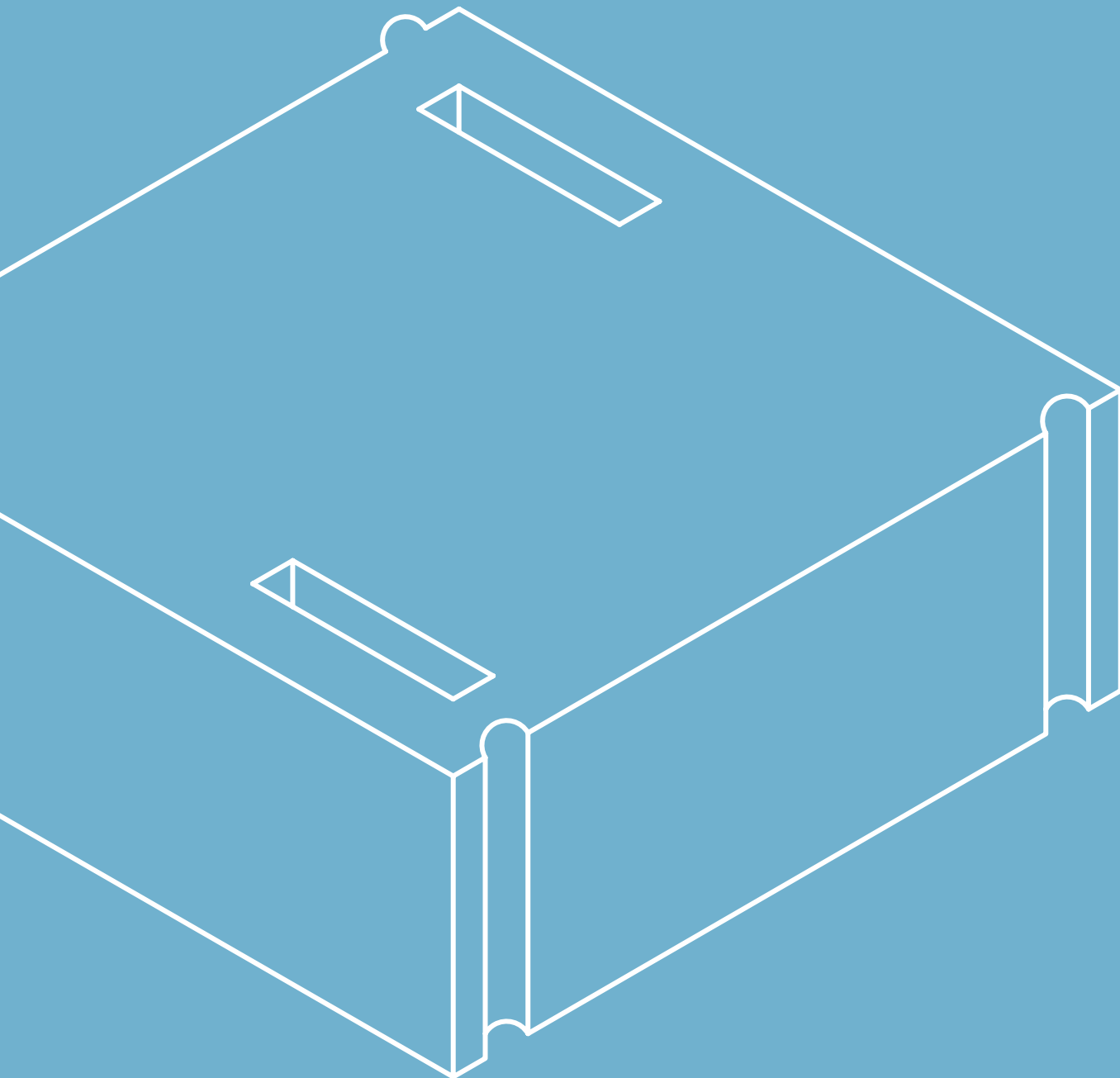




SUPERLIGHT and **THERMAL INSULATING** **BLOCKS** FOR WALL CONSTRUCTION



EASYAND**SMARTBLOCK**®
lightweight for living comfort

MADE WITH



ROSACOMETTA

Why choose **SMARTBLOCK®**

- **COMPLETE RANGE** wide selection of thicknesses and densities available on the market.
- **INSULATING PROPERTIES** different thermal and acoustic properties, according to the available densities.
- **SAFETY** suitable for anti-seismic areas.
- **VERSATILE** compatible with all types of finishing and building material.
- **SMART** a significant reduction of thermal and acoustic bridges thanks to T&G (tongue and groove) joints.
- **ERGONOMIC** easy to handle and fast to apply thanks to the special indents.
- **BREATHABLE** permeability to water vapour, but not waterproof.
- **FAST** lightweight blocks are fast to lay.
