

# GASBETON®

## GENERAL CATALOGUE

THE BEST CONSTRUCTION SYSTEM



NICOLAOU CONSTRUCTION  
& Anakenisi4Home Ltd.

EN

June 2020 Edition

### Why choose GASBETON®:

EKORU®, with its operational headquarters in Volla (Italy), covers an area of over 56,000 square metres in which it produces aerated autoclaved concrete blocks called GASBETON®. BACCHI S.p.A. distributes the GASBETON® construction system along with other eco-friendly building solutions. GASBETON® is a symbol of construction that looks to the future, leaving our children with buildings that combine savings, health



and sustainability. Manufactured for the first time by architect Johan Axel Eriksson in 1923, aerated autoclaved concrete has become a construction system that is highly valued for its ease of use and high insulation capacity. Today the ever more attentive market demands environmentally friendly

materials that contribute to reducing energy consumption without being a burden on the environment. GASBETON® is the right response to this need.

Proposing eco-sustainable construction systems that can reduce building energy consumption is the commitment that BACCHI spa and EKORU® srl have taken on to offer a concrete response for quality of living and environmental conservation.

GASBETON® is an aerated autoclaved concrete with excellent thermal insulation and low environmental impact. This material's production system is the optimal response for implementation of European Union policies on energy and the environment.



LIGHTWEIGHT

GASBETON® blocks are easy to lift, making installation very quick.



RESISTANT

GASBETON® blocks combine light weight with high load-bearing capacity.



# GA



FIRE RESISTANT

GASBETON® is a non-combustible mineral material (Euroclass A1 reaction to fire), does not release toxic fumes during a fire and offers exceptional fire resistance. GASBETON® masonry that is just 8cm thick achieves a fire resistance of EI120, achieving EI240 with larger thicknesses. Its physical characteristics make it one of the most suitable materials for the construction of fire walls.



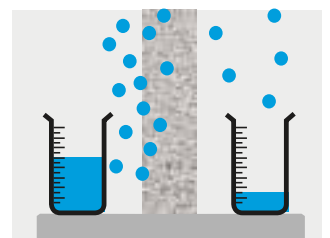
BREATHABLE

GASBETON® is a highly breathable material and therefore, thanks to its high vapour permeability, it favours migration by diffusion from heated indoor environments to the outside. This property reduces the possibility of surface condensation and mould formation, ensuring a healthy and comfortable environment. Compared to common building materials and synthetic insulation materials, GASBETON® is up to 10 times more permeable to vapour.



Il GASBETON® is like a well-leavened cake composed of a few natural resources such as water, sand, a little lime and cement and a pinch of "yeast".

Together these components represent 80% of the elements of the Earth's crust.





**DIMENSIONAL  
PRECISION**

The dimensional precision (+/- 1 mm) and uniformity of the material simplify application, making it possible to reduce the thickness of plasters and guaranteeing the complete grip of the glue. In place of normal plasters, it is possible to finish the surface of GASBETON® masonry simply with 0.5cm thick reinforced skim coats.



**EASY TO WORK  
WITH**

With GASBETON® blocks, laying is 30% faster than with traditional systems and the ease with which the blocks can be cut lets you make sub-measures and special pieces on site without wasting money. Plumbing and electrical systems tracking is very easy using groove-cutting and milling machines for cellular concrete.



**FAST LAYING**



**ACOUSTIC  
INSULATION**

GASBETON® walls offer good sound insulation values, even with a low surface mass, thanks both to the porous structure of the material, which tends to dissipate the incident acoustic wave, and to the precision of the "thin joint" laying and the use of extremely calibrated blocks that reduce acoustic bridges between the different elements.



**THERMAL  
INSULATION**



**THERMAL  
INERTIA**

GASBETON® walls make it possible to drastically reduce energy spending in order to maintain an optimal house temperature in all seasons and climates. Its high thermal insulation values make GASBETON® an excellent material for creating the shell of low energy consumption buildings without any need to add additional insulating materials to the walls. At the same time, thanks to the combined effects of thermal accumulation capacity and thermal resistance, it offers excellent thermal inertia values in the summer.

# GASBETON®



*... on our way  
to zero-energy  
construction!*



**ANTI-SEISMIC**



**RESISTANT**



**RECYCLABLE**



**ECOLOGICAL**

GASBETON® blocks combine light weight with high load-bearing capacity and excellent energy dissipation capacity: two great advantages in highly seismic zones. Its light weight helps limit the entity of the inertial forces, while the resistance and particular cellular structure helps dampen the energy impressed by seismic action while maintaining the bearing capacity. Moreover, thanks to the dimensional precision of the blocks and the thin, 1 mm thick joint, this construction system offers unparalleled execution accuracy and consequently better functionality of the masonry under load.

GASBETON® is a construction material with high environmental sustainability because: It is produced in the EKORU® plant with low energy consumption, without harmful emissions into the atmosphere and without liquid or solid waste. Its light weight reduces pollution during transport. The thermal insulation offered by these walls contributes to the reduction of energy consumption for heating and cooling buildings. It is 100% recyclable in the demolition phase. The low density of the material entails reduced consumption of raw materials for its production.

Choosing the GASBETON® construction system means choosing the future:

- **Energy savings**
- **Ecology and recycling**
- **Living well-being**
- **Construction simplicity**
- **Lower costs**

**Made in Italy,**  
  
**guaranteed and certified.**

*Choose the original!*





### Build well-being with GASBETON®:

Proposing eco-sustainable construction systems that can reduce building energy consumption is the commitment that BACCHI spa and EKORU® srl have implemented to offer a concrete response for quality of living and environmental conservation. GASBETON® is an aerated autoclaved concrete with excellent thermal insulation and low environmental impact. This material's production system is the optimal response for implementation of European Union policies on energy and the environment.

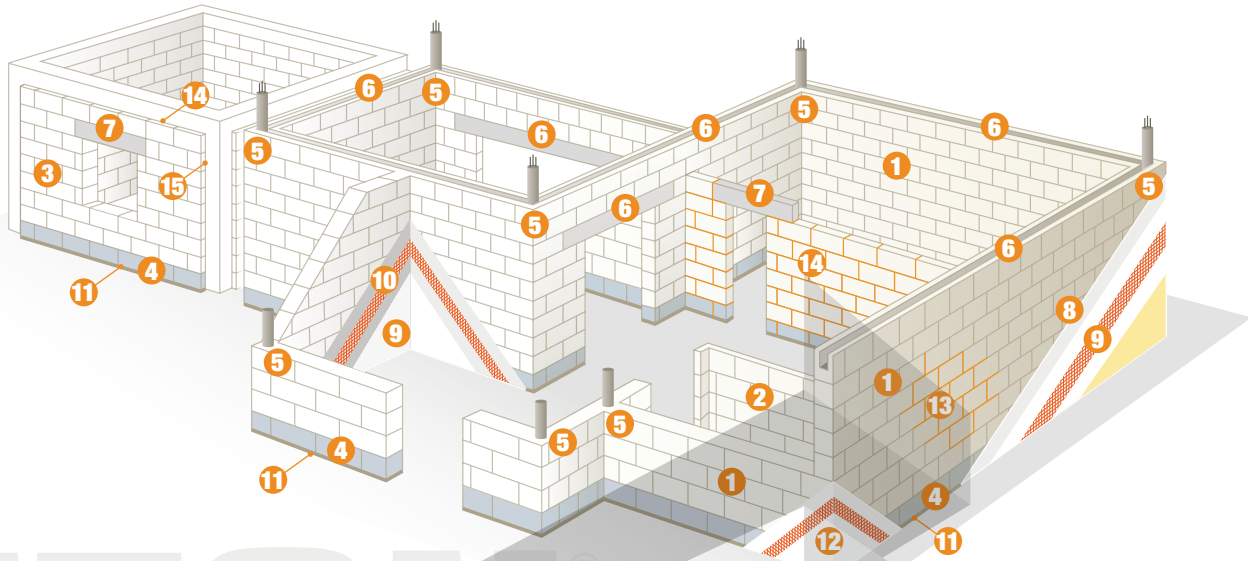


The environmental impact of a construction product is measured by the level of raw material use: GASBETON® not only uses resources that are widespread in nature but also in minimal quantities in relation to the volume produced. During production, aggregates and binders give rise to stable, durable chemical bonds that give rise to a superior performance product. The final product consists of about 30% volume of solid materials, while the remaining 70% consists of "macroporosity", visible to the naked eye, and "microporosity", visible under a microscope: the combination of these cells containing still air gives GASBETON® exceptional thermal properties.

