
Ten.builders
Building The Future

Ten.builders

Ten builder for trading and construction establish in 2016, located in Lebanon-Zahle. The company focus its effort on supplying exported compressed concrete blocks known as AAC with high qualification and international standards. We also provide it related services. Ten builders ***mission*** aim to make a revolution in construction material by introducing new concept of compressed block.

In addition, **Ten Builders** is established to provide construction/contracting services. Our mission is to implement projects of building construction including structure, architecture, mechanical, civil an interior design. We work closely with a high professional team of Engineers, Architects, and Interior Designers. Our team ensure a quality project through the preparation of detailed and comprehensive project budget and construction schedules. We handle your project from A to Z.

Ten builders is an exclusive agent of the BTG Gazbeton in Lebanon, Jordan, Syria Kuwait, Bhrain, Emirates United kingdom and Qatar.

AAC history brief...

Autoclaved Aerated Concrete as a building material exists and has been industrially produced since the beginning of 20th century. AAC stands for Autoclaved Aerated Concrete, otherwise known as Aerated Cellular Concrete or Aircrete.

Early history of ACC is based on a series of process patents.

- In 1880 a German researcher Michaelis was granted a patent on his steam curing processes.
- Czech Hoffman successfully tested and patented in 1889 the method of "aerating" the concrete by carbon dioxide.
- Americans Aylsworth and Dyer used aluminum powder and calcium hydroxide to attain porous cementitious mixture for which they also received a patent in 1914.
- Swede Axel Eriksson made a serious next step towards developing modern AAC when in 1920 he patented the methods of making aerated mix of limestone and ground slate.
- The real breakthrough in the masonry industry came in 1923 when same architect Axel Eriksson discovered that this moist foamed mass can easily handle pressurized steam curing process, also known as autoclaving.
- During the 1980s Germans took over and improved on the know-how of AAC from the Swedes. Despite fierce competition, multiple plants were realized in Asia, Middle East and Eastern Europe.
- Today, AAC is a structural solid building material, excellent thermal insulator, good sound absorber and also an attractive decoration material.

AAC benefits

Energy efficiency

With outstanding thermal insulation properties, AAC can significantly reduce heating and cooling costs and create a comfortable room climate all year around.

Fire resistance

The perfect solution for fire safety . AAC is non-combustible and offers high protection against fire. The highest fire rating in the industry A1.
AAC resist 1200°C and it avoid the fire to transfer from a room to another. While fire the AAC doesn't produce toxic gas.

Earthquake resistant

The specific properties of AAC materiel and the permanent quality control during the industrial production process, combined with the advantages of confined masonry construction, ensure an improved ductile response under earthquake actions.

Ecology

Within the European Union, the United States and others country AAC is certified to be among the most environmentally sustainable materials. Moreover AAC is not toxic

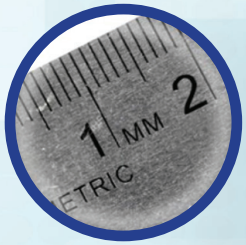
Soundproof

Solid walls made of AAC provide an effective sound insulation that meets standard requirement

AAC benefits

Lightweight

At the equivalent volume AAC is approximately 1/4 the weight of traditional concrete, saving freight and construction costs.



Accuracy in measurement

Quality control programs and stringent production tolerances enable builders to work with the greatest precision and achieve optimal dimensional accuracy.

Versatile

ACC can be cut in any shape or angle for use in all kind of construction application.

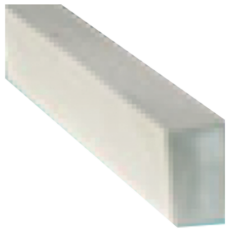
Quick to install

The lightweight nature , accuracy in measurement and excellent work ability make it quick to install on site. AAC can be sawn or drilled by using common work tools.

Economic

Using AAC decrease the consumption of building materiel as iron and concrete due to the light weight and the exact measurement of the AAC blocks

AAC Dimension

ACC Product		DIMENSIONS																
Flat Block		Width	cm	7.5	8.5	9	10	13	14	15	18	19	20	23	25	30	35	40
		Height	cm	25														
		Length	cm	60														
		weight	kg/m³	400 or 500														
		Presure Resistance	kgf/cm²	25-35														
		Fire resistance		A1														
		Thermal transfer value	W/mk	0.13-0.16														
Plug-in-block		Width	cm	7.5	8.5	9	10	13	14	15	18	19	20	23	25	30	35	40
		Height	cm	25														
		Length	cm	60														
		weight	kg/m³	400 or 500														
		Presure Resistance	kgf/cm²	25-35														
		Fire resistance		A1														
		Thermal transfer value	W/mk	0.13-0.16														
Hordy		Width	cm	40-50														
		Height	cm	20-45														
		Length	cm	60														
		Presure Resistance	kgf/cm²	25-35														
		Fire resistance		A1														
		Thermal transfer value	W/mk	0.082														

BTG Aerated Concrete Glue

Aerated Concrete Glue is an adhesive for building applications, suitable for the adhesion of AAC Blocks. It contains white cement, silica sand and additives. The thickness of the joints should not exceed 3 millimeters.

