

1. Definition

The Belgian-made hemp block is a free-standing masonry element that does not fulfil any structural function. It is comprised of hemp chips and a mixture of air and hydraulic lime. The product is moulded, pressed and then cured and dried in the open air without the need for any heat input.

IsoHemp blocks are used for thermal, hydric and acoustic regulation in new builds (with structure), and interior and exterior renovation. They are used in the form of masonry for filling framework, building envelopes or as partition walls or floor insulation. They are not at all suitable for supporting a floor or roof.

2. Characteristics and dimensions

The IsoHemp hemp blocks have a colour ranging from beige to off white with a porous surface between the plant strands which is highly suitable for easy application of the outer coating.

The blocks have modular dimensions:

- **Thickness:** 7, 9, 12, 15, 20, 25, 30 and 36 cm
- **Length:** 60 cm
- **Height:** 30 cm

3. Technical specifications

Authentications	Technical value
Compressive strength [kPa]	300
Flexural resistance [kPa]	230
Dynamic rigidity module [MPa]	299
Dry thermal conductivity [W/mK]	0.067
Wet thermal conductivity 50%HR [W/mK]	0.071
Surface cohesion [kPa]	110
Parallelism of the installation faces - maximum defect [mm]	2.6
Water vapour resistance factor μ [-]	2.8
Acoustic absorption coefficient α [-]	0.85
Reaction to fire (NF EN 13501-1) without render	B, S1, d0
With a non-flammable render	A2

Product range	7	9	12	15	20	25	30	36
Modular dimension [mm]	600X300							
Thickness [mm]	75	90	120	150	200	250	300	360
Number of blocks per m ² [-]	5,55							
Dry bulk density [kg/m ³]	340							
Dry thermal resistance [m ² K/W]	1,12	1,34	1,79	2,24	3	3,73	4,48	5,37
Thermal resistance 50%RH [m ² K/W]	1,06	1,27	1,69	2,11	2,82	3,52	4,23	5,07
Thermal conductivity λ	0,071							
Equivalent air layer thickness S _d [m]	0,21	0,25	0,34	0,42	0,56	0,70	0,84	1
Phase shift [h] (ISO 13786)	4,9	5,9	7,9	9,8	13,1	16,4	19,7	23,6
Sound reduction index R _w [dB]*	37	37	38	38	40	41	42	44
	(0 ; -2)	(-1 ; -3)	(-1 ; -3)	(0 ; -3)	(-1 ; -5)	(-1 ; -5)	(-1 ; -5)	(-1 ; -6)
Sound absorption coefficient α	0,85							
Fire resistance ** [min]		-	60	-	120	-	-	-

*Coated hempblok 15mm on one side – simulated value

Masonry wall with redder on one side - **certified value

4. Application

The IsoHemp hemp blocks are bonded using IsoHemp bonding mortar in a thin 3mm joint. They must be protected against rising damp. Outside, best practice is to position the hemp blocks at least 15 cm from the ground. Horizontal installation of the first course is very important for the subsequent easy construction of the wall. During construction, ensure the masonry is protected against the weather. For more details, see the hemp block installation guide.

5. Composition

Air lime	9 %
Hydraulic lime	11 %
Hemp (particle size of 2 to 20 mm)	80 %

6. Storage

Storage must be on a flat surface, out of the rain and in a well ventilated area. Maximum duration: 3 months without protection against the rain, 2 years if the pallets are under cover.

7. Packaging

Packaging	Value	Unit
Pallet dimensions for blocks from 7.5cm to 30cm	100 x 120 x 145	cm
Pallet dimensions for blocks of 25cm and 36cm	100 x 120 x 120	cm
Maximum pallet weight	600	kg
Storage	3	months/outside
Conservation	2	years if covered

8. Instructions for use

During application the temperature must be between 5 and 30°C.
Free from rain – Free from frost.