1. EVOLUTION and SYSMIC ground, smooth and interlocking blocks for the construction of load-bearing masonry.
2. Thin EVOLUTION ground, smooth and interlocking blocks for the construction of internal partitions.
3. ENERGY and ACTIVE ground, smooth and interlocking blocks for the construction of external insulating infill panels.
4. IDRO blocks for reducing thermal bridges at the base of masonry and inhibiting capillary ascending moisture.
5. HOLLOW BLOCKS for vertical stiffening.
6. GROOVED BLOCKS to create large thickness and length horizontal stiffeners, kerbs and lintels.
7. Prefabricated cellular armed concrete LINTELS to create vaults on openings.
8. MULTICEM lightened water-repellent fibre-reinforced breathable plaster for exteriors and interiors.
9. Premixed breathable MULTISKIM skim coats (for interiors and exteriors) for interior and exterior finishes.
10. Premixed white BONDSKIM mortar. 2 treatments in 1 product! Reduces thickness compared to plasters and speeds up block laying.
11. IDRO ANCHORING mortar for laying of the first row of GASBETON® blocks on slabs or foundations.
12. RASOFIN, a single outdoor skim coat that is breathable, lightweight, fibre-reinforced and water-repellent.
13. MORTARGLUE M10 RS glue with high mechanical strength and high resistance to sulphates for GASBETON® laying.
14. Polyurethane ADHESIVE for laying GASBETON® blocks and sealing joints.
15. Premixed MULTIMALT mortar for anchoring infill panels to the building structure.



A complete construction system for all needs,  
from civil dwellings to industrial structures





### The product range:

Since 1985, GASBETON® has been anticipating regulatory developments, offering, many years in advance, the performance that today's standards require in terms of thermal and acoustic insulation, mechanical resistance and fire resistance. 30 years of life with constantly growing market shares are a tangible sign of the company's value in the construction world. Through its evolution, GASBETON® has been able to modulate its characteristics according to market requirements.

By varying the density, the company was able to create highly insulating blocks (low density) and very resistant blocks (high density).

The EVOLUTION product has the longest history, as a block for use on internal partitions, for large fire-resistant masonry, or for curtain walls, even with load-bearing function in low seismic zones. EVOLUTION has a dry density of 480 kg/m³ and offers stationary thermal transmittance up to 0.24 W/m²K and sound insulation values of up to 54dB, combined with high load-bearing capacity and unparalleled fire resistance. This excellent mix of different performances makes the product versatile and suitable for all needs.

The ENERGY block was achieved by lowering the density of the mix to 350 kg/m³, while it was possible to create the new ACTIVE, currently the most insulating on the market, by pushing the density to the enviable value of 300 kg/m³. Both allow the construction of curtain walls on framed structures with thermal performance similar to insulating materials, thanks to thermal conductivity values of 0.08 and 0.07 W/mK, while maintaining the highest level acoustic insulation performance and thermal inertia, without the need for additional insulating materials. In particular, ACTIVE was created to offer a specific response to building demands, which are increasingly sensitive to the issues of eco-sustainability, energy savings and living comfort in both winter and summer months. On the other hand, raising the density of the mixture to 580 kg/m³ results in the SYSMIC block, which makes it possible to create ordinary load-bearing masonry even in highly seismic zones.

### NON-LOAD-BEARING MASONRY



BLOCKS THAT MAXIMISE THERMAL INSULATION IN BOTH WINTER AND SUMMER, FOR PASSIVE AND NZEB BUILDING MASONRY

up to  
**U = 0,14 W/m²K \*\***

**DOES NOT REQUIRE ADDITIONAL THERMAL COATS**



BLOCKS THAT OPTIMISE THERMAL AND ACOUSTIC INSULATION PERFORMANCE FOR SINGLE-LAYER CURTAIN WALLS

up to  
**U = 0,19 W/m²K \*\***

**DOES NOT REQUIRE ADDITIONAL THERMAL COATS**

Technical features	Unit of measure	ACTIVE								ENERGY							
Dry density	kg/m³	300								350							
<b>Basic thermal conductivity</b> λ <sub>10, dry</sub> measured (Cert. Polytechnic University of Bari - ISO 8302 - UNI EN 12667)	W/mK	<b>0,070</b>								<b>0,080</b>							
Useful thermal conductivity λ <sup>**</sup>	W/mK	0,073								0,084							
Water vapour resistance factor μ	-	10 (in dry field)				5 (in wet field)				10 (in dry field)			5 (in wet field)				
Specific heat c	kJ/kgK	1,0															
<b>Thickness</b>	mm	50*	240	300	350	375	400	450	500	100*	240	300	350	375	400		
Stationary thermal transmittance U <sup>**</sup>	W/m²K	1,13	0,28	0,22	0,19	0,18	0,17	0,15	0,14	0,71	0,32	0,26	0,22	0,21	0,19		
Periodic transmittance modulus Y <sub>IE</sub> <sup>**</sup> (maximum value 0,10 W/m²K ref. DM 26/06/2015)	W/m²K	1,122	0,107	0,050	0,027	0,020	0,014	0,008	0,004	0,646	0,117	0,055	0,029	0,021	0,016		
Thermal inertia	<b>Displacement S<sup>**</sup></b>	hours	0h 43'	8h 58'	11h 49'	14h 12'	15h 24'	16h 35'	18h 58'	21h 22'	2h 28'	9h 9'	12h 3'	14h 27'	15h 39'	16h 52'	
	Mitigation f <sub>a</sub> <sup>**</sup>	-	0,993	0,384	0,225	0,140	0,109	0,085	0,051	0,030	0,918	0,370	0,215	0,132	0,103	0,080	
<b>Sound insulating power R<sub>w</sub></b>	dB	<b>32</b>	<b>43</b>	<b>46</b>	<b>47</b>	<b>48</b>	<b>49</b>	<b>50</b>	<b>51</b>	<b>37</b>	<b>45</b>	<b>47</b>	<b>49</b>	<b>49</b>	<b>50</b>		
<b>Fire resistance rating</b>		-	<b>EI 240</b>								-	<b>EI 240</b>					

Note: \* Thicknesses 50 and 100mm are to be used only for thermal bridge correction, not for masonry.

\*\* Non-binding indicative values. It will be the designer's task to determine all the necessary parameters (based on the performance declared in the D.o.P.) in order to assess the suitability of the product.

## LOAD-BEARING MASONRY



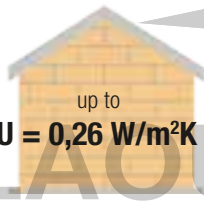
**EVOLUTION**  
480 Kg/m<sup>3</sup>  
0,11 W/mK

BLOCKS SUITABLE FOR SOUND-INSULATING,  
FIRE-RESISTANT INTERNAL PARTITIONS  
AND FOR EXTERNAL LOAD-BEARING  
MASONRY IN NON-SEISMIC ZONES

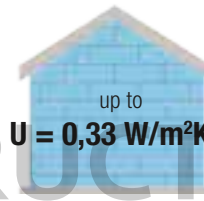


**SYSMIC**  
580 Kg/m<sup>3</sup>  
0,13 W/mK

BLOCKS WITH A LOAD-BEARING  
CAPACITY OF MORE THAN 50/cm<sup>2</sup>  
SPECIFICALLY DESIGNED  
FOR LOAD-BEARING WALLS  
IN SEISMIC ZONES



up to  
**U = 0,26 W/m<sup>2</sup>K \*\***



up to  
**U = 0,33 W/m<sup>2</sup>K \*\***

EVOLUTION											SYSMIC			
480											580			
0,110											0,130			
0,116											0,136			
10 (in dry field)					5 (in wet field)						10 (in dry field)		5 (in wet field)	
1,0											1,0			
50	80	100	120	150	200	240	300	350	375	400	240	300	350	375
1,60	1,11	0,93	0,79	0,65	0,50	0,43	0,35	0,30	0,28	0,26	0,50	0,40	0,35	0,33
1,584	1,602	0,839	0,666	0,467	0,251	0,151	0,071	0,038	0,028	0,020	0,167	0,078	0,041	0,030
0h 50'	1h 49'	2h 37'	3h 31'	4h 57'	7h 23'	9h 20'	12h 13'	14h 37'	15h 49'	17h 1'	9h 35'	12h 30'	14h 56'	16h 9'
0,989	0,953	0,906	0,840	0,715	0,499	0,356	0,206	0,127	0,099	0,077	0,337	0,193	0,118	0,091
35	38	40	41	43	46	48	50	52	52	53	50	52	54	54
-	EI 120	EI 180				REI 180 EI 240	REI 240 EI 240				REI 180 EI 240	REI 240 EI 240		

### System components: **Blocks**

#### Blocks for internal curtain walls and external walls, smooth or with tongue and groove joints



Standard thick.:  
from 5 to 50 cm



Standard thick.:  
from 10 to 40 cm



Standard thick.:  
from 5 to 40 cm



Standard thick.:  
from 24 to 37,5 cm

#### Special blocks



**IDRO for the correction of thermal bridges and ascending moisture**



Standard thick.:  
from 5 to 50 cm



Standard thick.:  
from 24 to 40 cm

Also available upon request in height 12.5 cm



**Hollow blocks for vertical stiffening**



Standard thick.:  
from 20 a 45 cm



Standard thick.:  
from 24 to 37,5 cm



**Grooved blocks for horizontal stiffening and vaults made in situ**



Standard thick.:  
from 20 to 50 cm



**NON-load-bearing reinforced lintels**

Thin thicknesses from 7.5 to 10 cm

Lowered h 12,4 cm  
thickness from 11,5 to 15 cm

**Load-bearing reinforced lintels**

thickness from 20 to 24 cm

#### External insulation of thermal bridges



Standard thick.:  
from 5 to 20 cm



Bonding and skim coating with MYKOLL



## Mortars

The GASEBETON® range of mortars and relative laying cycles have been specially developed for cellular concrete masonry. The specific formulations of the products guarantee excellent adhesion to the substrate, high resistance and durability over time. The attention paid to breathability features helps maximise the healthiness offered by GASEBETON® masonry.