- **EASY TO HANDLE** limited risk of accidents thanks to the easy handling.
- **LIGHT** weight and load reduction of structural walls, beams, columns and seismic mass.
- **SPACE SAVING** thinner walls, more walkable area.
- **TURNKEY SERVICE** from initial design to the supply of material and installation.
- **LESS WASTE** easy to cut without breaking. Reduced waste.
- **ECO-FRIENDLY** reduced environmental impact.
- **LOGISTICS** less weight to transport for the same volume/surface.



SMARTBLOCK®

SMARTBLOCK® SYSTEM

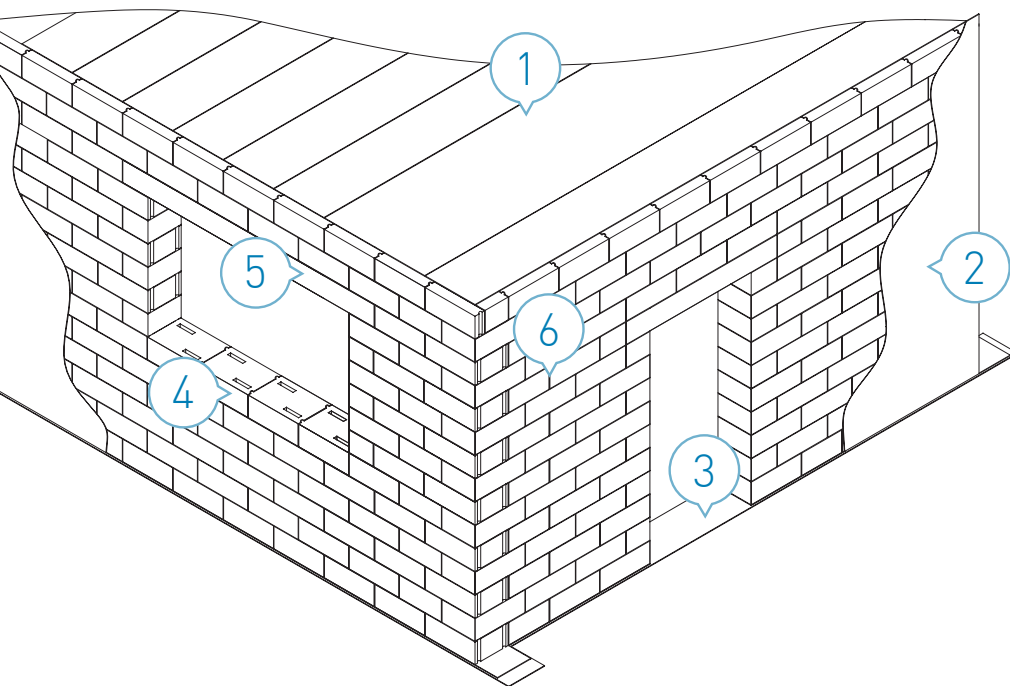
SMARTBLOCK® is a building system including blocks for infill walls, blocks for the construction of **opaque façade walls and for internal partition walls**. In order to guarantee a perfect application it is very important to choose the right block's type, the appropriate mortar or binder and the correct type of finishing or smoothing plaster.

