



### Block characteristics

Characteristic	Value	Norm
Product classification:	Full	
Nominal dimensions of the block (L x W x H) mm:	L.1000 x W.60 x H.200	UNI EN 771-3:2011
Real dimensions of the block (L x W x H) mm:	L.998 x W.55 x H.195	UNI EN 771-3:2011
Dimensional tollerances mm:	D1	UNI EN 772-16:2011
Single block nominal weight Kg:	9	
Drilling percentage:	0%	
Density of the mix Kg/m <sup>3</sup> :	750	UNI EN 771-3:2011
Nominal density tolerance Kg/m <sup>3</sup> :	+ / - 10%	UNI EN 772-13
Medium compressive strength (categoria II) N/mm <sup>2</sup> :	≥ 4	UNI EN 772-1:2011
Thermal resistance of the block m <sup>2</sup> k/W:	0,3769	UNI TS11300-1 UNI EN ISO 6946 UNI EN ISO 13370
Coefficient of water vapour diffusion μ:	21,04	UNI EN 1745
Vapour permeability δ Kg/msPa:	15,62*10 <sup>-12</sup>	UNI EN 1745
Equivalent thermal conductivity of the block λ W/mK:	0,1592	
Specific heat Kcal/Kg K:	0,33	
Dangerous substances:	Not present	

### Masonry characteristics

Characteristic	Value	Norm
Nominal mass of the masonry excluding the plaster Kg/m <sup>2</sup> :	45	
Thermal trasmittance of plastered wall* U W/m <sup>2</sup> k:	1,7235	UNI EN ISO 6946 UNI EN ISO 13370
Thermal resistance of plastered wall* R m <sup>2</sup> k/W:	0,580	
Periodic thermal trasmittance of plastered wall* YIE W/m <sup>2</sup> k:	1,5351	
Phase displacement - Thermal inertia:	- 2,9 h.	ISO 13786
Attenuation factor of thermal inertia:	0,8907	
Fire reactivity:	Euroclass A2s1d0	EN 13501-1
Sound insulation value by calculation dB:	40,9	
Pieces per m <sup>2</sup> of masonry:	5	

\* Plaster for internal and external use having a thickness of 15 mm and with a thermal conductivity of 1,00 W/mk (plaster made with sand and cement UNI 10456).

Packaging	
Type of packaging:	Pallet
Pieces per packaging:	84
Total pallet weight Kg:	760
Pallet dimensions (L x W x H) mm:	L.1030 x W.1030 x H.1290

## Fields of application

External thermal insulation, walls adjacent to other walls, thermal bridges protection on pillars and beams, external masonry with cavity.

## Specification

*SMARTBLOCK building system, produced and patented by ESB s.r.l., with quality system certified according to the norm UNI EN ISO 9001 and the legislation OHSAS 18000, is composed of blocks for curtain walls to plaster, suitable to realize internal and external walls. The blocks have CE marking according to the norms UNI EN 771:3, they are realized with a cement agglomerated, aggregated to a lightweight high insulating aggregate, made of virgin beads of expanded polystyrene with controlled density and grain-size in curve ( $\phi 3 \div 6$  mm), mixed with the additive E.I.A. to obtain a perfect mixing with the water binder. The nominal size of the blocks are L.1000 x W.60 x H.200 with D1 tolerance, and density equals to  $750 \pm 10\%$  kg/m<sup>3</sup>. The fire reaction class is A2s1d0 UNI EN 13501-1. The wall, realized with 1,5 cm of plaster on the both sides, will develop a thermal transmittance equal to 1,7235 W/m<sup>2</sup>K and a soundproofing power Rw of 40,9 dB according the technical recommendations EAACA. The covers costs for the formation of abutments, architraves and, if provided by the engineer for, of a lightweight metal scaffold into the mortar and everything necessary to create a perfect masonry, are included. The supply and the application of other possible special pieces are included too, like belt and pillar for horizontal or vertical structural reinforcing, simple or lattice metal scaffold, metalware for the connection with the structure, concrete casting, sealing with suitable material of the possible control joint, and everything that could be necessary to create a perfect masonry. The scaffolding is included for heights up to 3,5 m from the working surface.*

## Composition of the mix

Cement II/A Rck 4,25 dosed at 300 Kg/m<sup>3</sup>.  
Aggregate with controlled grain-size, dosed to 450 kg/m<sup>3</sup>.  
Politerm Blu and Politerm Blu Fein.  
Water.