### INCOLLARASA M5 GASEBETON® glue and skim coat for laying and smoothing reinforced masonry

Premixed powder mortar for indoor and outdoor use, with calibrated water retention, hydraulic binder-based, specific for the thin joint bonding of GASEBETON® blocks and for their subsequent internal reinforced skim coating, to be applied by hand with a notched trowel. Indoors, it is the base for finishing with INTERIOR MULTISKIM or for decoration (breathable paints or tiles). Finished skim coating thick.: min. 3 mm, max. 6 mm. Grain size: 0 - 0.6 mm. - Colour: white



### MALTACOLLA M10 RS Glue with high mechanical strength and high resistance to sulphates for the laying of GASEBETON® blocks.

Premixed powder mortar for internal and external masonry, with calibrated water retention, hydraulic binder-based with special additives that provide superior sulphate resistance, specific for the thin joint bonding of GASEBETON® blocks, to be applied by hand with a notched trowel. Joint thick.: 1-3 mm Grain size: 0- 0.6 mm – Colour: white

NEWS



### MULTIRASO INTERNI Skim coat for MULTICEM or BONDSKIM internal finishing.

Premixed powder mortar for indoor skim coating, with improved workability, aerial binder-based, specific for finishing base coats (MULTICEM plaster or BONDSKIM reinforced skim coat) of GASEBETON® masonry, to be applied by hand. The ideal primer for subsequent application of breathable paints. Thick. per coat: min. 1 mm, max. 2 mm. Thick. finished skim coating max. 3 mm. Grain size: 0 – 90 µ. Colour: white.



### MULTIRASO ESTERNI Reinforced skim coat for exterior MULTICEM base plaster

Premixed powder mortar for outdoor skim coating, fibre-reinforced, water-repellent, hydrated lime and hydraulic binder-based, specific for finishing the base layer (MULTICEM plaster) of GASEBETON® masonry. The ideal base for subsequent decorating using plaster finish or silicate or siloxane-based paints. Max. thick.: 2 mm per coat, 5 mm finished skim coating Grain size: 0 – 1.3 mm. Colour: light grey.



### RASOFIN A unique outdoor skim coat that is breathable, lightweight, fibre-reinforced and water-repellent.

A unique outdoor skim coat that is breathable, lightweight, fibre-reinforced and water-repellent. Premixed powder mortar for outdoor skim coating, breathable, lightweight, fibre-reinforced, water-repellent, hydrated lime and hydraulic binder-based, specific for GASEBETON® reinforced masonry skim coating without a base primer, to be applied by hand or with plastering machine. A base for subsequent decorating using plaster finish or silicate or siloxane-based paints. Skim coating thick.: 6-8 mm (minimum 5 mm). Grain size: 0 – 0.6 mm. Colour: white.



### MULTICEM Lightweight plaster for the base plastering of GASEBETON® masonry.

Premixed powder mortar for base plasters, suitable for indoor and outdoor use, water-retaining, fibre-reinforced, water-repellent, low specific weight, hydrated lime-based, special hydraulic binders and light aggregates, specifically for application on GASEBETON® masonry. Min. thick.: 1 cm internal, 1.5 cm external. Grain size: 0 – 1.3 mm. Colour: grey.

NEWS



### IDRO ANCHORING MORTAR Water-repellent anchoring mortar for laying the first course of GASEBETON® blocks.

M10, strongly water-repellent, pre-dosed mortar in two-compartment bags for indoor and outdoor use, siliceous sand-based with specific ARS binders and special additives, suitable for bedding the first course of load-bearing and non-load-bearing masonry, useful for limiting capillary ascending moisture without the use of waterproofing sheaths. Joint thick.: 20 mm.



### MULTIMALT Mortar for anchoring GASEBETON® masonry to load-bearing structures.

Premixed mortar for indoor and outdoor use, grey colour, with calibrated water retention, hydraulic binder-based with siliceous sands, synthetic resins and special additives, designed for anchoring GASEBETON® infill panels to the vertical load-bearing structures of buildings where there are no movement joints between masonry and pillars. Joint thick.: 10-20 mm.



### BOKOLL LIGHT GASEBETON® ecological glue and skim coat for mineral insulation panels and GASEBETON® skim coat for internal walls.

Premixed powder NHL natural hydraulic lime-based, selected light aggregates, reinforcement fibres and additives to improve workability and adhesion to the substrate. Suitable for carrying out reinforced internal skim coating on Gasebeton masonry with a particularly ecological, breathable and healthy product. Skim coating thick.: 5mm. Grain size < 1.25 mm. Colour: beige.



### MYKOLL Glue and skim coat for the application of B/THERMO mineral insulating panels at thermal bridges.

Premixed powder composed of cement, limestone aggregates, additives, resins and cellulose, suitable for bonding B/THERMO insulating panels made of calcium hydrate on reinforced concrete load-bearing structures and for carrying out rust reinforced skim coating prior to the external plastering cycle. Bonding-skim coating thick.: 3mm-4mm. Grain size < 0.8 mm. Colour: white.

NEWS

### 4 solutions for **interior** finishes

#### PLASTER → GYPSUM FINISH

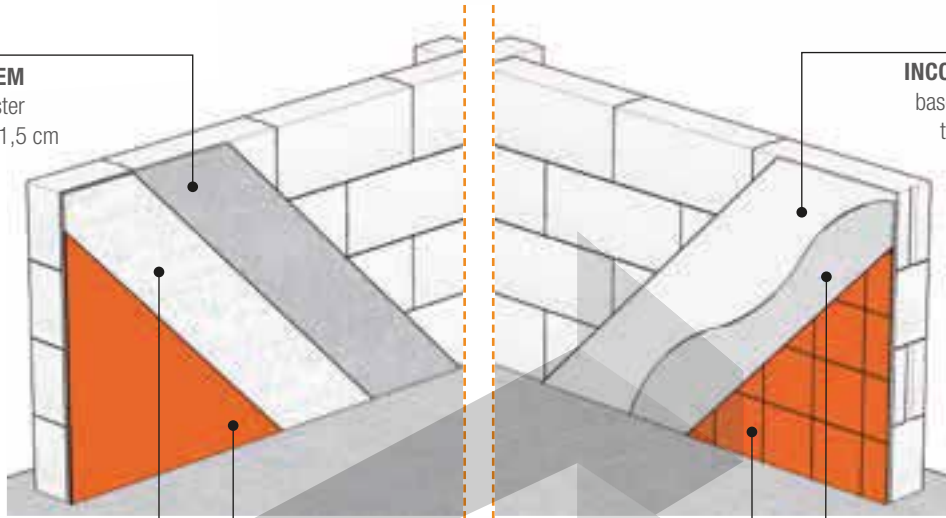
*Traditional thick solution with smooth gypsum finish*

#### SKIM COATING → CLADDING

*Thin solution for tiled kitchens and bathrooms*



**MULTICEM**  
base plaster  
thick. 1 ÷ 1,5 cm



Finishing layer (2/3 days  
after base plaster)  
**MULTIRASO  
INTERNI**  
thick. 2 mm

Decoration (20/22 days after finishing layer)  
Breathable paint (washable in kitchen and bathrooms).  
Avoid quartz or resin finish.



**INCOLLARASA**  
base skim coat  
thick. 2 mm

Low elastic  
modulus glue.



Decoration  
(30 days after smoothing)  
Tile cladding.



