FORTEM
CONSTRUCTIVE SUPPORT

AAC FACTORY

(Autoclaved Aerated Concrete - gas formed concrete)

On the way to success there is always something to **BUILD.**

www.fortem.ro

Find out more


FORTEM
CONSTRUCTIVE SUPPORT

CONTENT

“We want to become a benchmark in the construction industry, offering both professionals in the field as well as end customers, durable, efficient and high-quality materials.

Each AAC block we produce reflects our commitment to innovation and excellence.“

Viorel Iacob - Fortem CEO

1.

ABOUT US

1. Introduction

AAC is a popular construction material in Romania, appreciated for its excellent thermal insulation, light weight and durability. It is ideal for energy-efficient and sound-proof buildings, it ensures comfort, energy savings and quick construction

Fortem, the AAC factory in Iernut, Mures County is the place where state-of-the-art technology meets operational efficiency.

By using the latest generation technology, which combines the most advanced processes in the industry, our product is **Premium**. Fortem products are permanently monitored, using QR technology for traceability, which makes the production flow to be tracked in real time, thus avoiding errors, guaranteeing transparency and compliance.

Our own laboratory in Iernut, Mures County, ensures production control in the factory. Equipped in accordance with international standards, it promises the end customer the superior quality of each product that leaves the factory.

Test for determining the green (code) resistence with a penetrometer

Compressive strength test

Viscosity test

Each batch of **Fortem AAC** is subjected to rigorous tests, which make any construction durable.

2.

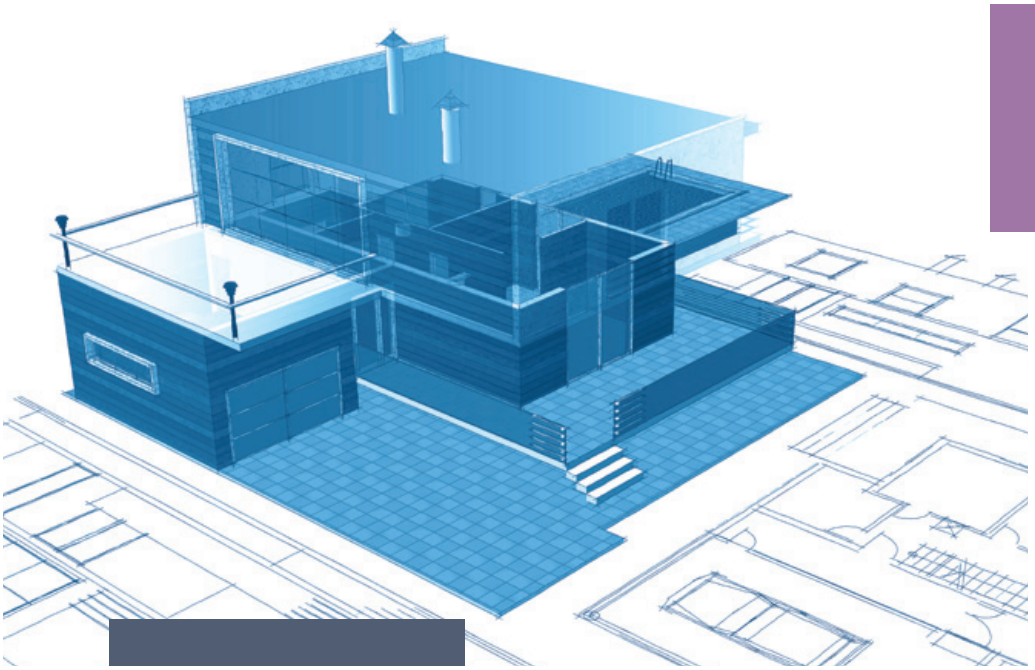
AAC – ADVANTAGES AND BENEFITS

ADVANTAGES

AAC blocks are used as a substitute for conventional masonry, being appreciated globally due to their beneficial properties, such as:

- Reduced Weight
- Fire Resistance
- Thermal and acoustic insulation
- Ease of processing and other advantages that simplify the construction process

AAC blocks are used in industrial, commercial and residential construction for various applications, such as exterior and interior walls, roofs, partitions and divisions.