The SMARTBLOCK® system is fast and easy to apply thanks to its lightweight and T&G profiled edges. Below there are some simple rules for the correct installation. These rules are not different to traditional concrete block construction. In order to achieve the specified performance of masonry construction, it is necessary to build according to the building standards and regulations. Compared to similar products, the excellent thermo-insulating and mechanical characteristics allow the **SMARTBLOCK®** system to achieve higher performances at lower thickness if built according to the same standard.

LAYING

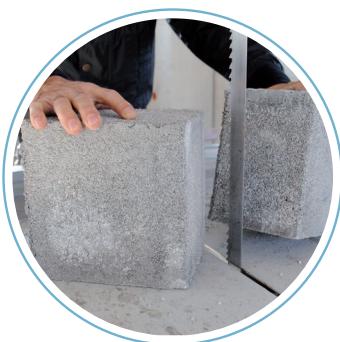
Blocks must be laid using traditional brick-bond construction, each block joint staggered by half a block length. Blocks are bonded using a thermal insulating mortar, like **Malta Block 600**.

SMARTBLOCK® can be cut with common construction tools such as cutting discs, circular saws and band saws. The blocks are designed with a special composition and density, and therefore are easy to work and particularly suitable for cutting openings for electrical installations and pipes. The cutting can be done using a milling or disc cutting machine. It is recommended to seal the openings using the same type of mortar used for the blocks laying. In order to ensure the wall performance it is recommended to leave a joint of 1-2 cm to be sealed on both faces with elastic materials such as polyurethane foam and rock wool or other similar materials. Joints have to be fixed before the wall construction.



1. EASYSLAB
2. Internal/external PLASTER
3. WATERPROOFING SHEATH or WATER PROOFING MEMBRANE
4. SMARTBLOCK®
5. LINTELS
6. MALTA BLOCK 600

News →



SMARTBLOCK® SYSTEM DENSITY

SMARTBLOCK® is a lightweight and thermal insulating concrete masonry block.

Available densities: **300 - 450 - 600 - 750 - 900 - 1200** kg/m³



LAYING TIME:
65 m² - per day*

THERMAL
TRANSMITTANCE:
0,227 W/m²k

* BLOCK thickness 33 cm.
The laying time is indicative and liable to change depending on the conditions of construction site and worker competences.

THERMAL INSULATING BLOCKS - SMARTBLOCK® 300 - 450 - 600



- HIGH THERMAL INSULATING PROPERTIES (our blocks have the best thermal conductivity at constant density)
- LIGHTNESS
- EASY AND QUICK LAYING