#### SKIM COATING → GYPSUM FINISH

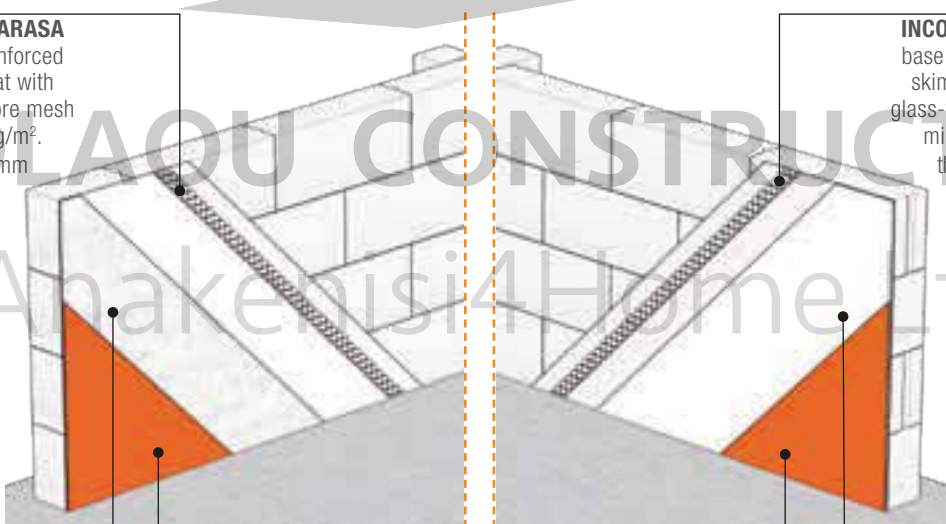
*Fast, thin solution with very smooth finish*

#### SKIM COATING → SMOOTH FLOAT FINISH

*Fast, thin solution with coarse finish*



**INCOLLARASA**  
base reinforced  
skim coat with  
glass-fibre mesh  
min 75 g/m<sup>2</sup>.  
thick. 5 mm



Finishing layer (2/3 days  
after base skim coating)  
**MULTIRASO INTERNI**  
thick. 2 mm

Decoration (20/22 days after finishing  
layer). Breathable paint (washable in  
kitchen and bathrooms). Avoid quartz  
or resin finish.



**INCOLLARASA**  
base reinforced  
skim coat with  
glass-fibre mesh  
min 75 g/m<sup>2</sup>.  
thick. 5 mm

Finishing layer (same day)  
**INCOLLARASA**  
or other smooth float finish  
thick. 2 mm

Decoration (20/22 days after  
finishing layer). Breathable paint  
(washable in kitchen and bathrooms).  
Avoid quartz or resin finish.





## 2 solutions for exterior finishes

### PLASTER → SKIM COAT

*Solution with painting or plaster finish decoration*

or

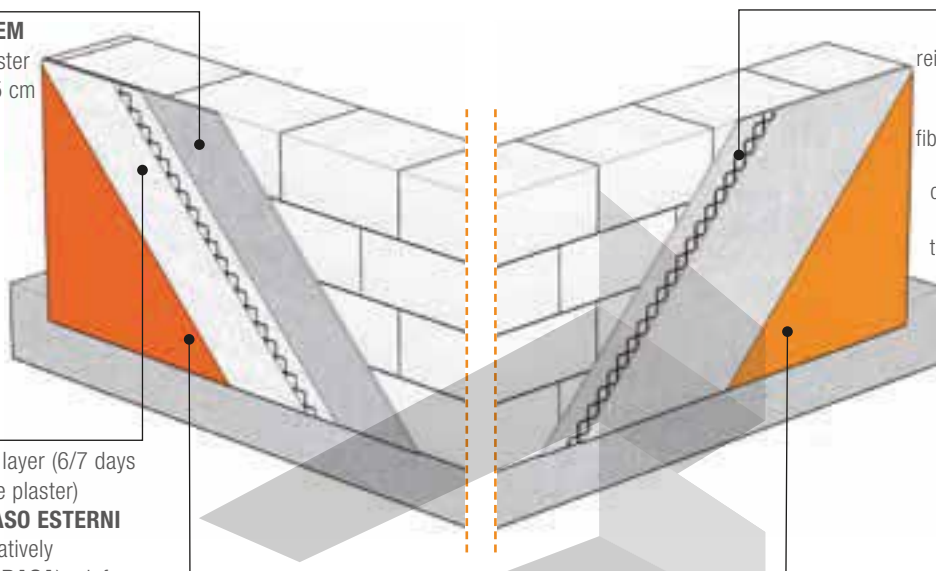
### SKIM COATING → FINISH



**MULTICEM**  
base plaster  
thick. 1,5 cm



Finishing layer (6/7 days  
after base plaster)  
**MULTIRASO ESTERNI**  
(or alternatively  
**INCOLLARASA**) reinfor-  
ced with glass-fibre mesh  
min 150 g/sqm.  
thick. 4 mm



Decoration (20/22 days after  
finishing layer)  
Siloxane, acryl-siloxane, silica-  
te-based paint or plaster finish.

**RASOFIN**  
reinforced skim  
coat single,  
lightweight,  
fibre-reinweight,  
smoothing  
compound for  
outdoor use  
thick. 6-8 mm



Decoration (20/22 days after  
finishing layer) Siloxane,  
acryl-siloxane, silicate-based  
plaster finish.

## Products for block assembly and restoration



Reduced mirroring  
masonry-pillar joint in low  
seismic zone sealed with  
**MULTIMALT\***



Bonding of  
blocks with  
**MALTACOLLA  
M10 RS**



Bonding of blocks with  
**INCOLLARASA**



**GASBETON® PRIMER**  
Acrylic primer for  
indoor and outdoor  
use to be diluted  
according to the  
different uses



Bedding of 1st course  
**MALTA ANCORANTE IDRO**



Bedding of 1st course  
**MALTA ANCORANTE IDRO**



Restorations using **INCOLLARASA**  
mixed with **GASBETON®** powder

\* MULTIMALT facilitates anchoring but does not allow thermal expansion of the masonry. Alternatively, it is advisable to insert the GASBETON® Shock Absorbing Band, anchor the infill to the frame with metal pins and seal the joint with GASBETON® Adhesive.



### Laying recommendations

Finish the masonry once it has completed the initial settling and disposed of the production moisture.

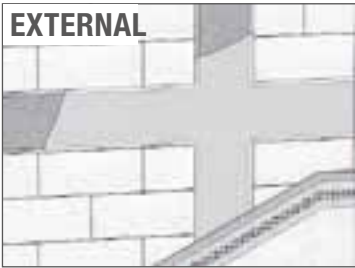
Do not apply the products at too low (<5° C) or high (>30 °C) temperatures, in the blazing sun, in strong wind or driving rain.

Once laid, the products must be protected from rain, frost and rapid drying due to high temperatures or excessive wind.

Do not wet the masonry under normal conditions, moisten it only in very hot or windy climates. Prepare the substrate, levelling out any irregularities with a special trowel, removing excess (protruding) joint sealing glue and inconsistent parts with a hard sorghum broom or spatula. Remove dust with a broom or compressed air.

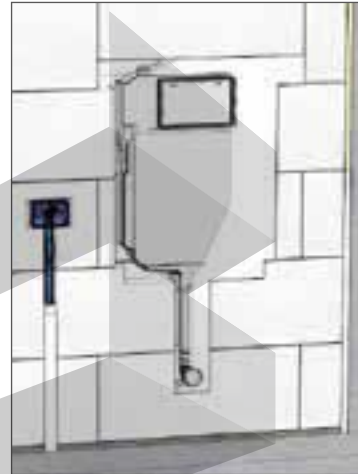
Remove oils and greases with suitable degreasers.

### Preparing the substrate



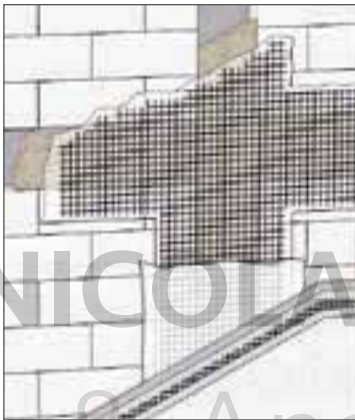
#### PREPARING UNEVEN SUBSTRATES

Pre-treat concrete surfaces "flush to the wall" with GASBETON® PRIMER or by applying an elastic skim coat with a notched trowel, creating cross-coated surface notching. For surfaces that are particularly absorbent or have a different degree of absorption, apply an open (non-covering) rendering mortar with products suitable for the type of substrate or apply GASBETON® PRIMER.



