



BSCO

AAC

BUILDING TOMORROW WITH TRUST

PRODUCT CATALOG

BILATERAL SPECIALIZED COMPANY FOR INDUSTRY
WWW.BSCOGROUP.COM



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COMPANY OVERVIEW

COMPANY NAME: Bilateral Specialized company for Industry

ESTABLISHED DATE: 2014 - 1435 e

ADDRESS: Kingdom of Saudi Arabia Hafar Al-Batin - Industrial Area

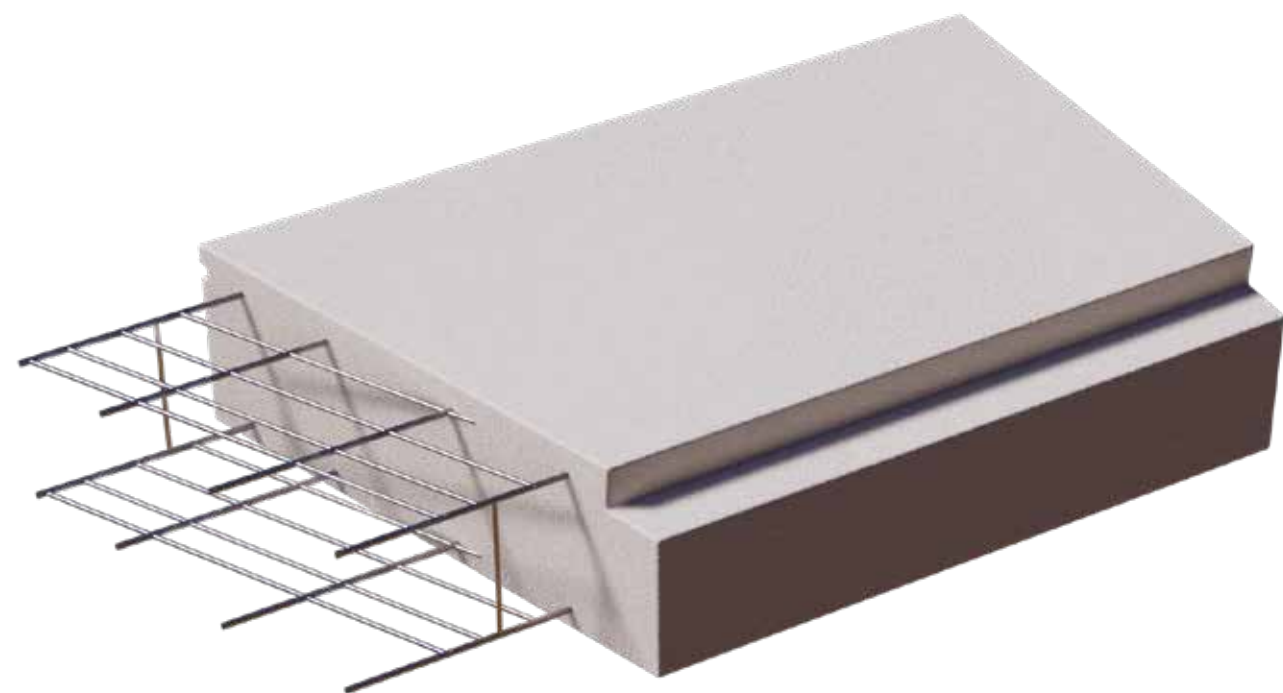
COMMERCIAL REGISTRATION NO: 2511021368

OUR PRODUCTS

01.BSCO SLABS

BSCO AAC Products are light-weight, durable, and eco-friendly with excellent thermal insulation and fire resistance. They ensure quick installation and reduced construction costs. Perfect for sustainable and energy-efficient projects.

Notes:
All the reinforcement steel used is supplied by: SABIC .



PRODUCT DIMENSION

THICKNESS (MM)	WIDTH (MM)	LENGTH (MM)	PIECES PER PALLET	PALLET VOLUME (M³)
100	600	6000	12	4.32
150	600	6000	8	4.32
200	600	6000	6	4.32
250	600	6000	4	3.6