DENSITY kg/m ³	FULL BLOCK THICKNESS mm	PRODUCT NAME	EQUIVALENT THERMAL CONDUCTIVITY OF THE BLOCK W/mK	BLOCK DECLARED TRANSMITTANCE W/m ² K	BLOCK DECLARED THERMAL RESISTANCE m ² k/W	PLASTERED WALL DECLARED TRANSMIT- TANCE (MORTAR AND TRADITIONAL PLASTER) W/m ² K	PLASTERED WALL DECLARED TRANSMITTANCE m ² K/W	DECLARED DISPLACE- MENT h	COMPRESSIVE LOAD N/mm ²	SOUND- PROOFING POWER Rw (dB)*
300	60	B.06.300	0,080	1,333	0,750	1,049	0,953	-2,5	0,40	38
300	100	B.10.300	0,080	0,800	1,250	0,649	1,541	-4,3	0,40	38
300	150	B.15.300	0,080	0,533	1,875	0,462	2,165	-6,5	0,40	39
300	200	B.20.300	0,080	0,400	2,500	0,358	2,793	-8,8	0,40	41
300	250	B.25.300	0,080	0,320	3,125	0,293	3,413	-11,1	0,40	44
300	330	B.33.300	0,080	0,242	4,125	0,227	4,405	-14,7	0,40	47
300	400	B.40.300	0,080	0,200	5,000	0,189	5,291	-17,9	0,40	49
300	500	B.50.300	0,080	0,160	6,250	0,153	6,536	-22,5	0,40	51
450	60	B.06.450	0,094	1,567	0,638	1,188	0,842	-2,7	0,40	39
450	100	B.10.450	0,094	0,940	1,064	0,789	1,267	-4,8	0,40	39
450	150	B.15.450	0,094	0,627	1,596	0,556	1,799	-7,8	0,40	41
450	200	B.20.450	0,094	0,470	2,128	0,429	2,331	-10,8	0,40	44
450	250	B.25.450	0,094	0,376	2,660	0,349	2,863	-13,8	0,40	46
450	330	B.33.450	0,094	0,285	3,511	0,269	3,713	-18,5	0,40	49
450	400	B.40.450	0,094	0,235	4,255	0,224	4,458	-22,6	0,40	51
450	500	B.50.450	0,094	0,188	5,319	0,181	5,522	-28,5	0,40	53
600	60	B.06.600	0,1104	1,840	0,544	1,339	0,747	-3,0	2,00	41
600	100	B.10.600	0,1104	1,104	0,906	0,902	1,109	-5,3	2,00	41
600	150	B.15.600	0,1104	0,736	1,359	0,640	1,562	-8,5	2,00	43
600	200	B.20.600	0,1104	0,552	1,812	0,496	2,015	-11,6	2,00	46
600	250	B.25.600	0,1104	0,442	2,265	0,405	2,468	-14,8	2,00	48
600	330	B.33.600	0,1104	0,335	2,989	0,313	3,193	-19,9	2,00	51
600	400	B.40.600	0,1104	0,276	3,623	0,261	3,827	-24,3	2,00	53
600	500	B.50.600	0,1104	0,221	4,529	0,211	4,733	-30,6	2,00	55

* The acoustic index are calculated by an acoustic calculation software on wall with plaster on both sides.



SOUNDPROOFING BLOCKS - SMARTBLOCK® 750 - 900 - 1200



- High soundproofing power and thermal insulating properties better than competitors.
- The 900 and 1200 densities have a compressive strength higher than 5 Mpa.

DENSITY kg/m³	FULL BLOCK THICKNESS mm	PRODUCT NAME	EQUIVALENT THERMAL CONDUCTIVITY OF THE BLOCK W/mK	BLOCK DECLARED TRANSMITTANCE W/m²K	BLOCK DECLARED THERMAL RESISTANCE m²K/W	PLASTERED WALL DECLARED TRANSMIT- TANCE (MORTAR AND TRADITIONAL PLASTER) W/m²K	PLASTERED WALL DECLARED TRANSMITTANCE m²K/W	DECLARED DISPLACE- MENT h	COMPRESSIVE LOAD N/mm²	SOUND- PROOFING POWER Rw (dB)*
750	60	B.06.750	0,1592	2,653	0,377	1,724	0,580	-2,9	4,00	42
750	100	B.10.750	0,1592	1,592	0,628	1,203	0,831	-5,1	4,00	42
750	150	B.15.750	0,1592	1,061	0,942	0,873	1,146	-8,1	4,00	45
750	200	B.20.750	0,1592	0,796	1,256	0,685	1,460	-11,0	4,00	47
750	250	B.25.750	0,1592	0,637	1,570	0,564	1,774	-14,0	4,00	49
750	330	B.33.750	0,1592	0,482	2,073	0,439	2,276	-18,7	4,00	52
750	400	B.40.750	0,1592	0,398	2,513	0,368	2,716	-22,8	4,00	54
750	500	B.50.750	0,1592	0,318	3,141	0,299	3,344	-28,7	4,00	56
900	60	B.06.900	0,1839	3,067	0,326	1,900	0,526	-3,0	5,50	43
900	100	B.10.900	0,1839	1,838	0,544	1,345	0,743	-5,4	5,50	44
900	150	B.15.900	0,1839	1,225	0,816	0,985	1,015	-8,4	5,50	46
900	200	B.20.900	0,1839	0,919	1,088	0,777	1,287	-11,5	5,50	49
900	250	B.25.900	0,1839	0,736	1,359	0,641	1,560	-14,5	5,50	51
900	330	B.33.900	0,1839	0,557	1,795	0,501	1,996	-19,1	5,50	53
900	400	B.40.900	0,1839	0,460	2,175	0,421	2,375	-23,4	5,50	55
900	500	B.50.900	0,1839	0,368	2,719	0,343	2,915	-29,4	5,50	56
1200	60	B.06.1200	0,2289	3,815	0,262	2,148	0,465	-3,4	5,50	45
1200	100	B.10.1200	0,2289	2,289	0,437	1,562	0,640	-5,9	5,50	46
1200	150	B.15.1200	0,2289	1,526	0,655	1,165	0,859	-9,0	5,50	48
1200	200	B.20.1200	0,2289	1,145	0,874	0,928	1,077	-12,1	5,50	50
1200	250	B.25.1200	0,2289	0,916	1,092	0,772	1,296	-15,2	5,50	52
1200	330	B.33.1200	0,2289	0,694	1,442	0,608	1,645	-20,2	5,50	55
1200	400	B.40.1200	0,2289	0,572	1,748	0,513	1,951	-24,5	5,50	56