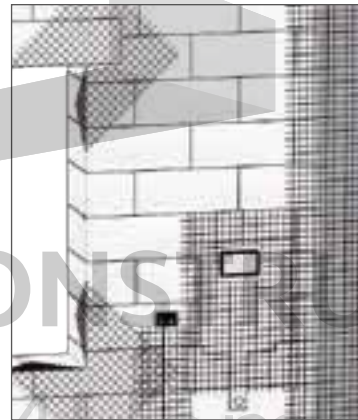
#### RESTORATION AND SEALING

Restoring technical installation tracks (after light wetting and dust removal) and any gaps left between adjacent blocks with INCOLLARASA mixed with GASBETON® powder. Along perimeter joints or large gaps, fill with GASBETON® polyurethane adhesive up to the level of the masonry, then seal on the surface with INCOLLARASA.



#### PRE-SKIM COATING OF INSULATION ON THERMAL BRIDGES

In the case of thermal bridge insulation with calcium hydrate panels (B/THERMO), EPS or cork, carry out a skim coat reinforced with elastic skim coat (Mykoll) before the plaster cycle, interposing an alkali-resistant glass-fibre mesh, mesh 4x4 mm and weight min. 150 gr/sqm, overlapping the masonry by 20/30 cm.



#### REINFORCING MESH

Around joints between uneven materials, technical installation tracks, at the corners of openings and balconies, reinforce the MULTICEM plaster by laying an alkali-resistant glass-fibre mesh in the centre of its thickness, 4x4 mm mesh and a minimum weight of 150 gr/sqm. The mesh must be extended about 20/30 cm beyond the material breakline.

Product	Brief description	Classification	Indicative coverage	Recommended thickness
MULTICEM	Base plaster for interiors/exteriors	LW CSII W1	9 ÷ 11 kg*cm/mq	15 mm
INCOLLARASA M5	Glue for GASBETON® Skim coat for interiors/exteriors	GP CSIII W1 / T M5	for skim coating: 1,3 kg*mm/mq for bonding: L 20 kg/mc – M 14 kg/mc	5 mm bonding
MALTACOLLA M10	Glue for GASBETON®	T M10	for bonding: L 20 kg/mc – M 14 kg/mc	Joint thick: 1-3 mm
MULTIRASO INTERNI	Gypsum-based skim coat for interiors	C7/20/2	0,9 kg*mm/mq	2 mm
MULTIRASO ESTERNI	Mineral skim coat for exteriors	GP CSII W1	1,1 ÷ 1,3 kg*mm/sqm	4 mm
RASOFIN	Single fibre-reinforced, water-repellent skim coat	LW CSIII W2	0,9 ÷ 1,1 kg/sqm per mm of thickness	6-8 mm (min 5 mm)
MALTA ANCORANTE IDRO	Water-repellent anchoring mortar	G M10	1,6 kg * cm/ml for a 10 cm width	20 mm
MULTIMALT	Anchoring mortar	G M10	1,6 kg * cm/ml for a 10 cm width	10÷20 mm
BIOKOLL LIGHT	Ecological glue and skim coat	GP CSIV W0	Bonding: 3-4 Kg/mq Skim coating 4-5,5 Kg/mq	Bonding 3 mm Skim coating 5 mm
MYKOLL	Glue and skim coat	LW CSIII W0	Bonding: 3,5-5 Kg/mq Skim coating 4-6 Kg/mq	Bonding 3 mm Skim coating 4 mm

Specifications and technical data sheets available at: [www.gasbeton.it/en/download/mortars-and-adhesives/](http://www.gasbeton.it/en/download/mortars-and-adhesives/)

# Execution procedures: plaster and skim coating cycles for **interiors**

## 1ST STEP – BASE LAYER

### SIMPLE PLASTERING WITH MULTICEM



Arrange adjustment bands and corner guards all over the wall. Apply by hand or spray with a plastering machine a 1 - 1.5 cm thick layer of MULTICEM, moving from the bottom to the top. Within 40 minutes, level with an aluminium levelling bar with alternating right-left movements. To make thicker layers, apply the subsequent layers (max. single layer thickness 1.5 cm) using the "wet-on-wet" technique, having about 2 hours to pass between coats. On the same day or at the latest on the following day, depending on the weather conditions, perform levelling "scratching", then make a surface lamination with a large American trowel and re-compact the surface broken up by the "scratching". MULTICEM can also be finished rustic in interiors. In this case, pass a wet sponge trowel to eliminate small irregularities, even out the surface and apply paint directly. Min. thick. finished plaster: 1 cm.

### SIMPLE SKIM COATING WITH INCOLLARASA

Thin skim coating with INCOLLARASA. Alternatively, the entire surface to be tiled can be treated with a suitable primer or plastered with MULTICEM. In areas subject to waster splashes, skim coat with waterproofing cement mortar.

### REINFORCED SKIM COATING WITH INCOLLARASA



Apply a first coat of INCOLLARASA on the substrate with a notched trowel. Position the alkali-resistant glass-fibre mesh (mesh 4x4 mm, weight from 75 g/sqm to 160 g/sqm) and apply the second (final) coat of INCOLLARASA "wet-on-wet" with a smooth trowel, passing horizontally and vertically until you achieve a flat surface and total coverage of the mesh, which must be in the upper third of the overall thickness of the skim coating. Recommended final thick.: 5 mm.

## 2nd STEP – FINISHING LAYER

### SIMPLE SKIM COATING WITH INTERIOR MULTIRASO



After the initial hardening and drying of MULTICEM and INCOLLARASA (2/3 days depending on climatic conditions), skim coat with INTERIOR MULTIRASO.

It is best to dampen surfaces beforehand.

Apply the product on the substrate with a large smooth American trowel, coating it with horizontal and vertical motions until the surface is flat. Depending on the desired thickness and finish, apply two or more coats in the same day, using the "wet-on-wet" technique, leaving at least one hour between coats. To obtain a particularly smooth effect, dampen the surface slightly and smooth with a small American trowel.

Max. thick.: 2 mm per single coat, 5 mm for the finished layer.

### SMOOTHING WITH INCOLLARASA

By the end of the day that the base layer was laid with INCOLLARASA, perform smoothing with a sponge trowel, again with INCOLLARASA, in order to obtain a perfectly flat surface.

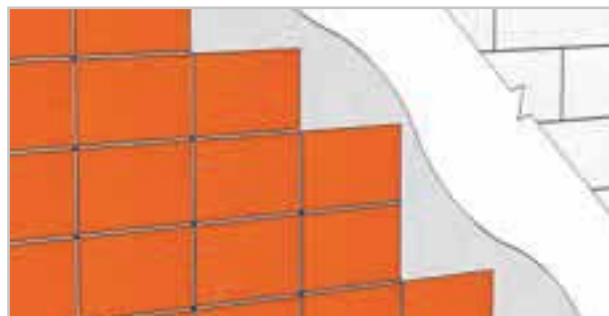
## 3rd STEP – DECORATION

### DECORATING WITH PAINT

Decoration must be carried out when the substrate is fully cured and matured (at least 20/22 days after skim coating with INTERIOR MULTIRASO or smoothing with INCOLLARASA).

Decorate with breathable paint (washable in the kitchen and bathrooms) or low elastic modulus decoration materials. Avoid quartz or resin finish.

### DECORATING WITH TILES



Indoor coatings can be applied on GASBETON® masonry after treating the substrate with GASBETON® PRIMER diluted with water 1:5 or after applying a thin skim coating layer with INCOLLARASA. Bond the tiles with a low elastic modulus glue and seal the joints with waterproof products.



# Execution procedures: plaster and smoothing cycles for **exteriors**

## 1ST STEP – BASE LAYER

Arrange adjustment bands and corner guards all over the wall.  
MULTICEM can be applied by hand or sprayed with a plastering machine.

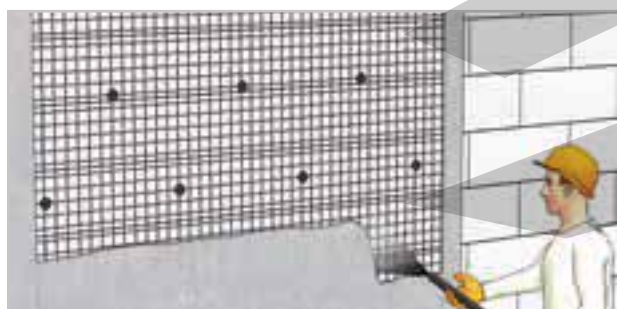
### SIMPLE PLASTERING WITH MULTICEM

Apply a 1 - 1.5 cm thick layer of MULTICEM, moving from the bottom to the top. Within 40 minutes, level with an aluminium levelling bar with alternating right-left movements.

To make thicker layers, apply the subsequent layers (max. single layer thickness 1.5 cm) using the “wet-on-wet” technique, having about 2 hours to pass between coats.