Permissible Dimension Tolerance

DIMENSION	FLOOR/ROOF PANELS (MM)	WALL PANELS (MM)
LENGTH	±5	±5
WIDTH	±3	±3
THICKNESS	±3	±3

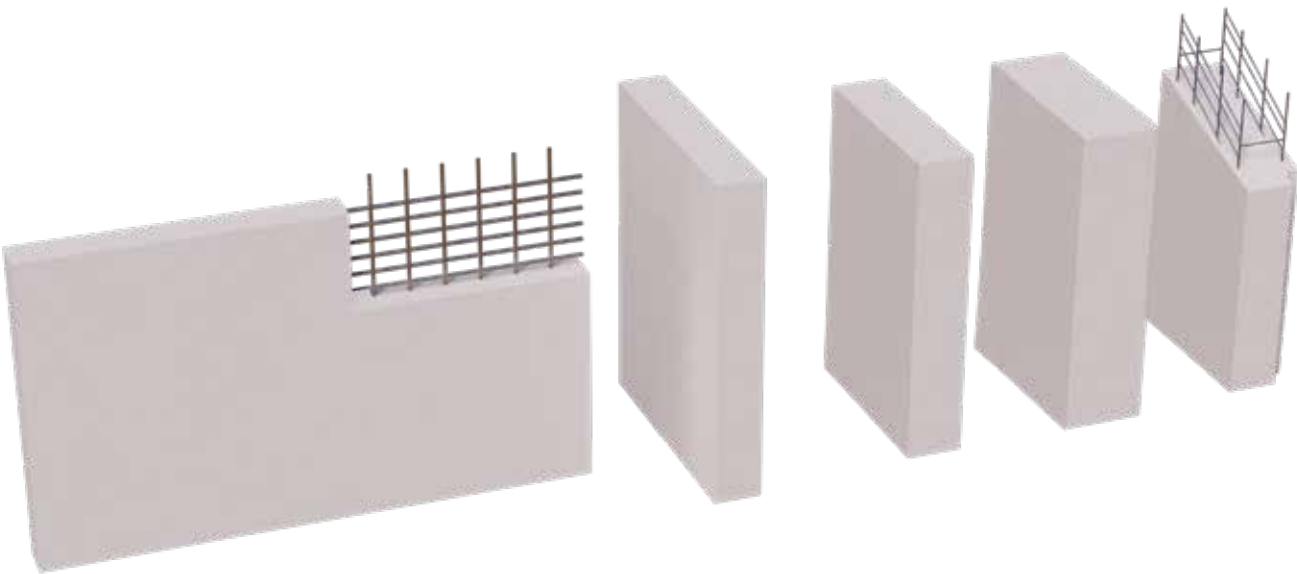
DESIGN IMPOSED DL + LL	PERMISSIBLE SPANS WITH THE FOLLOWING THICKNESS(MM)				
	100 MM	150 MM	200 MM	250 MM	300 MM
110 KG/M²	4250	6000	6000	6000	6000
160 KG/M²	4000	5750	6000	6000	6000
210 KG/M²	3500	5500	6000	6000	6000
250 KG/M²	3500	5250	6000	6000	6000
300 KG/M²	3250	5000	6000	6000	6000
350 KG/M²	3000	4750	6000	6000	6000
400 KG/M²	2750	4500	5750	5750	6000
500 KG/M²	2500	4000	5250	5250	6000

OUR PRODUCTS

02.BSCO PANELS

BSCO AAC Panels are available in all shapes and sizes for home fronts and surroundings.

Shapes and no. of grooves are fully customizable.



PRODUCT DIMENSION

THICKNESS (MM)	WIDTH (MM)	MAX LENGTH (MM)	PIECES PER PALLET	PALLET VOLUME (M³)
100	600	3600	12	2.592
150	600	4000	8	2.88
200	600	6000	6	4.32
250	600	6000	4	3.6

Compressive stress on Vertical Wall Panels

WALL HEIGHT (MM)	COMPRESSIVE STRESS (KG/CM²) AT THE WALL THICKNESS (MM)				
	100	150	200	250	300
2500	5.3	6.5	6.8	6.9	6.9
2750	4.7	6.3	6.7	6.9	6.9
3000	4	6.1	6.6	6.8	6.9
3750	1.2	5.3	6.3	6.6	6.8
4000	-	4.9	6.1	6.6	6.7
4500	-	4	5.8	6.4	6.6
5000	-	2.9	5.3	6.1	6.5
5500	-	1.6	4.7	5.8	6.3
6000	-	-	4	5.5	6.1

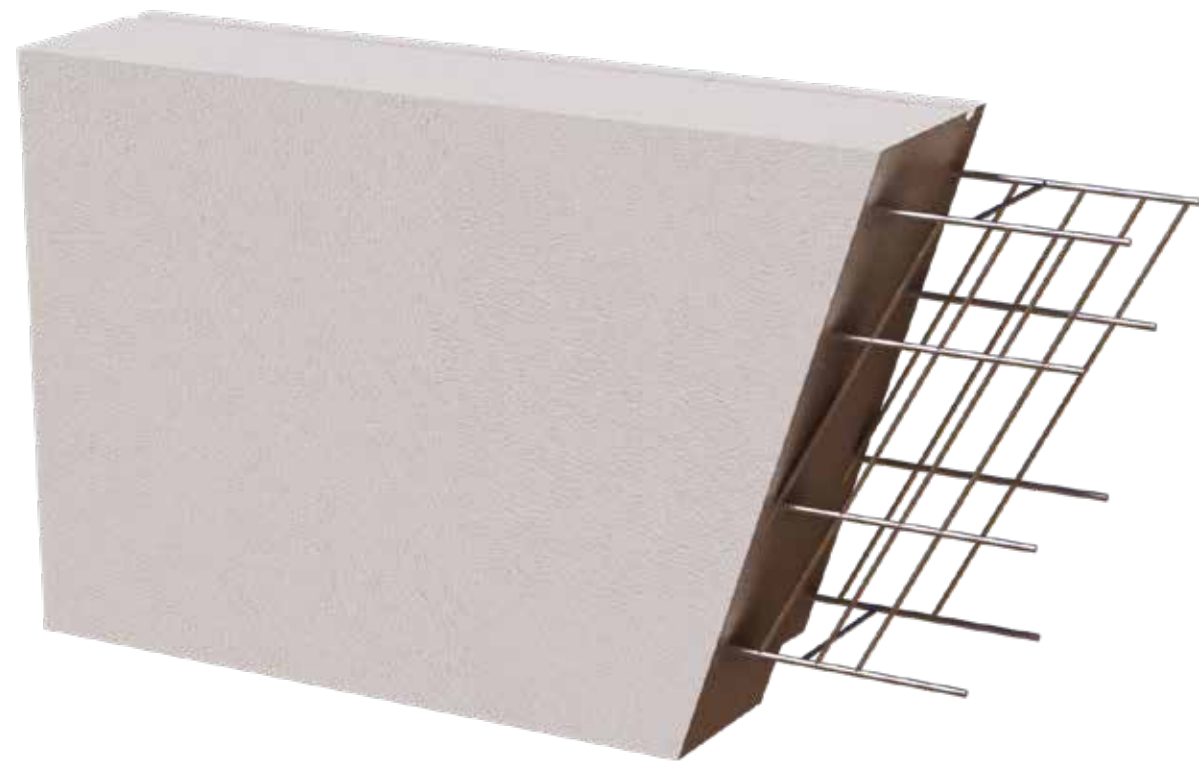
Maximum Length of Wall Panel with Various Design Loads

