



ISOHEMP
NATURAL BUILDING

INSULATION WITH HEMP BLOCKS

**THE SOLUTION
FOR YOUR
COMFORT
AND YOUR
HEALTH**



AN INSULATING BLOCK FOR CONSTRUCTION AND RENOVATION



New build

The hemp block is perfectly suited for the construction of new residential buildings. Various construction systems can be considered:

- In a timber frame, the hemp block constitutes the building envelope and provides the thermal inertia required to store heat and freshness. This increases the thermal mass of the house while providing an excellent medium for the finishes.
- In a timber, concrete or steel column and beam system, the hemp block enables the use of insulating and breathable walls made using Monomur bricks that do not require the use of any other insulating material. This ideal configuration makes it possible to draw maximum benefit from all the technical characteristics of the product, for example by stabilising the humidity level inside the building.
- In a structure with load bearing masonry, the hemp block ensures perfectly stable insulation performance over time.



Interior insulation

The hemp insulation block meets the requirements for all old building renovations. It is used as a lining of the interior wall and makes it possible to insulate old brick/stone walls or damp partitions. It is one of the few products that retains its insulating properties even in a very humid environment.

In addition, the use of an interior insulating block means heat can be stored for longer while warmer walls result thanks to its high thermal inertia. The sense of comfort is increased while the home's energy input is reduced.

Finally, it can be used to recover the verticality of walls and naturally regulates the humidity level of the building to benefit from healthier air.



Interior masonry

Partition walls made from hemp blocks provide excellent sound insulation between living spaces and effective regulation of the humidity level especially in bathrooms.

Thermal insulation properties play a part in specific applications: for example, between unheated rooms (garage, etc.) and living areas.

In addition, these walls are very strong and allow you to attach heavy loads (kitchen furniture, radiators, etc.). It is possible to apply any type of finish, taking care to use a product sufficiently open to the transfer of water vapour.



External insulation

The hemp block is a self-supporting and very resistant material. It creates an insulating envelope which permanently protects the house while letting the existing wall breathe. It also helps protect the building from external noise.

The hemp block is an excellent medium for final renders, but also for cladding that can be directly attached in the insulating blocks, accordingly, avoiding the creation of potential thermal bridges.

Finally, it offers the possibility of transferring the woodwork directly onto the insulation.



WHY CHOOSING THE HEMP BLOCK ?

- **100% natural and locally** sourced raw materials and a very low energy consumption production process
- A significant **reduction** in **energy expenditure**
- A **certified** product for complying with **low energy** and **passive house standards**
- A favourable environmental impact thanks to a **positive carbon balance** and a **biodegradable** product at end of life
- The **sustainability** of the insulation and its performance over time
- A **fireproof insulating** material which does not ignite

THE 3 FUNCTIONS OF THE HEMP BLOCK

■ Thermal regulation :



Whether in summer or winter, everybody likes to have a constant and pleasant temperature in their home. The hemp block addresses this need by naturally regulating the building temperature through its ability to diffuse the accumulated heat.

This high inertia material protects:

- From the cold in the winter by maintaining the heat for longer in the house.
- From the heat in the summer by avoiding overheating of the home.

The hemp block maintains a constant interior temperature, significantly reducing the impact of heat variations between day and night.

■ Acoustic insulation :



Noise is increasingly present in our daily lives. Given this, the hemp block provides real solutions through its excellent performance in terms of sound insulation. It helps to cushion the majority of acoustic waves and protects from noise pollution.

■ Hydric regulation



Naturally present in housing, humidity can have adverse effects for inhabitants and their health if it is not properly regulated: appearance of unpleasant odours, mould development, etc. The hemp block enables continuous regulation of the air humidity level through a breathable wall which is permeable to water vapour. The interior climate is then pleasant and healthy with the changing of the seasons.

TECHNICAL CHARACTERISTICS OF THE HEMP BLOCKS

Thickness [cm]	6	9	12	15	20	30
Modular dimensions [cm]	60 X 30	60 X 30	60 X 30	60 X 30	60 X 30	60 X 30
Blocks per m ² [-]	5,55	5,55	5,55	5,55	5,55	5,55
Dry apparent bulk density [kg/m ³]	340	340	340	340	340	340
Heat resistance at 50% HR [m ² K/W]	0,85	1,27	1,69	2,11	2,82	4,23
Thermal phase shift [h]	3,9	5,9	7,9	9,8	13,1	19,7
Sound resistance index [dB]	37	38	39	40	42	44
Sound absorption coefficient α [-]	0,85	0,85	0,85	0,85	0,85	0,85
Sd diffusion equivalent thickness [m]	0,17	0,25	0,34	0,42	0,56	0,84
Reaction to fire [-]	B- s1, d0	B- s1, d0	B- s1, d0	B- s1, d0	B- s1, d0	B- s1, d0



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