The mixture should contains 3 parts of powder and 1 part of water. And then mix with a mixer at low speed until a homogeneous material is created. After resting for 10-15 min gas concrete glue is ready to use

The working time of the mixture is 4-5 hours after mixing.

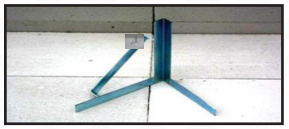
Packaging: 25 kg sack

Quantity of gazbeton in each m^2

Block AAC width cm	7.5	8.5	9	10	12.5	13.5	15	17.5	19	20	22.5	25	30	35	40
Gazbeton kg/m^2	1.1	1.26	1.34	1.48	1.84	1.98	2.2	2.56	2.78	2.92	3.28	3.64	4.36	5.08	5.8

Tools to use

Saws are suitable for cutting products with required accuracy and ease.



Miters are hand tools developed for cutting AAC blocks correctly.

Plane It is used for leveling off elevation differences between blocks which arise from bricking process.
Having bricked the first row on the wall, once it is dried, smoothing must be performed with the plane before proceeding to the upper rows.

Mixing Tips are for easy stirring of AAC glue without flocculation, and they must be used on a low-speed driller.

Glue Trowels are specially produced for ensuring that a sufficient amount of glue is applied at once while bricking AAC walls. Shape and size of notches are specially designed to leave sufficient amount of glue on the block. There are trowels with various widths according to the thickness of the wall.

Channel Notcher: It enables easy notching of channels required for the placement of pipes for electrical and mechanical installations on the walls bricked with AAC. Channels can be prepared easily and without damaging the wall.

Junction Notcher It enables easy notching of electrical junctions on the wall without any damage. It must be used together with a driller.

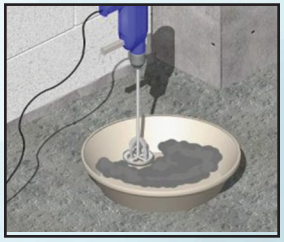
Rubber Hammer it is used for purposes such as placement, alignment of AAC blocks as well as their integration with the glue.

Application rules

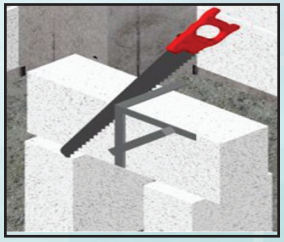
Before Bricking

Materials contained in nylon packages must be opened and aerated at least one day before bricking. Before bricking, materials must be examined, and if there are any wet blocks, they must be kept until their surfaces get dry.

Preparation of Thin Autoclaved Aerated Concrete (AAC) Glue



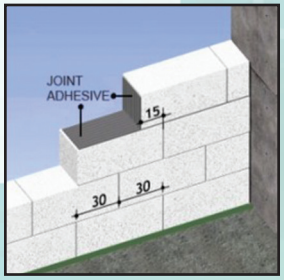
Glue preparation is simple. Firstly, pour 1 measurement of water into a clean vessel to three parts powder glue. Using AAC Mixing Tip, stir the mixture until no air bubble is left inside. It is appropriate to use a mixing tip on a low-speed hand drill in order to obtain a good quality glue. The glue will be ready in a couple of hours and it must be used within a period of approximately 4-5 hours. The glue must be prepared when the need arises, and must be stirred frequently. When it gets dry, do not reuse the glue by adding water to it.



Cutting the Blocks

AAC blocks can be easily cut in any intended size through an AAC saw. For a smooth cut, firstly mark the intended size on the block with a tape measure. Then, placing an AAC miter on the point marked, draw a line on at least both surfaces of the block along the miter. Finally, following two lines drawn on the surfaces, cut the block carefully with an AAC saw.

General Rules for Bricking



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- No space must be left in vertical and horizontal joints during bricking.
- Regarding walls bricked by using glue, the glue applied to vertical and horizontal joints must be applied in such a way that surfaces must remain covered entirely.
- Regarding walls bricked by mortar, block surfaces must be slightly moistened spraying some water by a brush and the mortar must be applied afterwards.
- Overlapping length of blocks cannot be less than 10 cm.
- Appropriate overlapping length must be half the length of the block.
- Do not use small pieces as juxtaposed on the wall.
- Do not place the blocks upright when bricking.

Application rules

First Row in Bricking

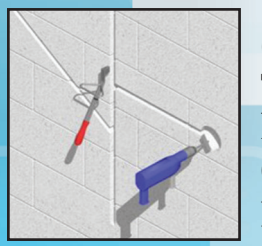
AAC blocks can be easily cut in any intended size through an AAC saw. For a smooth cut, firstly mark the intended size on the block with a tape measure. Then, placing an AAC miter on the point marked, draw a line on at least both surfaces of the block along the miter. Finally, following two lines drawn on the surfaces, cut the block carefully with an AAC saw.
BUILDING MORTAR must definitely be used between the wall and the ground (floor).
Building Mortar Mixture: In volume, 1 scale of Cement, 1 scale of Powdered Lime, 6 scales of Fine Sand
You must ensure that the first row must be on balance with respect to lateral and upper surfaces.
The walls under which isolating membrane is used must be anchored to the columns with steel bars.

