

HEBLEX GHARB

Autoclaved Aerated Concrete -AAC



هبلکس غرب عطری

Heblex Gharb Atry

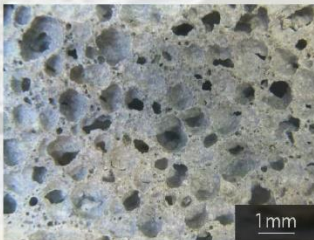
The image is a composite graphic. On the left, there is a close-up of a white, porous AAC block with a honeycomb-like internal structure. On the right, there is a photograph of a factory interior showing a large, blue industrial machine used for processing AAC blocks. The machine has several vertical columns and horizontal beams. The background of the entire image is a light blue and white pattern that mimics the porous texture of the AAC blocks. A yellow triangular shape is located in the bottom right corner.

AAC Autoclaved Aerated Concrete

This is a concrete product with a high technology invented in Sweden in early twentieth century. About 50 years earlier Germans used this technology too and produced light concrete in different trade names. Along with Sweden and Germany, England and European countries replaced ash for silica and it is a long time that light concrete block has been used in construction. Light concrete known as autoclaved sponge concrete is a light weight preformed building material that provides insulating and resistance to fire. Given the new building safety calculation codes against earthquakes, an appropriate and cost effective way to increase buildings safety is to use lightweight materials which can be provided by lightweight concrete blocks

Hebelex autoclaved aerated concrete blocks

Autoclaved aerated concrete blocks are an optimal combination of light weight, heat and sound insulation and resistance to fire in a single product. This unique property is the result of air closed cells structure in crystalline silicate hydro calcium. These blocks are produced by a blend of concrete, cement sand, gypsum, lime and aluminum powder in a complicated process. The most important advantages of such blocks are light weight, heat and sound insulation, high dimension accuracy and resistance to fire



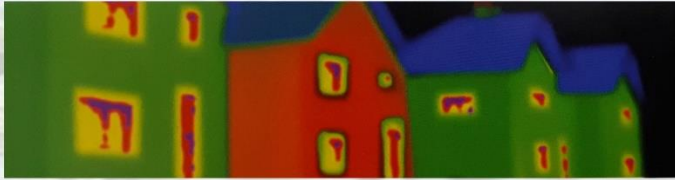
A density of 450-500 kg/m³ for autoclaved aerated concrete is due to millions of air closed cells in its structure

Autoclaved aerated concrete is the same silicate hydro calcium that forms concrete and by being exposed to a temperature of 210 degrees and a saturated vapor pressure of 12.5 forms as a crystal without any condensation with a high resistance despite its light weight. Special and advanced equipment is needed for production of this concrete

	58 Kg / m ²	85 Kg / m ²	108 Kg / m ²
It is 31% lighter than tile 46% lighter than concrete blocks			
	In the absence of gypsum soil it is used with glue	It needs gypsum soil and used with mortar	It needs gypsum soil and used with mortar

A four floor building constructed by this block is 40% lighter and 30% cheaper

The Advantage of Heat Insulation



the red color indicates the insulation of the walls in the building



Usually more than 35% of energy produced in buildings is wasted through walls. Thermal conductivity factor of 0.9- 0.11 w/m of Kelvin degree for blocks reduces energy consumption costs by 70%. This product is known as a green product due to its effects on reduced fossil fuel use and low greenhouse gas production in the world. This product meets the expectations and technical desires of topic 19

General advantages of light concrete use include:

Precise dimensions: light concrete products have precise dimensions and smooth surfaces which lead to low consumption of materials needed for sticking or for final cover. Mortar used for sticking Hebelex products is 1/5 of mortar used for brick



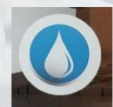
Low production cost: building fixed price by Hebelex products is cheaper than common materials. Also due to reduced dead load of building as 1/3 brick and 1/2 tile, weight and cost of main structure is reduced too. And execution team cost for installation will be 1/4 of brick and 1/3 of tile



Resistance and durability: Hebelex doesn't lose quality by the passage of time and has a long life. It doesn't rot and rust and it doesn't erode. It has a high resistance to different climates and natural disasters such as quakes, flood, fire and storms. Also it is highly resistant to chemicals, pollution, acids, sulfurs, carbon dioxide and acid rains



Moisture insulation: light concrete is known as moisture insulator. Moisture and vapor don't penetrate into a building made by Hebelex which prevents fungi and molds. And it provides healthier environment



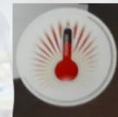
World green material: Hebelex raw materials are all provided from the nature and lack any toxic and oil materials. This causes Hebelex compatibility with environment and human body. Energy used in production, transport and installation of Hebelex is low and pollution due to its production is low too



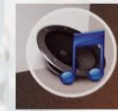
Material against fire: Hebelex is the best option for increasing buildings safety against big fires with 120 hours resistance to fire



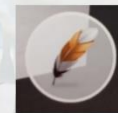
Energy consumption and heat insulation optimization: buildings made by light concrete reduce energy consumption by 40% in the whole building. Hebelex provides heat insulation 3 times more than tile, 5 times more than brick, and 10 times more than common concrete