* The acoustic index are calculated by an acoustic calculation software on wall with plaster on both sides.

SMARTBLOCK® SYSTEM

INTERNAL AND EXTERNAL PLASTERS

SMARTBLOCK® SYSTEM can be used with different types of plaster.

CEMENT PLASTER

CEMENT PLASTER WITH FIBRES

GYPSUM BASED PLASTERS

ISOLTECO® THERMAL INSULATING PLASTER by Edilteco

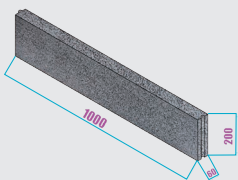
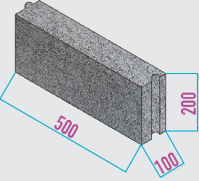
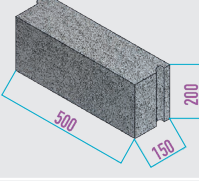
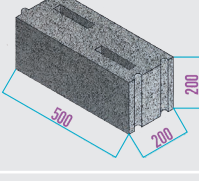
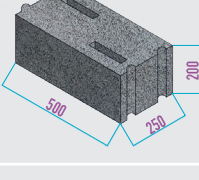
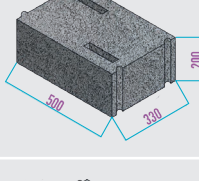
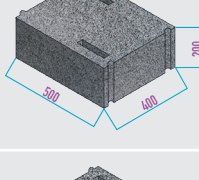
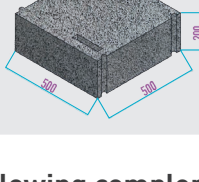
REINFORCED SMOOTHING LAYER: use fibre reinforced adhesive powder *Ecap ADP®*.



SMARTBLOCK® SYSTEM

THE PRODUCT

DENSITY 300

Density 300	NAME	mm	Fields of application
	B.06.300	L. 1000 x W. 60 H. 200	EXTERNAL THERMAL INSULATION, WALLS ADJACENT TO OTHER WALLS, THERMAL BRIDGES PROTECTION ON PILLARS AND BEAMS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.10.300	L. 500 x W. 100 H. 200	EXTERNAL THERMAL INSULATION, WALLS ADJACENT TO OTHER WALLS, THERMAL BRIDGES PROTECTION ON PILLARS AND BEAMS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.15.300	L. 500 x W. 150 H. 200	EXTERNAL THERMAL INSULATION, WALLS ADJACENT TO OTHER WALLS, THERMAL BRIDGES PROTECTION ON PILLARS AND BEAMS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.20.300	L. 500 x W. 200 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS, MASONRY WITH CAVITY AND INTERNAL PARTITION WALLS.
	B.25.300	L. 500 x W. 250 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS, MASONRY WITH CAVITY AND INTERNAL PARTITION WALLS.
	B.33.300	L. 500 x W. 330 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.
	B.40.300	L. 500 x W. 400 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.
	B.50.300	L. 500 x W. 500 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.