On the same day or at the latest on the following day, depending on the weather conditions, perform levelling “scratching”, then make a surface lamination with a large American trowel and re-compact the surface broken up by the “scratching”. Min. thick. finished plaster: 1.5 cm.

### REINFORCED PLASTERING WITH MULTICEM or MALTACOLLA



When finishing with external cladding, MULTICEM must be applied reinforced in 2 - 2.5 cm thickness, laying electro-welded galvanised steel mesh Ø 4 mm mesh 5 x 5 cm with special spacers and fixing it to the blocks by means of dowels (Fischer GB10 type for Evolution and Sysmic, GB14 for Active and Energy or SXR10x80T) in no. min. 6/sqm (no. of dowels depending on the type of block and the weight of the cladding).

Alternatively: mix MALTACOLLA M10 RS with GASBETON® PRIMER diluted with water in ratio 1:3, spread the first coat on the masonry with a trowel, apply an alkali-resistant glass-fibre mesh, mesh 10x10 mm, weight about 125 g/m<sup>2</sup>, and anchor it to the masonry with specific GASBETON® dowels. After 2-6h, spread the second coat of MALTACOLLA M10 RS “wet-on-wet” with a smooth trowel until you obtain a flat surface to completely cover the dowels and the mesh, which must be in the upper third of the overall thickness of the skim coating (7-8mm).

## 2nd STEP – FINISHING LAYER

### REINFORCED SMOOTHING WITH EXTERIOR MULTIRASO

After the initial hardening and drying of MULTICEM and (6/7 days depending on climatic conditions), skim coat with EXTERIOR MULTIRASO (grain size < 1.3 mm) or INCOLLARASA (grain size < 0.6 mm). It is best to dampen surfaces. Apply the product on the substrate with a large American notched trowel, coating in a vertical direction. Place an alkali-resistant glass-fibre mesh (mesh 4x4 mm, 150-160 g/sqm) in the upper third of the total thickness of the skim coating and apply the second coat “wet-on-wet”. Finish with a sponge trowel, moistening with water if necessary, until a uniform, even surface is obtained.

In case of subsequent application of thick coloured plaster finish, you do not have to sponge the surface but you may simply scratch it with a large American trowel.

EXTERIOR MULTIRASO is a water-repellent and fibre-reinforced product so, for outdoor applications, it is to be considered the most precautionary solution compared to the use of INCOLLARASA.

Max. thick.: 2 mm per single coat, 5 mm for the finished layer.

## 3rd STEP – DECORATION

### DECORATING WITH PAINT OR PLASTER FINISH

Decoration must be carried out when the substrate is fully cured and matured (20/22 days after skim coating with EXTERIOR MULTISKIM or BONDSKIM). Decorate with breathable, water-repellent coloured paints or with siloxane, acryl-siloxane, silicate-based plaster finishes. The use of dark colours on façades increases surface tension and consequently the risk of cracking.

We do not recommend the application of resins, quartzes or other similar finishes that create excessive tension on the substrate during drying.

### DECORATING WITH TILES ON EXTERIORS



Once the MULTICEM or reinforced MORTARGLUE M10 has completely matured (30 days), glue the external cladding with an elastic adhesive suitable for the type of cladding, using the double-spreading technique. We recommend the use of slabs/tiles of limited thickness and size and the utilisation of a suitable safety restraint system for the individual slabs (i.e. retractable steel hooks fixed to the support with dowels). The cladding must be laid with 5 - 6 mm joints treated with special elastic sealants that are as vapour-permeable as possible. Insert expansion joints, approximately every 3 m vertically and 6 m horizontally.

A dry solution with a ventilation system capable of removing moisture to the glued cladding is preferable.

(See sol. below)

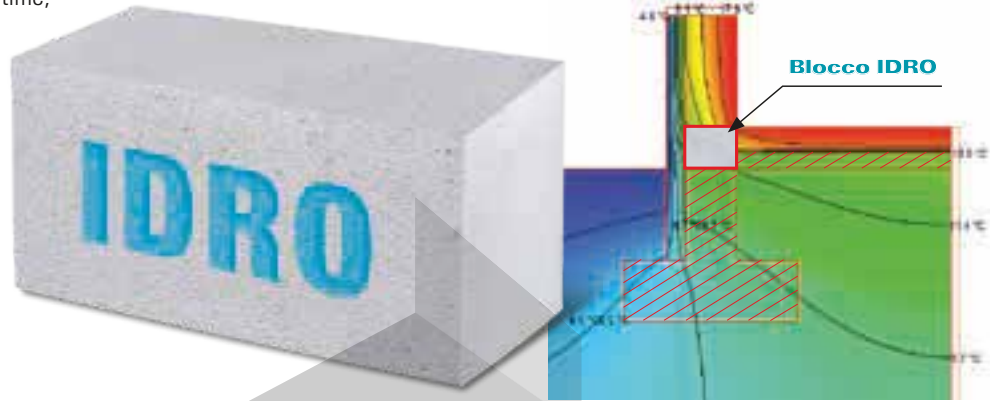


In this case, apply MULTICEM or non-reinforced INCOLLARASA before anchoring the substructure to the façade. Use suitable dowels (i.e. Fischer SXRL or FIS V), fix the chosen restraint system (metal substructure, point system, mixed system) to the building structure and masonry, then lay the cladding slabs.



# IDRO block

From the functional need to reduce thermal bridges at the base of traditional masonry and, at the same time, the transmission of any ascending moisture comes the new IDRO Block. In addition to its excellent thermal insulation power and high compressive strength, this product offers much lower absorption values compared to standard blocks, thanks to the use of special waterproofing agents evenly distributed throughout the entire volume of the block.



**Fields of application:** IDRO blocks are ideal for the construction of the first course of bricks at the base of traditional masonry and in GASBETON® in order to inhibit moisture and, at the same time, reduce linear thermal bridges. It is suitable both for internal partitions and external walls, including load-bearing in seismic zones. It is useful in basements, ground floors and in all areas where there are balconies or terraces with a danger of water stagnation.

**Product preparation:** IDRO blocks are delivered ready-to-use on pallets. They do not lose their protection even if cut.

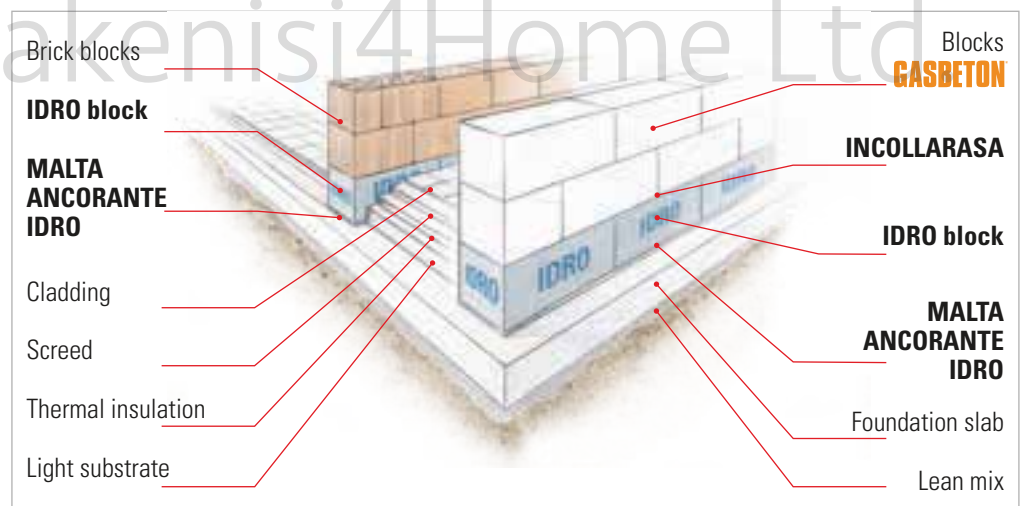
Available thickness:		IDRO EVOLUTION	IDRO SYSMIC
Length	Height	Thickness	
60 cm	12,5* e 25 cm	8 cm	-
60 cm	12,5* e 25 cm	10 cm	-
60 cm	12,5* e 25 cm	12 cm	-
60 cm	12,5* e 25 cm	15 cm	-
60 cm	12,5* e 25 cm	20 cm	-
60 cm	12,5* e 25 cm	24 cm	24 cm
60 cm	12,5* e 25 cm	30 cm	30 cm
60 cm	12,5* e 25 cm	35 cm	35 cm
60 cm	12,5* e 25 cm	37,5 cm	37,5 cm
60 cm	12,5* e 25 cm	40 cm	40* cm
60 cm	12,5* e 25 cm	45* cm	-
60 cm	12,5* e 25 cm	50* cm	-

\* Upon request

Performance:		EVOLUTION IDRO	SYSMIC IDRO
Density $\rho$ dry	Kg/m <sup>3</sup>	480	580
Compressive strength $f_{tk}$	N/mm <sup>2</sup>	2.8	≥ 5
Shear strength $f_{vko}$	N/mm <sup>2</sup>	0.1	0.3
Thermal conductivity $\lambda_{10, dry}$	W/mK	0.110	0.130
Dimensions L x H	cm	60 x 12,5 o 25	60 x 12,5 o 25

### Application:

The IDRO block must be placed on a suitable layer of **MALTA ANCORANTE IDRO**. To lay subsequent GASBETON® blocks, use the specific Incasarasa GASBETON®. In the case of bricks, use cement mortar for traditional walls. If several vertical courses of IDRO Block are foreseen, it is necessary to glue them with INCOLLARASA GASBETON® using a special notched trowel, taking care to offset the vertical joints.



