

AUTOCLAVED AERATED CONCRETE

MASTER BLOCK

**MASTER
IN EVERY COMPARISON**



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AUTOCLAVED AERATED CONCRETE BLOCKS

HERACLES Group, offers via an extensive network of partners throughout Greece, to both professional craftsmen and DIYers, a building product of advanced technology, with superior quality characteristics.

MASTER BLOCK is an innovative autoclaved aerated concrete block product, produced with high strength cement, quartz sand and water. It has a porous texture and an ideal air chambers' distribution, which give it top features and properties, making it ideal for interior or exterior wall construction and every type of construction.

- Residential buildings
- Commercial buildings
- Industrial buildings



MASTER IN EVERY COMPARISON!



THERMAL INSULATION

It saves energy! MASTER BLOCK porous composition keeps the building warm in winter and cool in summer.



ECONOMY & SPEED

Increased speed resulting to more square meters of building surfaces. Additionally, the smooth final surface reduces the cost of plastering.



EARTHQUAKE RESISTANCE

The low weight of AAC in combination with monolithic walls, reduces dead loads. The high strength characteristics of MASTER BLOCK improve the seismic behavior and building's safety.



FIRE RESISTANCE

MASTER BLOCK is characterized as Euroclass A1 material, as it can withstand temperatures up to 1,200 degrees Celsius. It is also ideal for industrial construction or storage facilities.



LOW WEIGHT - GREAT CONVENIENCE

A lightweight material resulting to ease and cost saving, when transported. Replaces a large volume of traditional materials and improves the in-situ project conditions as it produces minimal waste.



VERSATILE AND MULTIPURPOSED

Ideal for all types of buildings' construction and specialized demands as well; such as decorative constructions, even for creative sculptural shapes.



IMPROVED CONSTRUCTION QUALITY

The small deviations in the dimensions of MASTER BLOCK, in addition to the aesthetic excellence, enhance the workforce productivity, constructions' precision, as well as providing cost saving, in the next stages.



ECO FRIENDLY

It's a "clean" material, friendly to the environment, compliant with contemporary construction standards.

TABLE OF TECHNICAL CHARACTERISTICS

AAC Type: G2/400 Autoclaved Concrete Masonry Unit Category I, in accordance to the EN 771-4:2011 +A1:2015 standards.

Parameter	Measurement unit	Parameter values	Control method
Dry density	Kg/m ³	400±50kg/m ³	EN 772-13
Comprehensive strength	Mpa ñ N/mm ²	2,6	EN 772-1
Dimensional stability (shrinkage)	mm/m	0,2	EN 680
Water vapor diffusion co-efficient	(µ)	5/10	EN 1745

Special characteristics

THERMAL INSULATION

Thermal conductivity co-efficient (λ)	Kcal/(mh°C) W/m²K	0,095 0,11	EN 1745
Thermal conductivity of wall with mortar (Uw)	W/m² °K	0,63 for element thickness 15cm 0,55 for element thickness 17,5cm 0,49 for element thickness 20cm 0,40 for element thickness 25cm 0,34 for element thickness 30cm	

FIRE RESISTANCE

Classification of fire resistance	reaction to fire: Euroclass A1 F 180* for element thickness 15cm F 120 for element thickness 12,5cm F 90 for element thickness 10cm *F 180: fire resistance duration ≥ 3 hours	EN13501-1
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MASTER BLOCK PACKAGING CHARACTERISTICS PACKING FEATURES

	Thickness cm	Pieces/Pallet	Pallet dimensions (LxHxT) 60x25x Thickness	Net Height (pallet excluded) m	Gross Height (pallet included) m	Volume m³/pal.	Building surface m²/pallet	Building surface m²/m³
	5	144 (5s) + 16 (15s)		1,2	1,33	1,44	21,6 (5s) + 2,4 (15s)	20 (5s) + 11,1 (15s)
	7,5	112 (7,5s) + 8 (15s)		1,2	1,33	1,44	16,8 (7,5s) + 1,2 (15s)	13,3 (7,5s) + 5,5 (15s)
	10	72		0,9	1,03	1,08	10,8	10,0
	12,5	80		1,25	1,38	1,5	12,0	8,0
	15	64		1,2	1,33	1,44	9,6	6,7
	20	48		1,2	1,33	1,44	7,2	5,0
	25	40		1,25	1,38	1,5	6,0	4,0
	30	32		1,2	1,33	1,44	4,8	3,3

Pallet height: 0,13 cm - Weight 550-620kg/m³

The structural elements (blocks) with a thickness greater than or equal to 10cm they have their sides formed with tongue & groove. MASTER BLOCK aerated concrete is bonded with a specialised mortar of thin layers (MASTER BLOCK adhesive mortar*)



BUILDING WITH MASTER BLOCK

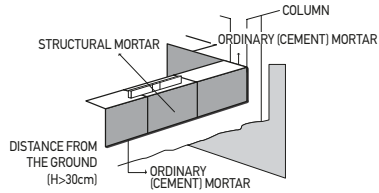
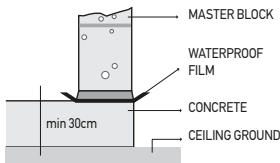
INCOMPARABLE IN TERMS OF CONVENIENCE, ECONOMY AND APPLICATIONS

Before using MASTER BLOCK, open the plastic covers and leave the pallets open for one day.

