



NATURALLY PERFORMING

Build and renovate carbon-neutral
with hempblocks

 **ISOHEMP**
NATURAL BUILDING



Why choose IsoHemp hemp blocks?



Thermal regulation

They **regulate the temperature** thanks to their ability to diffuse accumulated heat. Working as a thermal buffer, the internal temperature is kept constant and the impact of heat variations between day and night is significantly reduced.



Acoustic insulation

They **dampen and absorb noise**. As true sound dampeners, they allow the absorption or abatement of the majority of acoustic waves, thus protecting against noise pollution.



100% naturel

As a **100% natural solution**, they also have a positive carbon footprint. A cubic metre of hemp blocks IsoHemp stores 75kg of CO₂ (biogenic carbon).



Constructing 1 single-family house with IsoHemp hemp blocks saves

5 tons of CO₂



I chose hemp blocks for my latest project. The **energy performance**, the **remarkable carbon footprint** and the **simplicity of implementation** convinced me of their potential.

David, architect, Belgium



Technical data



Thermal resistance
from 1 to 5 m²K/W.



Phase shift
from 4 to 24h



Thermal conductivity
 $\lambda = 0,071\text{W/mK}$.



Acoustics
Sound reduction from 37 to 45 dB



Fire resistance
from 45 to 240 minutes



Resistance to compression
300 kPa



Humidity regulation

They regulate humidity thanks to their high permeability to water vapour. They also act as a water buffer, thus providing a constant and healthy indoor climate for the building's occupants.



Fire resistance

They do not catch fire and do not emit toxic fumes. Thanks to their excellent reaction to fire, they offer up to more than 2 hours of fire resistance depending on the finish and thickness.



Hemp brings a **true sensation of comfort**. It creates a cosy atmosphere that I've never experienced before.

Brigitte, owner, France

The applications

Construction

The Hempro system

For a 100% hemp construction with breathable mono-walls

The system of your choice

Ideal to fill any supporting structure:

- Timber / concrete / steel post and beam structure
- Timber frame
- Conventional masonry
- ...



Renovation

Insulation from the inside or outside for more comfort in everyday life:

- Insulation and inertia of hemp blocks
- Preservation of the old building
- No pollutants or VOCs
- Lasts for generations

Interior walls

All the advantages of hemp in a solid block

Floor & roof

Benefit from the inertia and insulation of hemp

Summary table

Technical specifications	Blok 7	Blok 9	Blok 12	Blok 15	Blok 20	Blok 25	Blok 30	Blok 36	Unit
Thickness	7,5	9	12	15	20	25	30	36	cm
Modular dimensions	60 x 30							60x20	cm
Number of blocks per m ²	5,5							8,3	blocs/m ²
Maximum block weight	6,2	7,4	9,9	12,4	16,5	20,7	24,8	19,8	kg
Weight of masonry	0,37	0,44	0,60	0,74	0,98	1,23	1,39	1,71	kN/m ²
Adhesive consumption	2,8	3,4	4,5	5,6	7,5	9,4	2,8	6,8	kg/m ²
Dry Thermal Resistance (dry state)	1,12	1,34	1,79	2,24	3	3,73	4,48	5,37	m ² K/W
Thermal resistance at 50% RH	1,06	1,27	1,69	2,11	2,82	3,52	4,23	5,07	m ² K/W
Thermal conductivity λ	0,071								W/mK
Phase shift	4,9	5,9	7,9	9,8	13,1***	16,4***	19,7***	23,6***	h
Sound reduction index* Rw	37 (0;-2)	37 (-1;-3)	38 (-1;-3)	38 (0;-3)	40 (-1;-5)	41 (-1;-5)	42 (-1;-5)	44 (-1;-6)	dB
Acoustic absorption coefficient α	0,85								
Equivalent air layer thickness Sd	0,21	0,25	0,34	0,42	0,56	0,7	0,84	1	m
Water vapour resistance factor μ	2,8								
Compressive strength	0,22								MPa
Reaction to fire without render	B, S1, d0								
Fire resistance**	Untested		45		120		240		min

Technical specifications	P-blok		U-blok		Unit
	Gamme Hempro / Interlocking blocks				
Thickness	30	36	30	36	cm
Modular dimensions	60 x 30	60x20	60x30		cm
Maximum block weight	21,7	16,9	15,5	19,3	kg
Diameter of the recess	15 x 15	18 x 18	15 x 42	18 x 42	cm
Cross-section of the recess	225	324	630	756	cm²
Adhesive consumption	2,8	6,8	2,8	6,8	kg/m²

* Masonry hemp block with rendering along one side - Simulated value

** Masonry hemp block with rendering on fire side

*** Insignificant given the depreciation of more than 300

Your project in hemp blocks? Let's talk!

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