THICKNESS (MM)	MAXIMUM LENGTH (MM) OF WALL PANELS AT THE FOLLOWING DESIGN LOAD (KG/M²)			
	80	120	160	200
75	2500	-	-	-
100	4000	3750	3250	2750
125	5000	4750	4500	4000
150	6000	5750	5500	5000
175	6000	6000	6000	5750
200	6000	6000	6000	6000
225	6000	6000	6000	6000
250	6000	6000	6000	6000
300	6000	6000	6000	6000

OUR PRODUCTS

03.BSCO LINTELS

BSCO AAC reinforced Lintels are available in all shapes and sizes.



Maximum Clear Span of Lintel with various Design Loads

(Height 600 mm)

DESIGN LOAD	THICKNESS OF LINTEL (MM)				
	100	150	200	250	300
500 KG/M	2500	4500	5400	5400	5400
1000 KG/M	2000	3250	400	4500	5000
1500 KG/M	1000	2750	3250	3750	4500

Thermal Properties

THICKNESS (MM)	R-VALUE (M²·K/W)
100	0.77
150	1.15
200	1.54
25	1.92
30	2.31

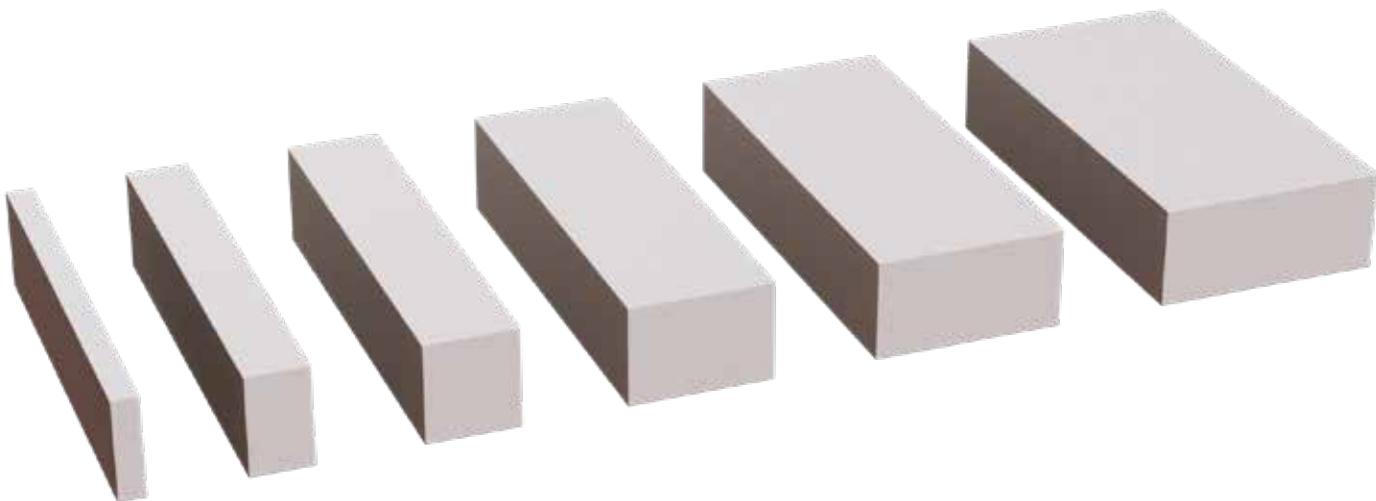
Technical Specification

PROPERTY	BSCO-4	BSCO-6
MEAN COMPRESSIVE STRENGTH	4-5 MPA	5-6 MPA
MEAN DRY DENSITY	500–600 KG/M³	600–700 KG/M³
MEAN WORKING DENSITY	600–700 KG/M³	700–800 KG/M³
DIMENSIONAL TOLERANCE	±3.0 MM	±3.0 MM
DRY THERMAL CONDUCTIVITY	≤0.13 W/M²·K	≤0.15 W/M²·K
DRY SHRINKAGE	≤0.02%	≤0.02%

OUR PRODUCTS

04.BSCO BLOCKS

BSCO AAC Blocks are available in the following shapes and sizes.