### GASBETON® adhesive

**FAST**  
15 minutes Initial hardening

**BENEFITS**  
40-60 metre edge

**STRONG**  
500 Kg/dm<sup>2</sup> adhesion to concrete

**EFFECTIVE**  
up to 12 sqm with one canister



**For the laying of aerated autoclaved concrete blocks**

Based on a special low-expanding single-component polyurethane foam formulated for thin-jointed masonry. Ideal for laying GASBETON® blocks, its low-pressure formulation ensures stability and prevents the deformation of masonry during and after work.

**Features:**

- Extremely fast laying
- High site cleanliness
- Reduction of thermal bridges in joints
- Less site equipment
- Constant thickness of joints between blocks
- Quick grip in just 15 minutes
- Does not require any construction site equipment

**Fields of application:**

- GASBETON® block laying
- Joint sealing between masonry and structures

- Bonding plasterboard and gypsum fibre sheets
- Bonding decorative elements, tiles and thresholds

**Adhesion values on different substrates:**

- Aerated autoclaved concrete blocks: max\* (with 1 mm joint)
- Plasterboard Sheets: max\* (with 1.5 mm joint)
- Insulating polystyrene and mineral wool panels: max\* (with 3 mm joint)
- Concrete: > 500KPa (with 1 mm joint)
- Wood: > 260KPa (with 1.5 mm joint)
- Steel: > 130KPa (with 1.5 mm joint)

\* bonding resistance greater than the tear resistance of the substrate.

**Available in 2 versions**

**Version with spout**  
(already supplied)

**Version with gun**  
(can be purchased separately)



Thin vertical/horizon. joint sealing



GASBETON® block laying



### Accessories and equipment



New notched trowel for the correct laying of the blocks  
**A single trowel for all thicknesses**

Rubber mallet

Trowel for sanding and flattening

Manual cutting saw

Flat pre-drilled connector for wall anchoring

Shock-absorbing band  
Length = 300 cm  
Width = 10 cm  
Thick. = 1 or 2 cm

Notched scoop trowel from 5 to 40 cm

Bracket for manual cutting

Drill cutter for electrical housings

Manual groove-cutting machine for tracks

MURFOR EFS/Z truss for joint reinforcement  
Spess. = 190 mm

MURFOR COMPACT wire mesh tape for joint reinforcement  
A40 (thick. 40 mm)  
A80 (thick. 80 mm)

Handles for lifting blocks

Electric band saw

Electric cutter groove-cutting machine



Electric reciprocating saw



SXRL UX SX GB FPX PBB FIS A FIS V

FISCHER fixing systems. On GASBETON® masonry, it is possible to fix any type of load using suitable dowels. For details and capacity values, visit <http://www.fischeritalia.it/famiglie/fissaggi-su-calcestruzzo-cellulare/>

## Laying method

### Preparing the laying glue:

INCOLLARASA and MALTA ANCORANTE IDRO must be mixed evenly with the mixing water until optimal plasticity is achieved.

### Laying the first course:

Apply a layer of MALTA ANCORANTE IDRO onto slab or foundation. Now, lay the IDRO block, ensuring maximum planarity both longitudinally and transversally. In this way, masonry work above is protected, thanks to a considerable reduction in rising damp.

### Alignment and levelling:

Use the notched trowel to lay GLUESKIM on the vertical (if smooth block) and horizontal side of each block. The thickness of the joints is about 1.5 mm thanks to the trowel notching, which regulates adhesive application. To ensure suitable grip, the vertical joints must be staggered at a distance of between 1/3 and 1/2 of the length of the blocks.

### Creating vertical stiffening:

it is possible to make pillars in reinforced concrete thanks to the hollow blocks, suitably armed and filled with concrete.

These stiffening systems are essential in many situations, such as in large masonry or in the presence of heavy frames such as REI or reinforced doors.

### Creating horizontal stiffening:

with the grooved blocks, it is possible to create horizontal stiffening kerbs for large masonry and lintels in situ, filled with concrete and suitably dimensioned reinforcement rods.

These stiffeners are required, for example, at the top of walls with a height of  $\geq 4$  m or at the base in the case of yielding support structures or to realize lintels in situ as an alternative to the use of GASBETON® REINFORCED LINTELS.



### Creating internal partitions:

GASBETON® blocks can be used to effortlessly create internal partitions between all types of rooms. Particular care must be taken to connect the partitioning to the main walls in order to make it more stable: this connection can be achieved, for example, by burying suitable metal connectors in the joints between blocks.

As an alternative to using GLUESKIM, such masonry can be built by using the special polyurethane GASBETON® ADHESIVE to stick blocks together in a faster, more effective and cleaner way.

### System housing:

The commissioning of electrical and plumbing systems is aided by easily being able to create suitably-sized compartments for them in walls, using electrical or manual groove-cutting machines, thus minimising masonry assistance times. Compartments for electrical boxes, pipes and any clamps are easily created using special milling cutters or a simple jig saw for wood. It is advisable to restore the chases with GLUESKIM mixed with water and swarf (preventing cracks due to shrinkage). When restoring large scale breakages, it is necessary to provide surface protection with fibreglass mesh reinforced pre-skim coating compounds.

### Anchors and fixings:

The installation of door and window frames is also very simple. They are fixed directly to the walls with suitable wall plugs, without the need for gripping with clamps or cement mortar. Even any loads such as furniture, toilets, systems, etc. applied to the walls can be easily fixed with suitable dowels accompanied by corresponding metal screws.

### Finishes and plaster:

After cleaning the surface to be plastered with a sorghum broom and removing any glue residues, proceed with the application of MULTICEM plaster specific for GASBETON®. On the external surface of the infill panels, apply a MULTISKIM reinforced skim coat over the MULTICEM primer plaster before proceeding with the finishing, using breathable products with low elastic modulus (and that are also water-repellent, on external areas).

Alternatively, it is possible to carry out a reinforced skim coating directly on the masonry using RASOFIN on exteriors or INCOLLARASA on interiors.



During laying, it is advisable to insert a suitable protection against ascending moisture at the base (bituminous sheath and/or IDRO block laid on a layer of MALTA ANCORANTE IDRO).

It is advisable to always leave adequate space for the inflection of the floor/beam above (minimum 1 cm) at the top of the curtain wall and to fill it with special GASBETON® ADHESIVE type expanding foam.

Download the Design guide from the website [www.gasbeton.it](http://www.gasbeton.it)

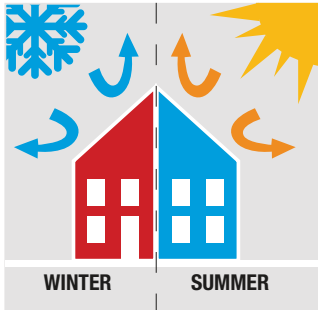
It contains construction details and useful information for masonry sizing.





### Technical features

#### Thermal insulation



GASBETON® masonry offers excellent thermal insulation properties thanks to the material's characteristic cellular structure. In accordance with the harmonised standard UNI EN 771-4, the thermal conductivity of the product  $\lambda_{10 \text{ dry}}$  (at a temperature of 10°C in the dry state) is declared both on the basis of direct measurement tests carried out according to standards ISO 8302 and UNI EN 12667 at

the Polytechnic University of Bari and according to standard UNI EN 1745 (depending on the gross dry mass). To calculate the thermal transmittance U of the masonry (according to UNI EN ISO 6946), it is necessary to use the design thermal conductivity  $\lambda$  (useful) obtained by multiplying the basic thermal conductivity  $\lambda_{10 \text{ dry}}$  dry by a greater coefficient Fm that takes into account the moisture present in the masonry under operating conditions.

It is the designer's task to determine all the necessary parameters (based on the performance declared in the D.o.P.) in order to assess the suitability of the product according to its use.