1

FIRST ROW PLACEMENT

- The bottom row is built with common masonry mortar.
- Installation of a waterproof film under the mortar (see relevant image below) mainly in wall construction of ground floors, with a distance of less than 30cm from the ground.
- In the case of using a film, wall mass should be anchored to the vertical elements of the load-bearing structure (columns).
- Please mind the first row's quality is decisive for the quality of the whole wall.



2

PREPARATION AND LAYING OF MASTER BLOCK MORTAR

A) Mortar preparation:

- Follow the proposed mixed design / instructions (printed on the bag).
- Do not stretch the fresh material (mortar) time period, during which it can be applied.
- Stir occasionally, but avoid water addition.

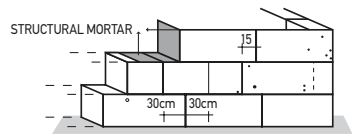
B) For mortar's layering

- Clean the surface from dust with a brush, to enhance the mortar's strengths.
- Spread the mortar with a notched trowel, apply width corresponding to the width of the structural elements.

3

GENERAL RULES FOR AAC BLOCKS PLACEMENT

- Laying should be done in both directions with the help of a rubber mallet.
- There should be no gaps in both the horizontal and vertical direction.
- The adhesive mortar should be spread evenly over the entire surface.
- Lightly moisten the surfaces that come into contact with common building mortars (ie first raw).
- The elements should built cross-staggered and the minimum overlap length should be 15cm (close to the vertical ends).



4

PLUMBING AND ELECTRICAL INSTALLATIONS

MASTER BLOCK low specific weight, makes it easy to open channels for plumbing and electrical lines and installations using simple and easy-to-use tools.



AERATED CONCRETE BLOCKS ADHESIVE

MASTER BLOCK

READY-MADE ADHESIVE MORTAR FOR BUILDING ACC
BLOCKS OR OTHER SIMILAR BUILDING ELEMENTS

- TOP QUALITY
- MADE WITH VERY HIGH STRENGTH WHITE CEMENT
- REINFORCED WITH RESINS

Indicative application ratio is 1 bag/m³

MASTER *in earning more* *m² in construction*

According to the new legislation, wall construction with MASTER BLOCK should not be added (must be excluded) from the approved project permission net surface.

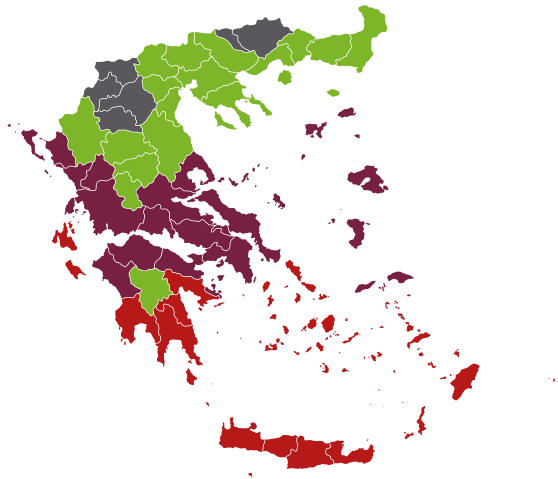
In May 2022, the new regulation YPEN/DAOKA/45724/1558, clarifies the subsection 19 of paragraph 6 of article 11 of law 4067/2012 (NOK), as amended and applied by Article 104 of Law 4759/2020 and Article of Law 4819/2021.

Therefore, based on the current regulation, all surfaces of wall construction materials are excluded, as long as the following specifications are met:

- $\lambda \leq 0,30 \text{ W/(Mk)}$
- single-shell wall material
- meeting national environmental requirements per zone (KENAK)

climate zone	KENAK Requirement U (W/m ² ·K)	Recommended Thickness MASTER BLOCK
■ A	0,55	17,5 cm
■ B	0,45	25 cm
■ Γ	0,40	25 cm
■ Δ	0,35	30 cm

Thermal conductivity co-efficient (λ) MASTER BLOCK: $\lambda = 0,11 \text{ W/m K}$



MASTER BLOCK


TRENDS - IDEAS & SOLUTIONS - APPLICATIONS - SEMINARS

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ALL ABOUT
CONSTRUCTION 

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- ✓ In accordance to EN 771-4-2011+A1: 2015 standards
- ✓ ISO 14000:2015 Certified
- ✓ Environmentally friendly production procedure 



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