BENEFITS

Benefits for craftsmen:

Reduced mortar consumption
Dimensional precision and fast assembly

AAC blocks are easily cut and assembled, ensuring fast assembly and reduced mortar consumption. Execution time reduced by up to 30%.

Low weight and easy handling

The cellular structure makes it a light material, facilitating transport, handling and fast assembly, which leads to significant savings in time and costs in construction execution.

Quality finish and time efficiency

The smooth surface and precise dimensions of the AAC blocks reduce the need to use thick layers of plaster, saving time and materials. Thermal bridges are significantly reduced through precise tongue and groove joints.

Load-bearing capacity

For low-rise buildings and in favorable seismic areas, AAC blocks can be used as load-bearing structures.

Customer benefits:

- **Cost savings through materials**
- **Reduced long-term costs**
  Lower heating/cooling bills and fewer maintenance interventions.
- **Safety and comfort**
  The cellular structure offers high energy efficiency and acoustic comfort
- **Safe investment**
  FORTEM AAC have consistent quality and are durable thanks to the certified production system.

3.

WHY CHOOSE OUR PRODUCTS

FORTEM
CONSTRUCTIVE SUPPORT

3. Why choose FORTEM products

- **You support a Romanian product, manufactured to the highest European standards.**

- **You have 100% quality control in the automated factory.**

Each batch is tested in our own laboratory to guarantee performance.

- **Compatible with all types of constructions**

From individual homes to office buildings and industrial spaces, Fortem AAC blocks are the ideal solution.

- **Durability and weather resistance**

It does not lose its properties over time, being resistant to moisture, freeze-thaw and temperature variations.

"Our products are environmentally friendly, resulting from an optimized manufacturing process, with reduced energy consumption, which generates a minimum level of pollution. Therefore, the implementation of a new, state-of-the-art technology will not only contribute to increasing operational efficiency, but also help build a more sustainable future for the construction sector." bio

– Viorel Iacob – Fortem CEO

4.

PRODUCTS AND TECHNICAL DATA

4. Products and technical data

With a full range of densities for AAC - including classic variants, tongue and groove, as well as assortments with technological handles - and thicknesses from 50 mm to 500 mm, Fortem AAC blocks offer mechanical resistances ranging from 2.5 to 5 N / mm², along with excellent **thermal and sound insulation** performances.

This diversity allows choosing the optimal solution both from the perspective of design requirements, and to meet the needs of thermal insulation, sound insulation and fire safety, while also contributing to saving resources.

Density (kg / m³)	Average compressive strength (N / mm²)	Thermal conductivity λ (W / mK)
300	2.5	0.088
350	2.5	0.095
400	3.0	0.10
450	3.3	0.11
500	3.5	0.13
600	5.0	0.15

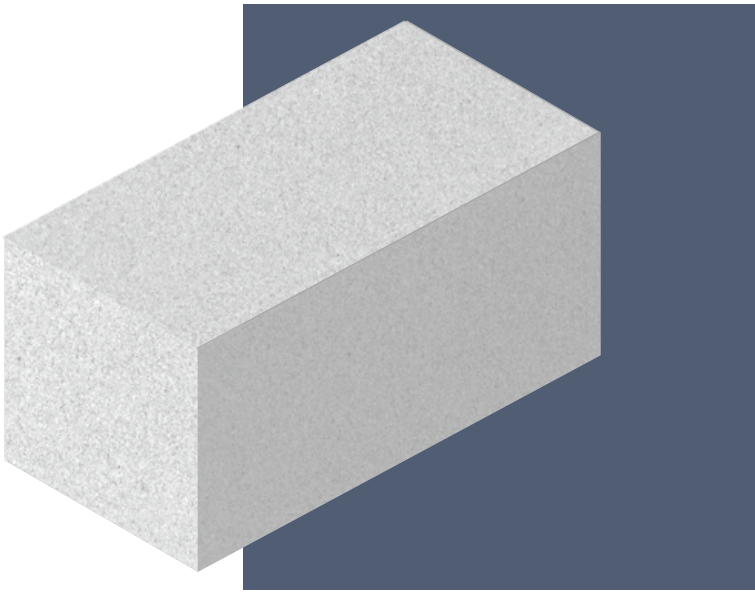
Classic AAC blocks produced using modern technology are distinguished by their high geometric precision, obtained through controlled cutting during the manufacturing phase. Dimensional deviations are minimal (±1mm), which directly contributes to the perfect alignment of the masonry elements and to the significant reduction of subsequent correction or finishing work.

