathable waterproof sheet

Light ribs with MiTek (on request)

Paroc D30 rock wool – 200 mm

Vapour barrier

10 mm OSB



*Materials suitable for building passive houses.

Materials used to make the panels (cladding)



> Wood-cement

Wood cement is one of the construction materials that gives the casing structural rigidity. The manufacturing process for the cement particle sheets is based on four layers: the outer layers, with smaller particles, increase the hardness and provide better protection against damp and the internal ones, with larger shavings, improve bending stiffness. All the layers are stuck together under high pressure. They are 12 mm monolithic slabs with a density of 1,250-1,400 kg/m³ and a hard, smooth surface. Wood cement board resists fungus, wood-boring insects and rodents.

Fire prevention

In the case of fire, it does not form a smoke screen and does not give off gases or toxic vapours. In a fire its behaviour is excellent. In fact, it is used to improve the reaction and resistance to fire of other wooden elements, such as fire-resistant doors. Its **Euroclass** reaction-to-fire values are standardised so it does not need to be tested. They are as follows: **B-s1, d0** (excluding floors) and **BFL-s1** (for the floors class).



> Gypsum-bonded chipboard

These panels have undeniable advantages making them stand out over typical plasterboard panels. Their hardness and ease of use; their high performance; their safety in fires and fire resistance; their environmental friendliness; and their biological stability make agglomerated plasterboard the best internal cladding solution. Their production technology does not use synthetic adhesives or resins so it is considered to be a product with a high degree of respect for human health and safety and the environment. The composition of the sheets, which consist of plaster reinforced with chips of wood distributed uniformly throughout the volume, are pressed using a semi-dry method.

This obtains a smooth, compact outer surface.

Density: 1,250 kg/m³

Bending strength: 8 MPa

Thermal conductivity: 0.2-0.25 W/m²K

Humidity: not more than 2% of the total weight

Materials used to make the panels (insulation)



> Paroc rock wool



Paroc rock wool is a thermal insulation material that also absorbs sound. It is a material made in the form of sheets from basalt wool and binding materials.

Paroc sheets are considered to be non-flammable construction materials that can be used in a temperature range from -65°C to 200°C (Euroclass A1). Although it can withstand temperatures of up to 750°C, above 200°C the binding materials lose their elasticity, although they maintain their thermal insulation and sound absorption properties.

Paroc sheets do not corrode and are resistant to microflora like fungus and mould. They have a useful life of more than 70 years and can be used repeatedly.

Sheets for facades

Density: 150 kg/m³

Thickness: 50 mm

Heat transmission: 0.037 W/m²K

UNS 37z interior sheets

Density: 30 kg/m³

Thickness: 40-250 mm

Heat transmission: 0.037 W/m²K



> Wood fibre panels



Wood fibre thermal insulation panels are very environmentally friendly. The material is based on raw conifer wood fibre. These tongue-and-groove panels are used for insulating facades, providing a solid, perfectly sealed base for the application of acrylic mortar.

The maximum width is 2.9 m and they are 52 mm thick. The length can be chosen by the customer.

Beltermo Ultra

external wall insulation:

Density: 180 kg/m³

Thickness: 52 mm

Heat transmission: 0.042 W/m²K

Materials used to make the panels (sheets)

DACHDECKER

Das professionelle Produkt für Dach



> Breathable sheet

Diffusive membrane with a triple-layer design weighing approximately 135 g/m². It is highly permeable to water vapour and very durable. Resistant to UV rays. This is an original product manufactured by molecular bonding of the layers using ultrasound. Ultrasound technology makes it possible to achieve a very strong membrane while maintaining strong diffusion properties.

Density: 135 g/m³

Thickness: 0.65 mm

Vapour permeability, not less than: 3,200 g/m²/24h

Sd coefficient (m): 0.03 m

Water resistance, not less than: 1,000.0 (mm wg)

Roll measurements: 1.5 m x 50 m = 75 m

DACHDECKER

Das professionelle Produkt für Dach



> Decker Reflex Active vapour barrier

The DEKER REFLEX membrane with a reflecting layer of aluminium is an original product produced by the ultramodern ultrasound molecular bonding technology. This membrane makes it possible to actively regulate vapour transmission capacity and dry the insulation and wooden structures. Meanwhile, the reflecting surface of the aluminium coating means heat loss inside the house can be reduced.

Density: 80 g/m

Thickness: 0.40 mm

Vapour permeability, not more than: 1.5 g/m²/24h

Reflexion: 86% (ASTM C 1371)

Sd coefficient: 6.0 m

Water resistance, not less than: 1,000.0 (mm wg)

Roll measurements: 1.5 m x 50 m = 75 m

Materials used to make the panels (structural)



> Structural wood

All the wood used to produce the prefabricated structures and ribs is Scots pine (Pinus sylvestris). It comes from woods with responsible forestry management. It is assembled, calibrated and dried, with a water content of between 12% and 16%.

Toothed metal MiTek plates are used for light ribs, in accordance with the manufacturer's calculations.

This system can overcome large spans without difficulties.

All the wood is strength class C16, C18 and C24, depending on the calculations.

Type of wood: Pinus Sylvestris

Strength class: C16, C18 or C24, depending on requirements

Moisture content: between 12% and 16%

Optional insecticide, fungicide and fire-retardant treatment



> OSB-3 boards

OSB-3 boards are formed by multi-layer panels consisting of large wood chips glued together. The wood fragments run in different directions in each layer (longitudinally on the outside and transversally inside) giving the panels great two-way strength. OSB-3 boards are used for facing load-bearing structures. They can withstand very damp conditions.

Advantages:

- Great physical and mechanical strength.
- OSB-3 is 2.5 times more resistant to damp than conglomerate board.
- Resistance to damp – the boards are not destroyed and maintain their strength and characteristics, even when submerged in water for one day (swelling ratio – 10%).
- Light weight.
- OSB panels are not subject to insect damage.

GRUPO **PAGES** BCN

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