PRODUCT DIMENSION

THICKNESS (MM)	HEIGHT (MM)	LENGTH (MM)	PIECES PER PALLET	PALLET VOLUME (M³)
50	200	600	240	1.44
100	200	600	120	1.44
150	200	600	80	1.44
200	200	600	60	1.44
250	200	600	48	1.44
300	200	600	40	1.44
50	250	600	192	1.44
100	250	600	96	1.44
150	250	600	64	1.44
200	250	600	48	1.44
250	250	600	40	1.5
300	250	600	32	1.44

OUR PRODUCTS

05.BSCO MINI PANEL

BSCO AAC Mini panels are available in the following shapes and sizes.
Please note that this product is not reinforced making it a viable economic choice.



PRODUCT DIMENSION

All values are in (mm)

PARAMETER	VALUES
THICKNESS	125-150-200-250-300
WIDTH	300-600
LENGTH	600-800-1000-1200

Sound Transmission Class (STC)

THICKNESS	STC VALUE
100	39 DB
150	43 DB
200	48 DB
250	50 dB
300	52 dB



The beginning of an era INTRODUCTION

Bilateral Specialized Company (BSCO) for Industry Saudi Limited liability company established in 1435 - 2014 e in HAFR AL-Batin, which represents the Golden Triangle in the Gulf region, where lining Saudi Arabia, Kuwait Bahrain, Iraq and Other Gulf States in Order to supply products Privacy materials of the highest international standards, particularly specifications German DIN and American ASTM specifications and other Gulf specifications.

This series of products Considered breakthrough in the words of construction for the enjoyment of specifications and features high-quality serve the Saudi and the Gulf market because of its inherent homogeneous, integrated and easy to implement and with high adhesion strength and resistance to harsh weather conditions competitively priced systems.





HISTORY OF AAC

AAC, or Autoclaved Aerated Concrete, also known as Aerated Cellular Concrete or Air Crete, has been industrially produced since the early 20th century. Its history is rooted in process patents. In 1880, German researcher Michalis patented steam curing processes. Czech Hoffman, in 1889, patented aerating concrete with carbon dioxide. Americans Aylsworth and Dyer patented a method using aluminum powder and calcium hydroxide to create a porous mixture in 1914. Swede Axel Eriksson advanced AAC in 1920 by patenting a lime-based aerated mix of limestone and slate, laying the foundation for modern AAC.



...FOR BREAKTHROUGH

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.



FUTURE OF AAC

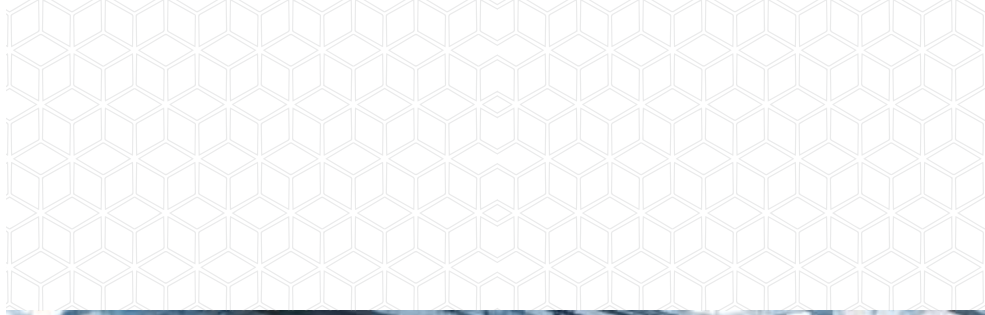
The finest materials

Since the 1990s, the AAC market has evolved significantly, with a surge in manufacturing facilities. Producers aim to balance costs and material properties, emphasizing thermal efficiency. Global green policies and strict building regulations drive demand for energy-efficient materials, higher quality, and broader applications across residential, commercial, and industrial sectors. Beyond traditional AAC blocks, there is rising global demand for integrated building solutions.



A new and enhanced BSCO AAC PLANT

BSCO is a company that specializes in Autoclaved Aerated Concrete (AAC). BSCO uses the latest technologies in accordance with the highest quality standards to deliver to the market superior AAC products. BSCO is a Saudi company producing BSCO building materials of excellent quality for local and foreign markets. BSCO has a production capacity of 1,200 m³ per day of a range of AAC products, including blocks, wall panels, lintels and roof slabs, designed to meet the needs of the Saudi market and neighboring countries.



MANUFACTURING

Autoclaved Aerated Concrete (AAC) is made by a patented process from the raw materials quartz-sand, cement and lime. It is a building material of the light-weight concrete category. The raw materials are mixed with water and a trace of aluminum is added and then cast into big molds. The reaction between aluminum and lime evolves hydrogen gas which causes an expanding process forming millions of tiny air pores. Only air remains in the pores. After a few hours the raw blocks are machine-cut with high accuracy to form the various BSCO elements. The elements are then steam-cured in autoclaves.

Batching Sand is ground to the required fineness in a ball mill, if necessary, and is stored along with other raw materials. The raw materials are then batched by weight and delivered to the mixer. Measured amounts of water and expanding agent are added to the mixer, and the cementitious slurry is mixed.

Steel coils are straightened, cut and welded into mesh- es, where cross bars provide anchorage to the longitu- dinal reinforcements. Blocks are not reinforced. After dipping the welded mesh in a homogenized anti-corro- sion mix for rust protection, they are dried and assem- bled into cages and set accurately in the molds before the slurry is poured in.