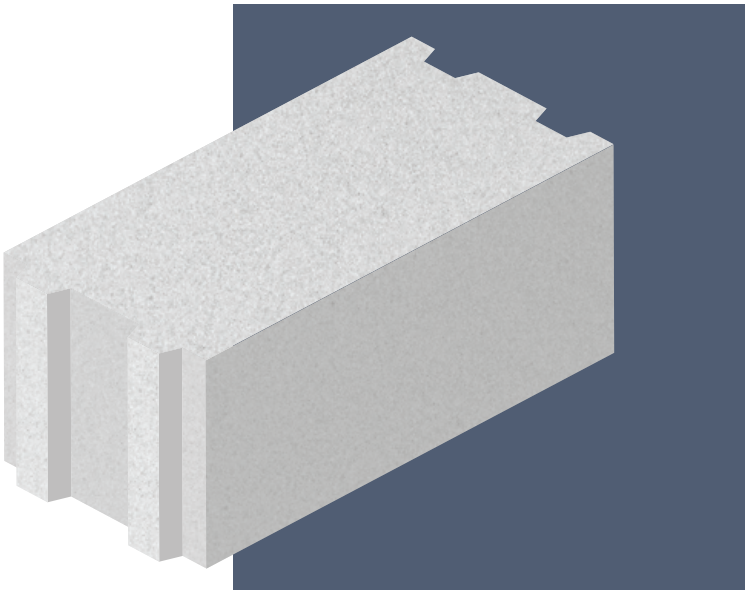
ACC BLOCK DIMENSIONS:

LENGTH:
600mm

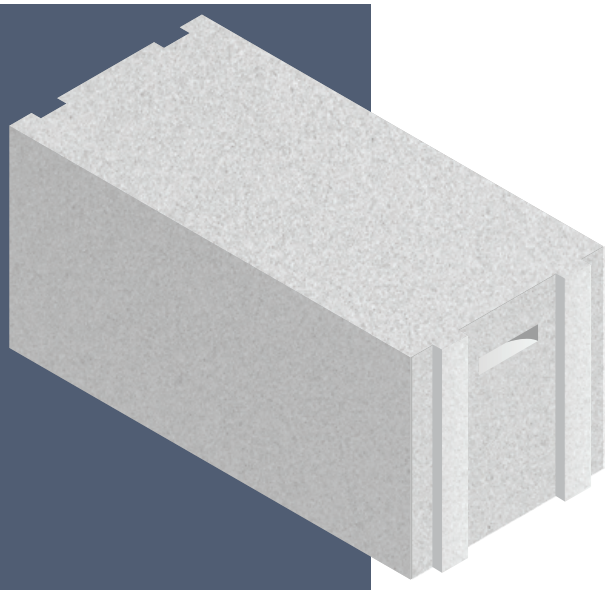
HEIGHT:
250mm

THICKNESS:
50-500mm





The tongue and groove edge profile (NF) for thicknesses greater than 150 mm ensures precise alignment of the AAC blocks, reducing thermal bridges.



The edge profile with technological handles (GH) for thicknesses greater than 200mm ensures efficient handling.

5.