#### Fire resistance

The special physical and chemical characteristics of aerated autoclaved concrete make GASBETON® one of the most suitable products for creating fire-resistant walls. The materials making up the GASBETON® mixture are of mineral, inorganic and incombustible origin and do not release toxic fumes in case of fire. Furthermore, the cellular structure, rich in air cells, gives GASBETON® high thermal insulation performance, useful for containing the temperature of the compartments.

##### Reaction to fire

Aerated autoclaved concrete elements and premixed mortars bearing the GASBETON® trademark are considered Euroclass A1 (ex class 0, non-combustible), without having to be tested, since they are included in the list in Annex C to Ministerial Decree 25/10/07. No type approval is therefore required and, as regards the forms to be submitted to the Provincial Fire Brigade Commands, the EC declaration of conformity (which accompanies the supply of each product) can simply be attached to the application for the fire prevention certificate.



##### Fire resistance

The fire resistance of GASBETON® EVOLUTION non-load-bearing walls is declared on the basis of tests carried out at the CSI recognised laboratory in Bollate in accordance with the procedures established by standard UNI EN 13501-2:2008 on unplastered walls in blocks assembled with GASBETON® glue.

The fire resistance classification report for thicknesses 8 and 10 is available by writing to [serviziotecnico@bacchispa.it](mailto:serviziotecnico@bacchispa.it). Evolution, Energy and Sysmic non-load-bearing masonry with thickness  $\geq 24$ cm can be classified EI240 on the basis of the values shown in table D.4.3. of Annex D of Ministerial Decree 16/02/07 (Tabular Method). Evolution and Sysmic load-bearing walls are instead classified REI180 for thickness 24cm and REI 240 starting from thickness 30cm in ref. to Circ. of Min. Int. prot.1968 of 15/02/08 with limitations  $H < 8$ m and  $H/th \leq 20$ . In both cases, reference should be made to the material defined as "light concrete solid blocks" according to the indications given in the letter of the Ministry of the Interior prot. 585 sent to Assobeton on 14/01/10. For thick.  $\geq 15$ cm and walls  $H > 4$ m, it is necessary to provide a kerb at an height of less than 4m that offers a constraint function equal to that offered by the inter-storey floors (limitation reported in Tab. D.4.3 of Min. Decree 16/02/07).

		ACTIVE										
<b>Fire resistance</b>		50*	240	300	350	375	400	450	500			
Non-load-bearing wall	-	EI 240										
<b>Note:</b> * 50 mm thicknesses are to be used only for thermal bridge correction, not for masonry.												
		ENERGY										
<b>Fire resistance</b>		100*	240	300	350	375	400					
Non-load-bearing wall	-	EI 240										
<b>Note:</b> * 100 mm thicknesses are to be used only for thermal bridge correction, not for masonry.												
		EVOLUTION										
<b>Fire resistance</b>		50	80*	100*	120	150**	200	240	300	350	375	400
Non-load-bearing wall	-	EI 120	EI 180				EI 240					
Load-bearing wall	-	-	-	-	-	REI 180	REI 240					
<b>Note:</b> * Fire resistance certificates were obtained by testing smooth 8 and 10 thickness blocks with vertical joint glued. If interlocking blocks are used, it is possible to obtain the same result gluing the vertical joint anyway. The classification ratio can be extended to all thicknesses greater than 10.												
<b>**</b> For thick. 15cm, consider EI180 for walls $H < 4$ in application extension of the classification ratio of thickness 10, EI120 according to the tabular method for H walls between 4 and 4.5 with a reinforced concrete kerb at a height of less than 4m.												
		SYSMIC										
<b>Fire resistance</b>		240	300	350	375							
Non-load-bearing wall	-	EI 240										
Load-bearing wall	-	REI 180	REI 240									

## Mechanical strength

GASBETON® solid and ground element blocks (characterised by millimetric dimensional tolerances) comply with UNI EN 771-4 (Specification for masonry units - Part 4: aerated autoclaved concrete masonry units) and bear the CE marking in category I, according to the 2+ conformity certification system. The rigour of the GASBETON® production process makes it possible to declare a compressive strength value lower than the actual resistance of the blocks in 95% of cases.

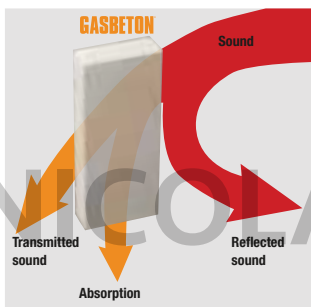
GASBETON® INCOLLARASA and MORTACOLLA RS are premixed thin-layer masonry mortars from category M5 and M10, respectively, with guaranteed performance for the assembly of GASBETON® blocks and are CE marked in accordance with UNI EN 998-2, according to the 2+ certification system.



Physical and mechanical properties	EVOLUTION		SYSMIC	
	Average val.	Char. val.	Average val.	Char. val.
Average masonry density (including GASBETON® glue and moisture balance) $G_m$	600 ±60 Kg/m <sup>3</sup>	-	700 ±60 Kg/m <sup>3</sup>	-
Characteristic compressive strength in the direction of vertical loads on cubic specimen $f_{bk}$	-	≥ 3,2 N/mm <sup>2</sup>	-	≥ 5.0 N/mm <sup>2</sup>
Characteristic initial shear strength of masonry $f_{vk0}$	-	0.1 N/mm <sup>2</sup>	-	0.3 N/mm <sup>2</sup>
Normal secant modulus of elasticity of masonry E	1726 N/mm <sup>2</sup>	-	4574 N/mm <sup>2</sup>	-
Secant tangential modulus of elasticity of masonry G	690 N/mm <sup>2</sup>	-	1830 N/mm <sup>2</sup>	-
Dimensional stability for moisture $\epsilon_{cs,ref}$	≤ 0.06	-	≤ 0.04	-

## Acoustic insulation

Despite their light weight, GASBETON® walls offer good sound insulation values thanks to both the porosity of the material and the precision of the installation obtained with a “thin joint,” which prevents the formation of acoustic bridges that are typical of traditional structures such as hollow blocks that require a thicker mortar joint. Moreover, it has been possible to verify from experimental tests carried out that the presence of technical installation tracks, carried out with a suitable electric groove-cutting machine, has no influence on the final performance of the wall. The soundproofing power values of GASBETON® walls shown in the following table refer to walls plastered with 1.5 cm of MULTICEM plaster on both sides.



Performance	Unit of measure	Thickness													
<b>ACTIVE</b>	mm	50	-	-	-	-	-	240	300	350	375	400	450	500	
<b>R<sub>w</sub></b>	dB	32	-	-	-	-	-	43	46	47	48	49	50	51	
<b>ENERGY</b>	mm	-	-	100	-	-	-	240	300	350	375	400	-	-	
<b>R<sub>w</sub></b>	dB	-	-	37	-	-	-	45	47	49	49	50	-	-	
<b>EVOLUTION</b>	mm	50	80	100	120	150	200	240	300	350	375	400	-	-	
<b>R<sub>w</sub></b>	dB	35	38	40	41	43	46	48	50	52	52	53	-	-	
<b>SYSMIC</b>	mm	-	-	-	-	-	-	240	300	350	375	-	-	-	
<b>R<sub>w</sub></b>	dB	-	-	-	-	-	-	50	52	54	54	-	-	-	

In order to obtain high soundproofing power values with a limited wall thickness, it is possible to create a double wall with 8, 10 or 12 cm thickness Gasbeton Evolution blocks, interposing suitable acoustic insulators. Some stratigraphic layouts are given here by way of example.  
 Rw 56dB: Multicem + Evolution 12cm + Incollarasa + Mineral wool 6cm + Evolution thick.8 + Multicem  
 Rw 55dB: Multicem + Evolution 12cm + Incollarasa + Mineral wool 4cm + Evolution thick.8 + Multicem  
 Rw 55dB: Multicem + Evolution 8cm + Incollarasa + Rubber SBR 2cm + Air 2cm + Evolution thick.10 + Multicem  
 Rw 65dB: Plasterboard + Mineral wool 3.5cm + Evolution 15cm + Mineral wool 3.5cm + Plasterboard

## Specifications

Available at  
[www.gasbeton.it](http://www.gasbeton.it)  
 in the DOWNLOAD section

# GASBETON®

Commercial offices:

**Bacchi S.p.A.**

Via Argine Cisa, 19 - 42022 Boretto (Reggio E.) Italy

Tel. +39 **0522 686080** - Fax: +39 0522 1848490

[commerciale@bacchispa.it](mailto:commerciale@bacchispa.it)

Website:

[www.gasbeton.it](http://www.gasbeton.it)

Legal and production offices:

EKORU s.r.l.

Via Lufrano, 72 - 80040 Volla (Na) Italy

Tel. +39 081 7746611 - Fax +39 081 7746525

[info@ekoru.it](mailto:info@ekoru.it)