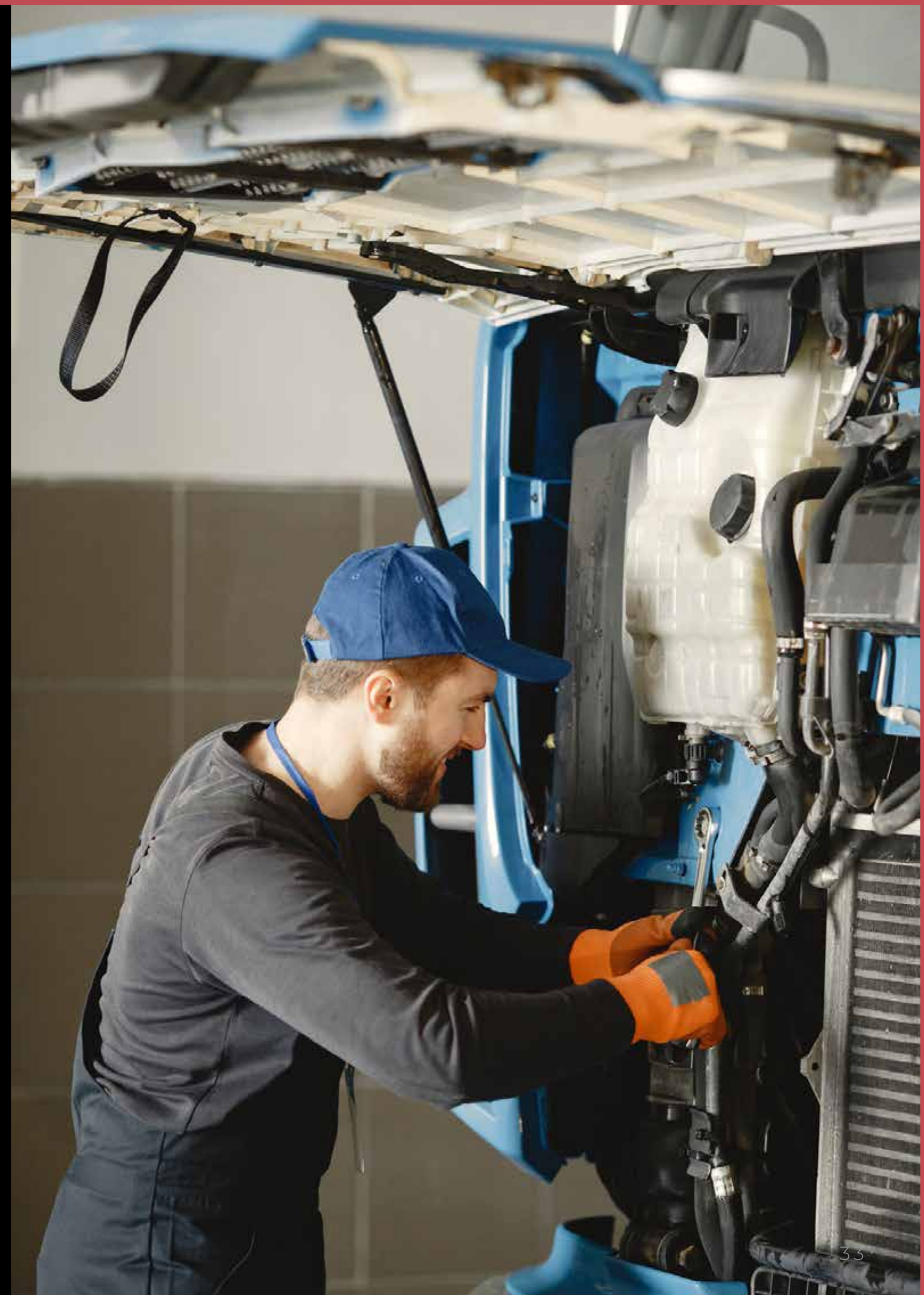
Renown quality

MANUFACTURING



Casting Molds are prepared to receive the fresh AAC. If reinforced AAC panels are to be produced, steel reinforcing cages are secured inside the molds. After mixing, the slurry is poured into the molds. The expanding agent creates small, finely dispersed voids in the fresh mixture that increases the volume by approximately 50% in the molds within 3 hours.

Cutting & Milling Within a few hours after casting, the initial hydration of the cementitious compounds in the AAC gives it sufficient strength to hold its shape and support its own weight. The material is detached, then cut in a cutting machine guided by wires which section the blocks and panels into the required sizes and shapes along with required profile. After cutting, the units are kept in their original positions in the larger AAC mass.



Renown quality

MANUFACTURING

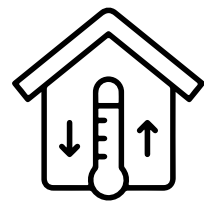


Autoclaving After cutting the aerated concrete product is transported to a large autoclave, where the curing process is completed. Autoclaving is required to achieve the desired structural properties and dimensional stability. The process takes about 8 to 12 hours under a pressure of approximately 12 bars and at a temperature of around 360 °F (180 °C), depending on the grade of material produced. During autoclaving, the wire-cut units remain in their original positions in the AAC block. After autoclaving, the individual units are dimensionally stable and are specified to have a drying shrinkage of no more than 0.02% (ASTM C1386).