TYPES OF AAC CONSTRUCTIONS

5. Types of AAC constructions

USAGE SEGMENTS

- Walls for low-rise houses
- Large construction projects
- Public sector housing
- Commercial and industrial buildings
- High-rise residential buildings
- Walls and DIY projects
- Renovations

PRODUCT CODE	AAC Dimensions [mm]			DENSITY [kg/m3]						EDGE TYPE			UTILIZARE RECOMANDATĂ					PACKAGING		
Product name	Thickness d	Height h	Length l	D 600 **	D 500	D 450	D 400	D 350	D 300	P	NF	GH	CLADDING (coating)	EXTERIOR	INTERIOR	NON LOAD-BEARING	LOAD-BEARING *	NO. OF PIECES /PALLET	m^3 /PALLET	m^2 /PALLET
Fortem 50	50	250	600															240	1.80	36.00
Fortem 75	75	250	600															160	1.80	24.00
Fortem 100	100	250	600															120	1.80	18.00
Fortem 125	125	250	600															96	1.80	14.40
Fortem 150	150	250	600															80	1.80	12.00
Fortem 200	200	250	600	**														56	1.68	8.40
Fortem 250	250	250	600	**														48	1.80	7.20
Fortem 300	300	250	600	**													*	40	1.80	6.00
Fortem 350	350	250	600														*	32	1.68	4.80
Fortem 400	400	250	600														*	24	1.44	3.60
Fortem 450	450	250	600														*	24	1.62	3.60
Fortem 500	500	250	600														*	24	1.80	3.60

NOTE

*Load-bearing masonry can be calculated and executed in areas and under special conditions imposed by regulations.

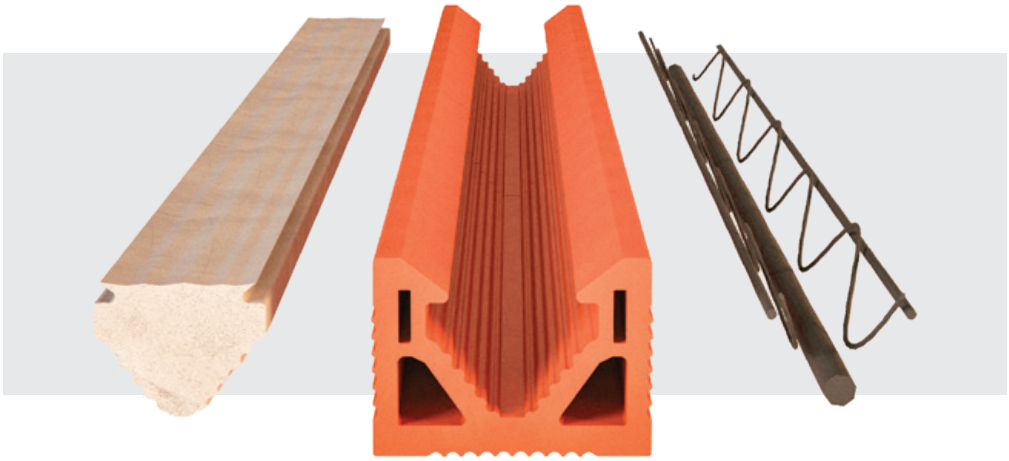
**Densities over 500 kg/m³ are produced custom-made, under certain conditions.

P = flat edge
NF = tongue and groove
GH = technological handles

6.

LINTELS

6. Lintels



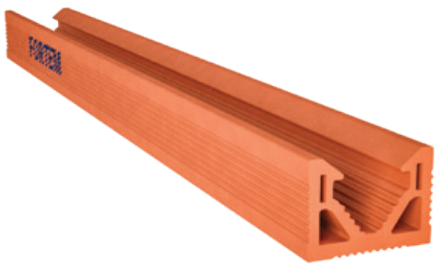
- The only beam-type lintel in Romania with metal lattice reinforcement.
- Designed for the strength of the dwelling (C30/37 concrete).
- High thermal insulation due to the air gaps in the ceramic coating.
- Easy to install and finish.

- Easy to handle.
- Available in lengths of 1.00m up to 3.25m.
- It is used for gap openings up to 2.75 m with a minimum bilateral support of 25 cm.
- Produced according to EN and Romanian standards.