Sound insulation: if having a comfortable and silent environment is important to you, Hebelex is the best solution. Hebelex's especial molecule structure considerably absorbs sound energy and prevents sound pass from one side to other side of a wall



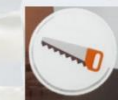
Light and strong: Hebelex has $\frac{1}{4}$ of concrete, $\frac{1}{3}$ of brick and $\frac{1}{2}$ of tile weight and an advantage of this is reduced dead load of the building and more resistance to earthquake as a result



Quick installation: without a need for human specialist forces, Hebelex can be easily installed and the execution speed for a wall by light concrete block is 4 times faster than that of brick



Easy cutting: cutting, drilling and shivering for light concrete block with hand or electric tools are easily done which lead to easy installation of pipes, ducts and



Our products are produced using newest standards of Iran and other countries including



Iran national standards -ISRI

6045-8091-8592-8594-8595-8596-8597-9159
-9160-9161

Standards -ASTM

ASTM-72 ASTM E- 426 ASTM C- 140
ASTM C- 514 ASTM E- 447 ASTM E- 119
ASTM E- 90 ASTM E- 518 ASTM E

Hebelex products list

Thickness	Width	Length	Products	
5-30 Centimeter	20-30 Centimeter	60 Centimeter	Block	
15-30 Centimeter	60 Centimeter	20-60 Centimeter	Mega Block	

Hebelex products technical specifications

Density	Condensation	Pushing resistance	Heat transfer coefficient	Resistance to vapor
550-650 kg/m ³	0.05%	kg/cm ² 30	w/mc 0.17	21600

Resistance rate of Hebelex Gharb products against fire

CM 20	CM 15	CM 10	CM 7.5	Lowest wall thickness
HR 6	HR 5	HR 4	3HR	Fire resistance time

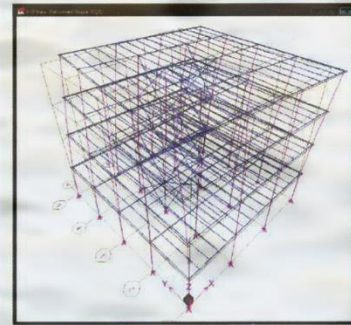
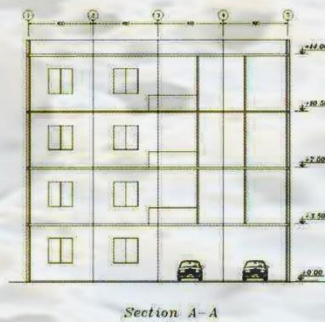
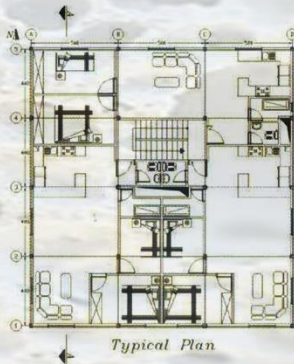
Sound insulation of Hebelex Gharb products

CM 20	CM 15	CM 10	Thickness
db 50	db 45	db 40	Classification of sound insulation
-----	Best	Good	Classification of sound insulation

Calculation notebook of two similar structures, for one Hebelex Gharb block and in other cement block with density of 700 kg is used

General specifications

sample building with dimensions of 16.2m x 15.2 m and a foundation of 985 m³, .steel skeleton structure, residential located in Sanandaj



Comparison of loads and lightning- AAC

decrease percentage	Heblex Block	Light cement block	Explanation	
38	197	319	peripheral wall -travertine stone, stone mortar, block, gypsum and soil, gypsum	1
58	95	240	inner walls -block, gypsum and soil, gypsum	2
33	288	428	dead load of floors ceilings	3
7	36570	39250	steel skeleton -structure and armature	4

Cost savings in Construction

Percent of total	Saving percentage	Explanation	
3%	7%	steel skeleton	1
1	88%	mortar	2
5%	70%	finish work	3
2	100	break and waste	4
15%	70%	reduced cooling and heating costs	5
5%	35%	reduced cost of electrical systems	6
31%	(Overall Saving)		

Some of organizations confirming this product inside the country

Ministry of industries and mines, Ministry of housing and urbanization, Oil Ministry, Energy Consumption Optimization Organization, Engineering Organization, Iranian industries development and renovation organization, Seismology Research Center, Building and Housing Research Center and Industrial Research and Standards Organization

In other countries

UN development program, America's concrete association, Canada structure engineering society, Europe structural engineers council, America concrete contractors association, America civil engineering materials organization, Russian concrete association, Russian structural engineering council, Turkey concrete contractors association, Turkey structural engineers council, China structural engineering society, China concrete association, China civil engineering organization



Central office: next to gas station, Karegar St, industrial park no. 1, Sanandaj Tel: +988733384401 Fax: +988733384402

Factory: customer contact unit, next to slaughterhouse, before Gazaneh village, kilometer 15 of Sanandaj-Kermanshah road Site: www.heblexgharb.com

Direct contact: +989124867571-
+989188705091-+9891288934