Packaging The blocks are de-molded, strapped, marked and stored on wooden pallets for shipping. Unreinforced units are typically shrinkwrapped, while reinforced elements are typically banded only, using edge guards to minimize localized damage from the banding.



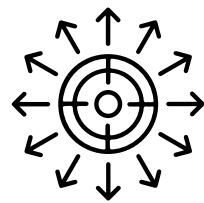
BSCO AAC BENEFITS



HIGH THERMAL
INSULATION



QUAKE
RESISTANT



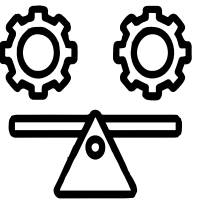
MULTI
PURPOSE



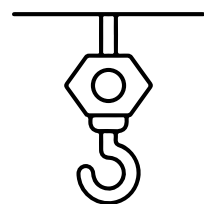
GREEN
BUILD



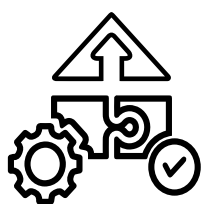
FIRE
RESISTANCE



HIGH
STABILITY



PRECISION
INSTALLATION



EASY TO
WORK WITH



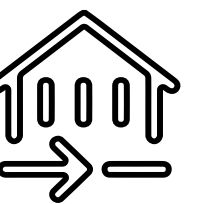
ENVIROMENT
FRIENDLY



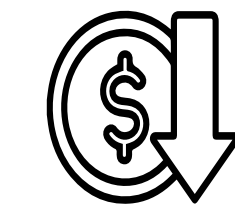
NOISE
RESISTANCE



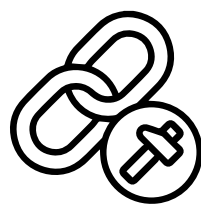
QUALITY
CONTROL



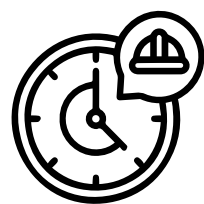
BREATHABLE
BUILDINGS



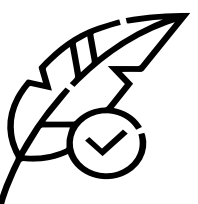
LOW PRICE &
ECONOMICAL



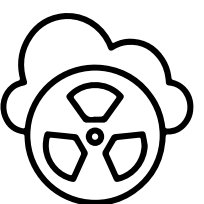
STRONG &
DURABLE



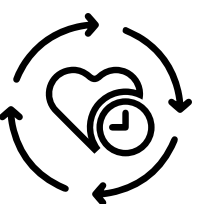
FAST
BUILDING



LIGHT
WEIGHT



NON
TOXIC



LONG LIFE
TIME



ADVANTAGES OF BSCO AAC BLOCKS

Green Building AAC is well known as an environmentally friendly construction material. By choosing BSCO products you can feel good in the knowledge that you have chosen a building material that is better for our environment. BSCO AAC product main ingredients are sand, cement, lime and water that are both natural and are found abundantly in nature. The energy consumed in the production process is only a fraction compared to the production of other materials. The manufacturing of BSCO products emits no pollutants and creates no by products or toxic waste.



ADVANTAGES OF BSCO AAC BLOCKS

Resistance to Freezing AAC usually possesses good resistance to freezing, which is proved by un-rendered buildings, situated in areas where freeze/thaw cycle occur, remaining undamaged. This is caused by the introduced big spherical pores which are almost closed, which causes a very little capillary suction and therefore the moisture content does not normally reach the critical degree. When AAC is exposed to driving rain, melting snow or ground water, the critical degree of saturation can be reached. In such cases the AAC has to be protected with a coating.

The Space and Style BSCO wall system, thinner than traditional masonry walls, offers more internal living space and design flexibility. BSCO blocks support various finishes, such as stucco, plaster, or siding, enhancing aesthetics and performance. Their structural strength, ease of shaping, and versatile surface finishes enable creative designs with endless color and texture options, all while retaining performance benefits.

BSCO Autoclaved Aerated Concrete Blocks BSCO AAC blocks are manufactured in the following sizes as the standard practice.

Other dimensions can be produced upon request.

Concerns about mold growth in homes and commercial buildings are at an all-time high. Mold spores are everywhere but require specific conditions—warmth, sustained moisture, and organic nutrients—to multiply. Preventative measures, such as using BSCO blocks in construction, can help avert mold growth. BSCO blocks are not a food source for termites and, when used in single-skin block walls, do not harbor pests.

Impact Resistant AAC blocks strength and porosity gives it greater resistance to impact damage and it will withstand any impact likely to occur under normal conditions.

INSTALLATION GUIDELINES

Storage As can be observed from the picture, BSCO blocks are packaged on 1.20 m × 1.0 m palates that the factory for maximum protection. The following are recommended:

Order only the amount of material that can readily be installed.

Unload pallets using pallet forks either forklift or pallet fork mounted on care. For safety reasons it is not advisable to use crane strap or slings.

Storage should be easily accessible to truck or lift truck at all time.

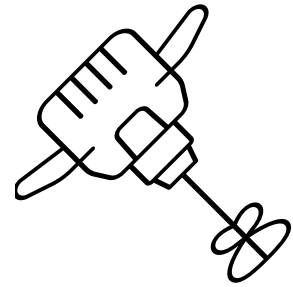
If possible, drop-deliver the product right to material staging areas.