Length [mm]	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250
Permissible load* [kg/m]	36,7	15,43	8,05	4,52	3.1	1,9	1,4	1,04	1	0,97
Maximum deflection [mm]	2,7	3,3	3,5	3,4	3.4	5	6	7,1	7,8	10,9
Maximum gap opening [mm]	500	750	1000	1250	1500	1750	2000	2250	2500	2750

* Value determined by tests on a simple lintel, with a simple bilateral support of 250 mm and free opening.

Water absorption [kg/m²min]	0.4
Water vapor permeability	5,10
Freeze-thaw resistance	YES
Reinforcement corrosion resistance	0.58
Thermal conductivity [W/mK]	0.4
Concrete strength classes	C30/37



LAYING INSTRUCTIONS

End product

Section view of the product

Palletizing mode

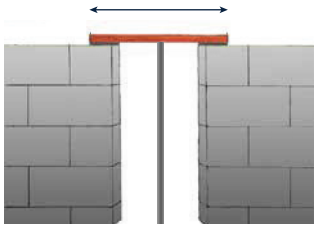
FIELD OF USE

They can be used with any type of masonry: AAC, brick or masonry

1 support point

2 support points

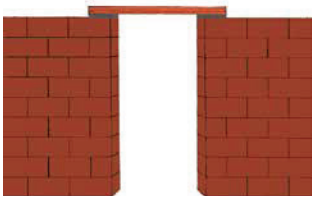
Window



Door

AAC

Window

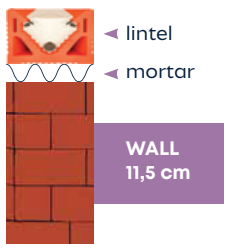


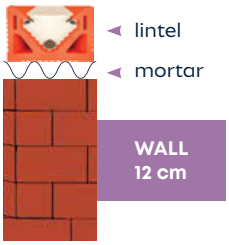
Door

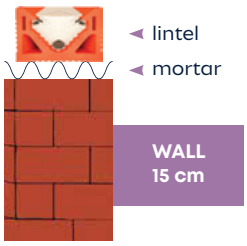
BRICK

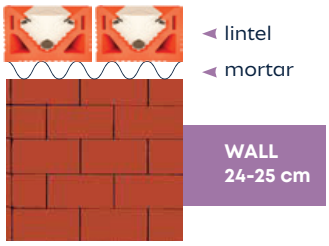
For openings > 1m, **one support point** will be provided halfway through the opening;
For openings of 3 m, **2 support points** will be provided, arranged at equal distances from each other.

