

Technical data sheet – Hemp blocks

DEFINITION

The Belgian-made IsoHemp hemp block is a self-supporting masonry element with no structural role. It is made from hemp shives and a mixture of air and hydraulic lime. The product is moulded, pressed, hardened and air-dried without the need for heat input.

IsoHemp hemp blocks are used for thermal, hydric and acoustic regulation in new construction (with structure), interior and exterior renovation. They can be used as infill masonry, building envelopes, partition walls or floor insulation. Under no circumstances do they contribute to the load-bearing capacity of a floor or roof.

CHARACTERISTICS AND DIMENSIONS

IsoHemp hemp blocks range in colour from beige to off-white, with a porous surface between the plant strands for easy adhesion of the finishing coat.

The blocks have modular dimensions:

Thickness : 7.5, 9, 12, 15, 20,
25, 30 et 36 cm

Length: 60 cm

Height : 30 cm except 30 et 36cm thickness blocks : 20 cm

PACKAGING OF PALLET

	VALUE	UNIT
Dimensions of a 7,5 cm block pallet	120 x 100 x 120	cm
Dimensions of a 9 et 12 cm block pallet	120 x 100 x 122	cm
Dimensions of a 15 cm block pallet	120 x 100 x 119	cm
Dimensions of a 20, 25, 30, 36, 36 cm P & U block pallet	120 x 100 x 114	cm
Dimensions of a 30 U block pallet	120 x 100 x 104	cm
Maximum weight of a 7,5 cm block pallet	495	kg
Maximum weight of a 9 cm block pallet	486	kg
Maximum weight of a 12 cm block pallet	490	kg
Maximum weight of a 15 cm block pallet	474	kg
Maximum weight of a 20 cm block pallet	454	kg
Maximum weight of a 25 cm block pallet	455	kg
Maximum weight of a 30 cm block pallet	455	kg
Maximum weight of a 36 cm block pallet	455	kg
Maximum weight of a 30 cm P-block pallet	390	kg
Maximum weight of a 36 cm P-block pallet	380	kg
Maximum weight of a 30 cm U-block pallet	295	kg
Maximum weight of a 36 cm U-block pallet	295	kg

TECHNICAL CHARACTERISTICS	Block 7	Block 9	Block 12	Block 15	Block 20	Block 25	Block 30	Block 36	UNIT	
Modular dimensions [L x l]	600 x 300				600 x 200				mm	
Thickness	75	90	120	150	200	250	300	360	mm	
Number of blocks per m ²	5,5				8,3				blocs/m ²	
Bulk density	355 *		320 *						kg/m ³	
Dry thermal resistance	1,12	1,34	1,79	2,24	3	3,73	4,48	5,37	m ² K/W	
Thermal resistance at 50%HR	1,06	1,27	1,69	2,11	2,82	3,52	4,23	5,07	m ² K/W	
Thermal conductivity λ	0,075		0,071						W/mK	
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	0,2									MPa
Phase shift (ISO 13786)	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	0,85									
Reaction to fire	B, S1, d0									
Resistance to fire ****	45		60		120		240		min	

* +/-10% - bulk density at delivery

**Coated hemp block 15mm on one side – simulated value

***Insignificant considering a damping of more than à 300

**** Hemp block masonry plastered on the fireside

TECHNIC RANGE	P-blocks		U-blocks		UNIT
Thickness	30	36	30	36	cm
Modular dimensions [L x l]	600 x 200		600 x 300		mm
Maximum weight of a block	12,3	14,4	13,7	16,5	kg
Recess section	15 x 15	18 x 18	15 x 42	18 x 42	cm
Cross-section of the recess	225	324	630	756	cm ²
Adhesive consumption	5,6	6,8	3,8	6,8	Kg/m ²

APPLICATION

IsoHemp hemp blocks are glued together using IsoHemp thin joint of adhesive mortar (3 mm). They must be protected against the risk of rising damp. Outside, the hemp blocks must be laid at least 20 cm from the ground. It is very important that the first row is laid perfectly horizontally, so that the wall can be built easily. During installation, take care to protect the masonry from the elements. For more details, refer to the IsoHemp Installation Guide.

COMPOSITION	VALUE	UNIT
Air lime	9	%
Hydraulic lime	11	%
Hempshives (particle size of 2 to 20 mm)	80	%

CONSERVATION

Store on a flat surface, in a dry place and away from moisture. If the pallet with honeycomb is outside, it can be stored for 6 months. If the pallet is open and a wall is being built outside, it will keep for 3 months. 1 year with a maximum of one winter for masonry with a completed roof.

The pallets must be stored protected from rain, in a ventilated shelter and in their original packaging (not wrapped in plastic film or tarpaulin – the blocks must be able to breathe).

PRECAUTION FOR USE

During application, the temperature must be between 5 and 30°C.

Free from rain – Free from frost.

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