The following complementary elements are available:

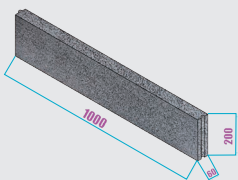
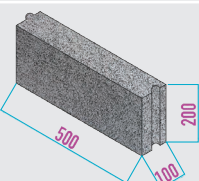
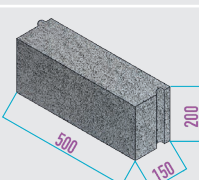
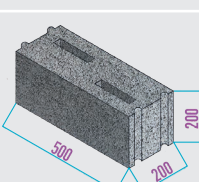
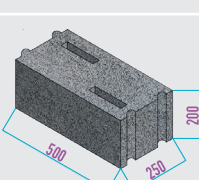
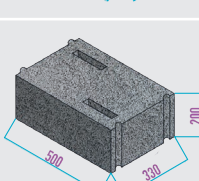
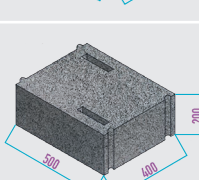
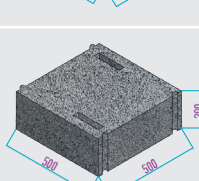
lintels, U-blocks, mortars, polyurethane, damp proof course, masonry reinforcement and anchors.



SMARTBLOCK® SYSTEM

THE PRODUCT

DENSITY 450

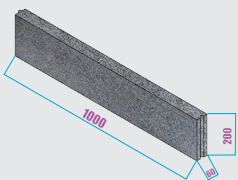
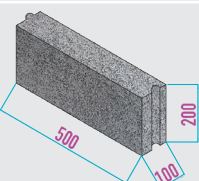
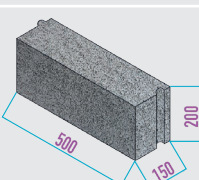
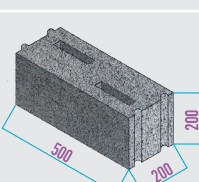
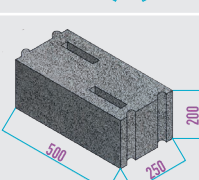
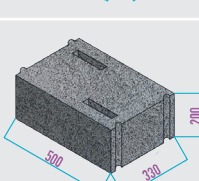
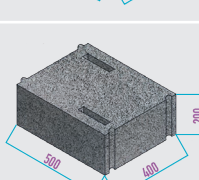
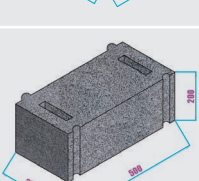
Density 450	NAME	mm	Fields of application
	B.06.450	L. 1000 x W. 60 H. 200	EXTERNAL THERMAL INSULATION, WALLS ADJACENT TO OTHER WALLS, THERMAL BRIDGES PROTECTION ON PILLARS AND BEAMS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.10.450	L. 500 x W. 100 H. 200	EXTERNAL THERMAL INSULATION, WALLS ADJACENT TO OTHER WALLS, THERMAL BRIDGES PROTECTION ON PILLARS AND BEAMS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.15.450	L. 500 x W. 150 H. 200	EXTERNAL THERMAL INSULATION, WALLS ADJACENT TO OTHER WALLS, THERMAL BRIDGES PROTECTION ON PILLARS AND BEAMS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.20.450	L. 500 x W. 200 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS, MASONRY WITH CAVITY AND INTERNAL PARTITION WALLS.
	B.25.450	L. 500 x W. 250 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS, MASONRY WITH CAVITY AND INTERNAL PARTITION WALLS.
	B.33.450	L. 500 x W. 330 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.
	B.40.450	L. 500 x W. 400 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.
	B.50.450	L. 500 x W. 500 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.

The following complementary elements are available:

lintels, U-blocks, mortars, polyurethane, damp proof course, masonry reinforcement and anchors.