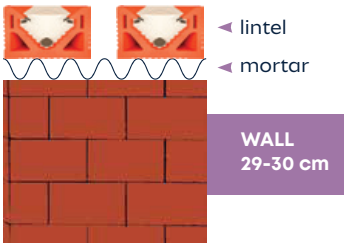
LAYING METHOD

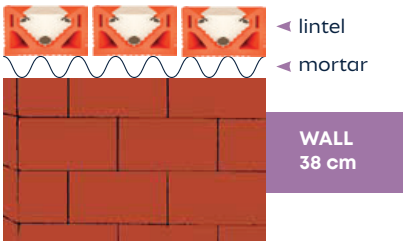


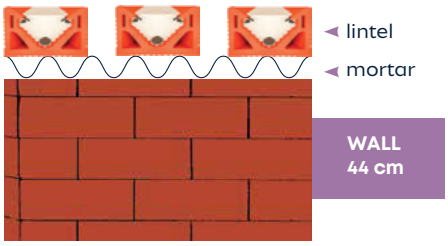


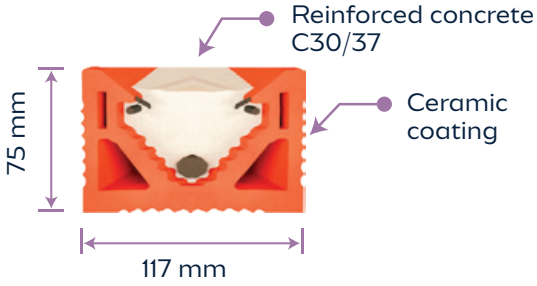


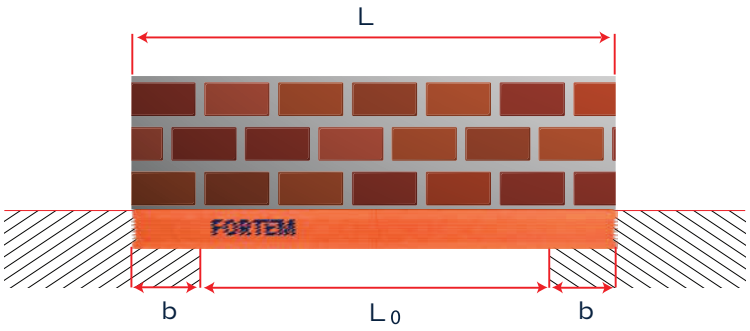












L - lintel length

b ≥ 250 mm - minimum lintel support distance

L_0 - free opening

FORTEM

SUSȚINE CONSTRUCTIV

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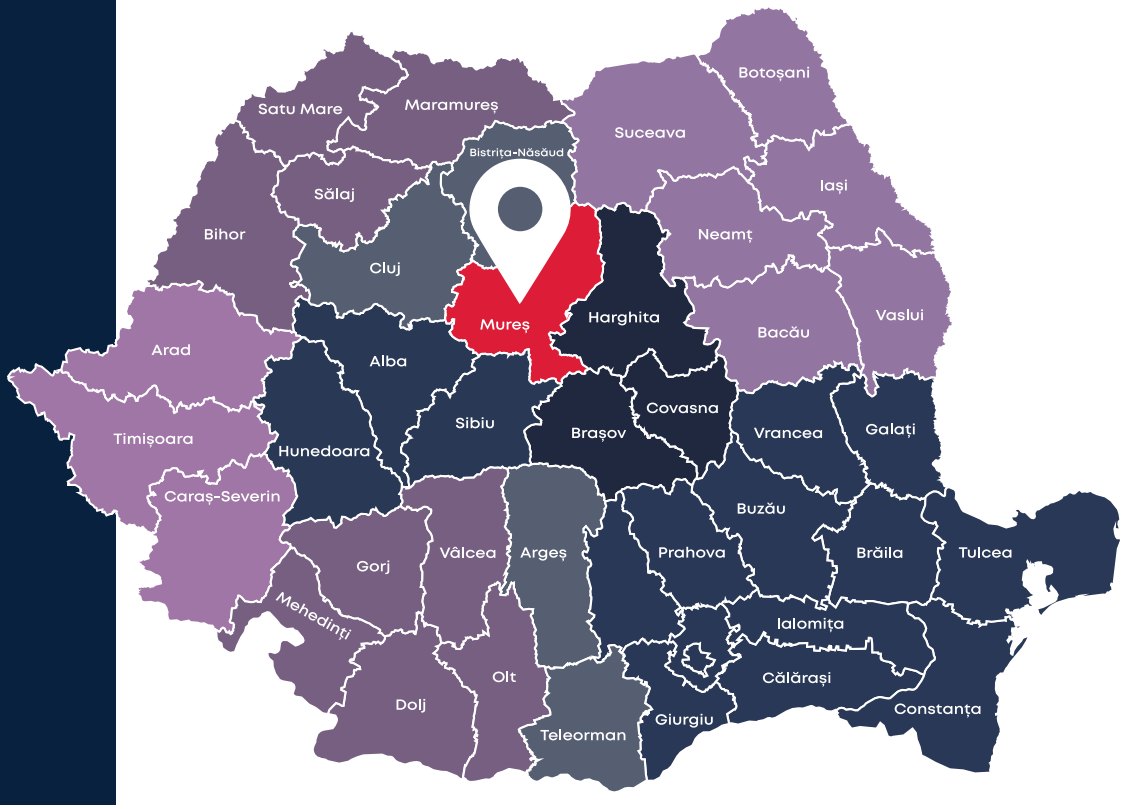

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