Storage area should always be away from other construction activities and on a flat-graded area that is not susceptible to standing water, erosion or settling to avoid damages to products.

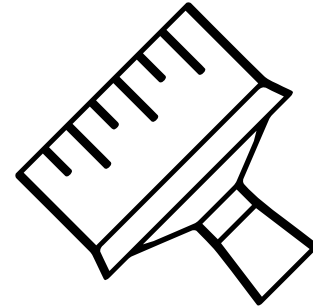
Always keep the product covered and banded until ready for installation.



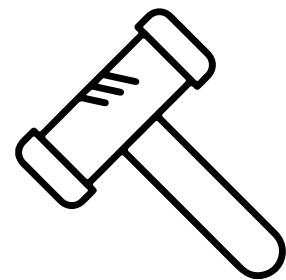
TOOLS



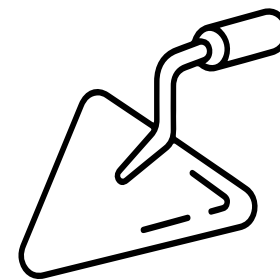
AGITATOR (MIXER)



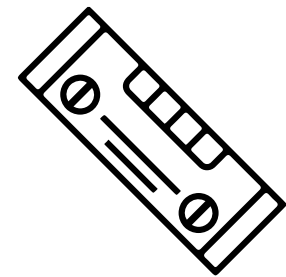
BRUSH



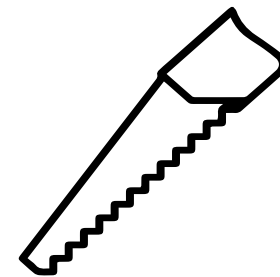
RUBBER HAMMER



TROWEL



SPIRIT LEVEL



CARPENTER SAW

INSTALLATION GUIDELINES

Work Method The first layer must be horizontal and laid on a bed of BSCO mortar. If the surface is uneven, general-purpose masonry mortar is used. The grouting grooves in the butt ends of the block are filled with AAC Thin Joint Compound. After the first layer hardens, work continues using AAC Thin Joint Compound with a mortar sledge or a notched trowel (e.g., 6×6×9 mm). The units are laid in an overlapping bond pattern. The joint width is determined by the mortar sledge or trowel, normally 2-5 mm. If blocks are very dry or conditions are hot, they are moistened before masonry work.

Wall ties and lintels are used per the designer's instructions for reinforcement. Reinforcement grooves are moistened and filled with AAC Thin Joint Compound. Use a spirit level and mason's line to ensure units are laid straight. The position can be adjusted during the open time with a rubber hammer.

Excess mortar is removed immediately as work proceeds.

For grooves, plumbing and wiring, general-purpose mortar is used.

Our Recommended choice is :



BSCO Mortar is a high-performance thin-bed adhesive designed for efficient and durable block installation. With excellent bonding strength, it ensures secure and stable construction for BSCO blocks. Its quick-setting formula reduces construction time and enhances productivity. Suitable for 1-2mm joints, it minimizes thermal bridges and provides consistent insulation. BSCO Mortar is easy to mix and apply, requiring minimal effort and tools. Its composition ensures long-term durability, even under extreme conditions. Non-toxic and environmentally friendly, it contributes to safer, sustainable building practices. Ideal for both load-bearing and non-load-bearing walls, it ensures precision and quality in every project.

Mixing Guide:

Pour the correct amount of clean water into a mixing bucket.

Usually a 25KG bag requires around 5.5 - 6.0 Liters of water. Whilst a 40KG bag requires around 9.5 - 11.5 Liters of water.

Gradually add the powder while mixing continuously with a low-speed mixer. Mix for 3-5 minutes until a smooth, lump-free paste is formed.



BLOCK LAYING

The first course should be laid in cement mortar bed of thickness about 1 to 3 cm. This course must be laid correctly for fast building progress in the following courses. In all next courses BSCO blocks are best laid with BSCO thin-bed mortar (glue).

For mixing the thin-bed mortar with water, it is best to use BSCO stirrer driven by a slow-speed drilling machine. After thorough mixing, the mortar is ready for use.

First dust and loose particles must be brushed from the horizontal joint surfaces. Then apply thin-bed mortar to the horizontal surfaces with a suitable BSCO plane-block trowel of width equal to block width.