Application of the Glue

In order to gets more efficiency from wall bricking glue, dust and particles on the surface of the block must be cleaned. The glue must be applied with an AAC Trowel that is suitable for the thickness of the block in such a way to cover vertical and horizontal surfaces entirely.

Leveling the Blocks

In order for the wall surface to be smooth, smoothness of vertical and horizontal joints can be ensured by means of a rubber hammer. In particular the first row must be very smooth.



Connections between the Wall and Concrete Elements

Thanks to the easy workability of AAC, operations such as notching installation channels or junction holes, gouging, drilling and cutting can be easily performed on the walls. AAC Hand Tools used in these operations provide ease of use thanks to their ergonomic designs and accelerate the construction process with their functionalities.

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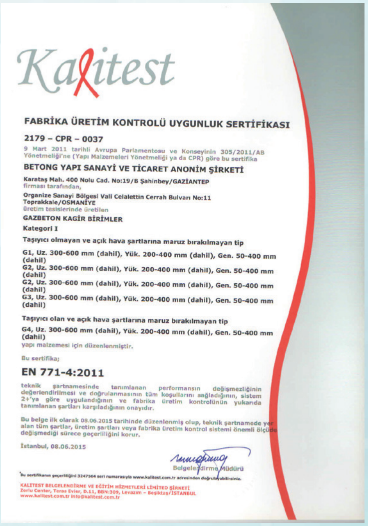
Certificates


Kalitest

FABRİKA ÜRETİM KONTROLÜ UYGUNLUK SERTİFİKASI

2179 – CPR – 0037

BETONG YAPI SANAYİ VE TİCARET ANONİM ŞİRKETİ

GAZBETON KAGİR BİRİMLER

EN 771-4:2011

İstanbul, 08.06.2015


UKS ULUSLARARASI KALİTE SİSTEMLERİ VE BELGELENDİRME LTD. ŞTİ.

Bu Belge ile

Betong Yapı San. Ve Tic. A.Ş.

Merkez: Karataş Mh. 400 Nolu Cd. No:19/B Şahinbey GAZİANTEP

Üretim: Organize Sanayi Bölgesi Vali Celalettin Cerrah Bulvarı No:11 Toprakkale - OSMANİYE TÜRKİYE

Firmasının

TS EN ISO 9001:2008

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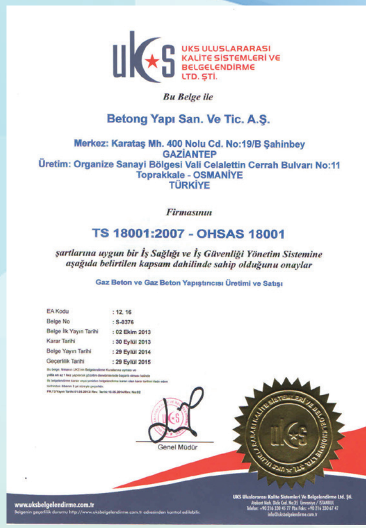
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TÜRK STANDARDLARINA UYGUNLUK BELGESİ

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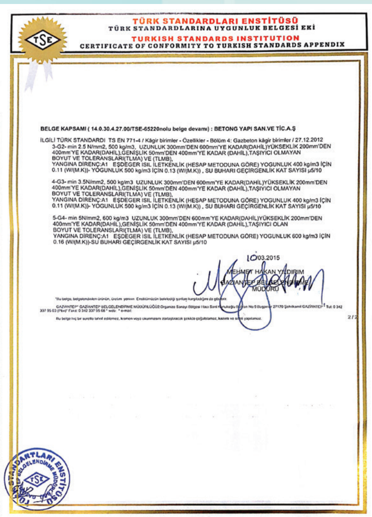
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS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TÜRK STANDARDLARINA UYGUNLUK BELGESİ EKİ

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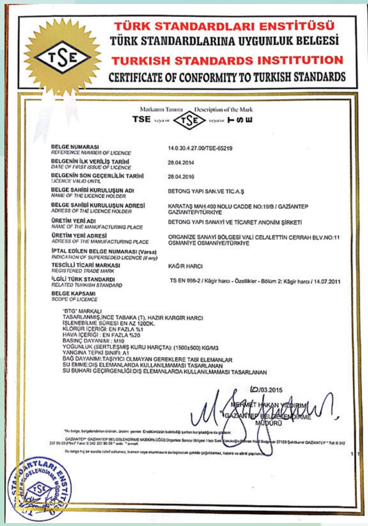
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS APPENDIX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2179 – CPR – 0036

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