SMARTBLOCK® SYSTEM

THE PRODUCT DENSITY 600

Density 600	NAME	mm	Fields of application
	B.06.600	L. 1000 x W. 60 H. 200	EXTERNAL THERMAL INSULATION, WALLS ADJACENT TO OTHER WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.10.600	L. 500 x W. 100 H. 200	EXTERNAL THERMAL INSULATION, WALLS ADJACENT TO OTHER WALLS, INTERNAL PARTITION WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.15.600	L. 500 x W. 150 H. 200	EXTERNAL THERMAL INSULATION, WALLS ADJACENT TO OTHER WALLS, INTERNAL PARTITION WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.20.600	L. 500 x W. 200 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS, MASONRY WITH CAVITY AND INTERNAL PARTITION WALLS.
	B.25.600	L. 500 x W. 250 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS, MASONRY WITH CAVITY AND INTERNAL PARTITION WALLS.
	B.33.600	L. 500 x W. 330 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.
	B.40.600	L. 500 x W. 400 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.
	B.50.600	L. 250 x W. 500 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.

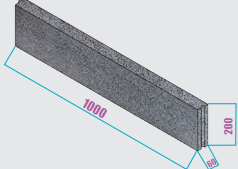
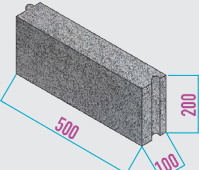
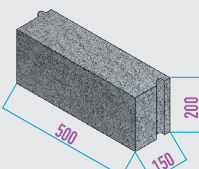
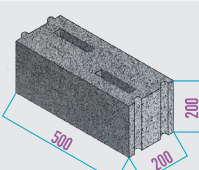
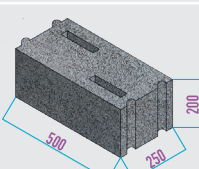
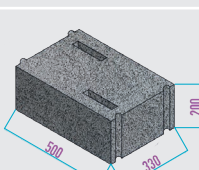
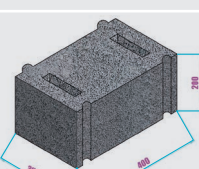
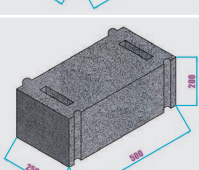
The following complementary elements are available:

lintels, U-blocks, mortars, polyurethane, damp proof course, masonry reinforcement and anchors.



SMARTBLOCK® SYSTEM

THE PRODUCT DENSITY 750

Density 750	NAME	mm	Fields of application
	B.06.750	L. 1000 x W. 60 H. 200	WALLS ADJACENT TO OTHER WALLS, INTERNAL PARTITION WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.10.750	L. 500 x W. 100 H. 200	WALLS ADJACENT TO OTHER WALLS, INTERNAL PARTITION WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.15.750	L. 500 x W. 150 H. 200	WALLS ADJACENT TO OTHER WALLS, INTERNAL PARTITION WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.20.750	L. 500 x W. 200 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS, MASONRY WITH CAVITY AND INTERNAL PARTITION WALLS.
	B.25.750	L. 500 x W. 250 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS, MASONRY WITH CAVITY AND INTERNAL PARTITION WALLS.
	B.33.750	L. 500 x W. 330 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.
	B.40.750	L. 250 x W. 400 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.
	B.50.750	L. 250 x W. 500 H. 200	EXTERNAL SINGLE-LAYER INFILL WALLS AND INTERNAL PARTITION WALLS.

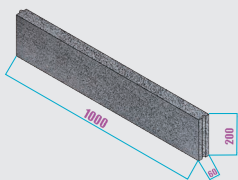
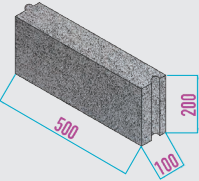
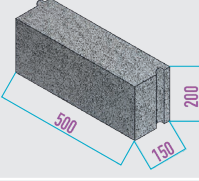
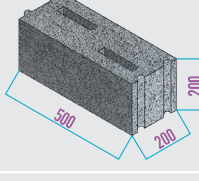
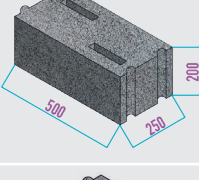
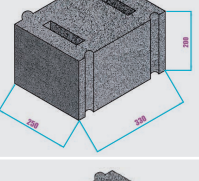
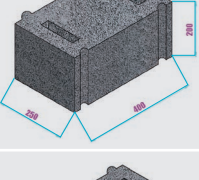
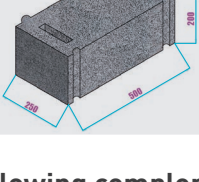
The following complementary elements are available:

lintels, U-blocks, mortars, polyurethane, damp proof course, masonry reinforcement and anchors.



SMARTBLOCK® SYSTEM

THE PRODUCT DENSITY 900

Density 900	NAME	mm	Fields of application
	B.06.900	L. 1000 x W. 60 H. 200	MASONRY FOR INTERNAL PARTITION WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.10.900	L. 500 x W. 100 H. 200	MASONRY FOR INTERNAL PARTITION WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.15.900	L. 500 x W. 150 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA N° 4 AND IN NON-SEISMIC AREA.
	B.20.900	L. 500 x W. 200 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA N° 4 AND IN NON-SEISMIC AREA.
	B.25.900	L. 500 x W. 250 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA.
	B.33.900	L. 250 x W. 330 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA.
	B.40.900	L. 250 x W. 400 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA.
	B.50.900	L. 250 x W. 500 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA.

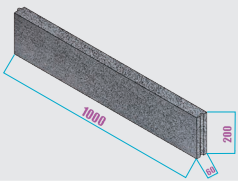
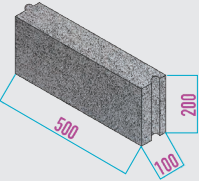
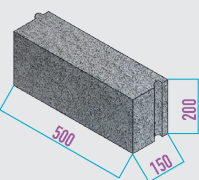
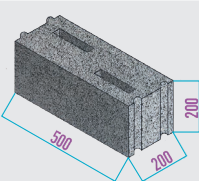
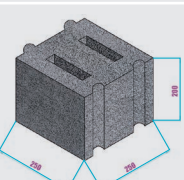
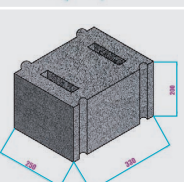
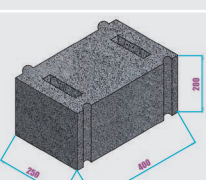
The following complementary elements are available:

lintels, U-blocks, mortars, polyurethane, damp proof course, masonry reinforcement and anchors.



SMARTBLOCK® SYSTEM

THE PRODUCT DENSITY 1200

Density 1200	NAME	mm	Fields of application
	B.06.1200	L. 1000 x W. 60 H. 200	MASONRY FOR INTERNAL PARTITION WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.10.1200	L. 500 x W. 100 H. 200	MASONRY FOR INTERNAL PARTITION WALLS, EXTERNAL MASONRY WALLS WITH CAVITIES.
	B.15.1200	L. 500 x W. 150 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA N° 4 AND IN NON-SEISMIC AREA.
	B.20.1200	L. 500 x W. 200 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA N° 4 AND IN NON-SEISMIC AREA.
	B.25.1200	L. 250 x W. 250 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA.
	B.33.1200	L. 250 x W. 330 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA.
	B.40.1200	L. 250 x W. 400 H. 200	LOAD-BEARING MASONRY IN SEISMIC AREA.

The following complementary elements are available:

lintels, U-blocks, mortars, polyurethane, damp proof course, masonry reinforcement and anchors.





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lightweight for living comfort

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ESB s.r.l.

Registered and Head Office: Via A. Moro, 28 - 24050 Zanica (BG) - Tel. +39 035 526944 - Fax +39 035 3843590
Export Office: Via dell'Industria, 710 - 41038 San Felice sul Panaro (MO) - Tel. +39 0535 82161 - Fax +39 0535 82970
www.easyandsmartblock.it - www.rosacometta.com - info@easyandsmartblock.it