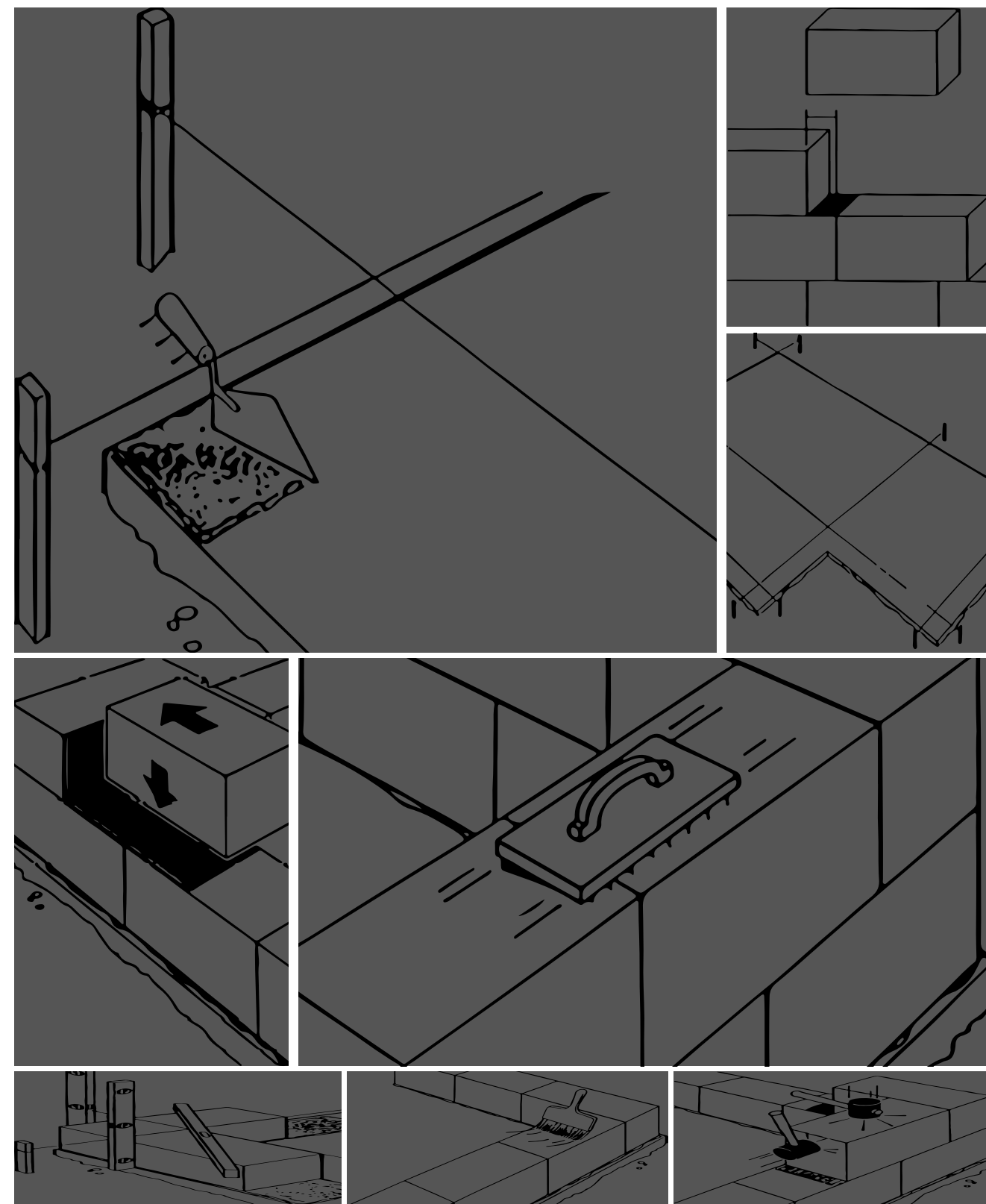
Ensure the thinbed mortar flows smoothly through the plane-block trowel, covering the full surface. The consistency should keep the strands on horizontal joints distinct, with the trowel's teeth remaining visible.

Bond dimensions must be adhered to. The vertical joint of the lower course must be staggered at least 10 cm relative to the vertical joint of the overlaying course. Now use the rubber hammer to align accurately edge to edge and tap firmly into place.

A few blocks should be removed randomly immediately after laying to check whether mortar is spread over the full surface or not. In summer season, it is recommended to wet the block before applying the glue.

Differences of heights in a course can be adjusted by using plane board. If these differences are not more than 2-3 mm adjusting by thin bed mortar is also possible. All follow-up work on walls of BSCO blocks is carried out in the usual way.

BSCO's special dimensional blocks are designed for internal nonbearing walls, including full-height masonry and shorter partitions. They are high-quality, with well-balanced material properties, making them versatile for various uses.



QUALITY CONTROL & ASSURANCE

Quality Control Procedure All materials used in production process have to be examined, tested, scrutinized and certified before used in BSCO production cycles. Therefore, all raw materials and products are routinely tested on daily basis. Quality Assurance team daily examine and test all raw materials and products for compliance with the BSCO's quality standard before allowing into production cycles or packaging. Raw materials tested are lime, cement, gypsum and silica sand. In general, there are two types of tests that are regularly performed.

- A. Raw materials tests
- B. Final products tests

Raw Materials Test

Lime Tests: Fineness, Reactivity, Chemical Analysis

Reactivity, Chemical Analysis and LOI.

Silica Sand: Fineness.

Cement: Blaine Value.

Gypsum: Finesse and LOI.



QUALITY CONTROL & ASSURANCE

Product Related Tests BSCO Autoclaved Aerated Concrete products are manufactured according to EN-771 and as such all products are tested for the following parameters:

- 1. Dry Density Measurement (Kg/m³)
- 2. Compressive Strength (N/mm²)
- 3. Dimension Control
- 4. Shrinkage
- 5. Thermal Conductivity
- 6. Freeze and Thaw Resistance

Thermal Conductivity and Freeze and Thaw Resistance tests are outsourced regularly.

DIMENSIONAL DATA

DIMENSIONS (CM)		PACKING UNITS (PALLET)		Remarks
Length	Height	Thickness	Masonry m²	
60	20	10	1.875	
60	20	15	12.5	
60	20	20	10	
60	20	25	7.5	Without tongue & groove
				With tongue & groove





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