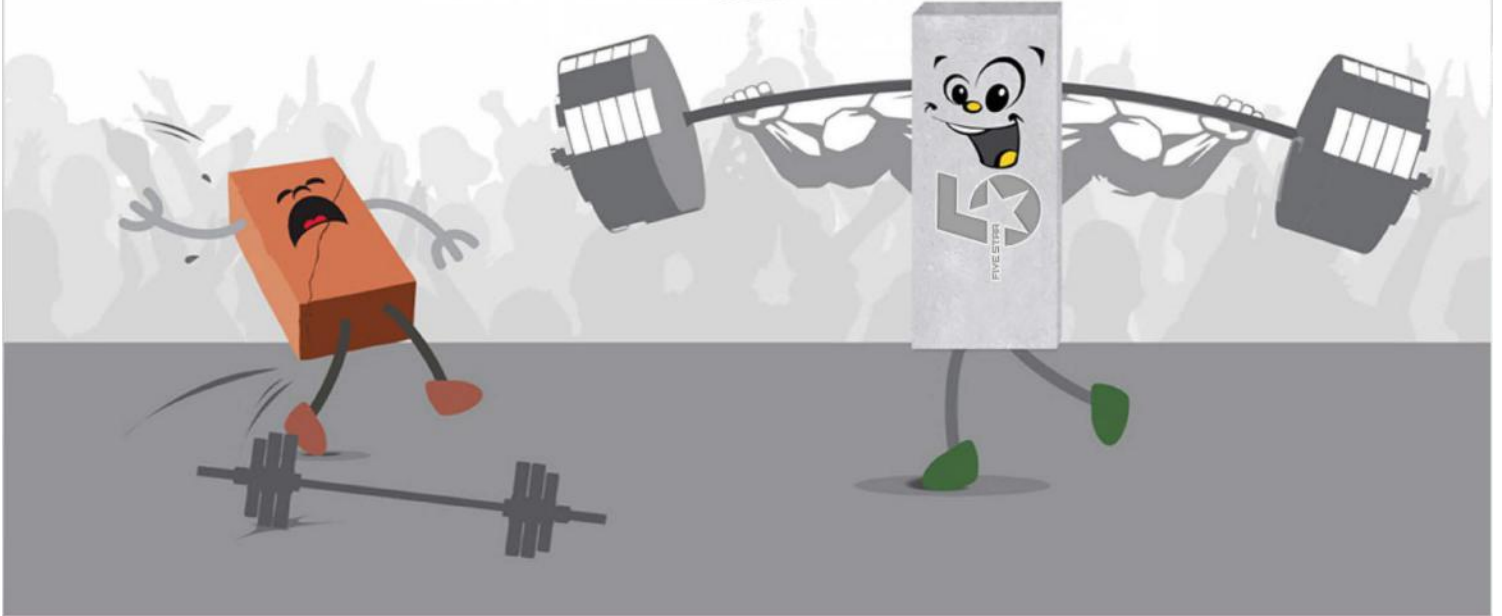


LIGHT WEIGHT,
HIGH COMPRESSIVE
STRENGTH



INDIA'S BIGGEST PLANT



EVERY BIG IDEA START WITH SMALL BUT AN ALL IMPORTANT FIRST STEP

Innovations break the barriers by giving rise to remarkable changes, the ever evolving construction industry has embraced AAC (Autoclave Aerated Concrete) cutting edge technology to move away from the age old methods of using conventional blocks.

A irreplaceable contender for the conventional building masonry, 5 Star AAC block come loaded with beneficial properties such as light weight, strong, thermal & sound insulation, pest resistant and other core benefit which ease the process of construction. 5 Star AAC blocks are ideal for industrial, commercial and residential structure for different application.

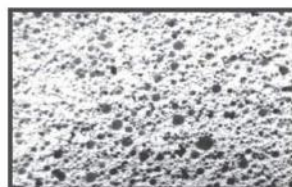
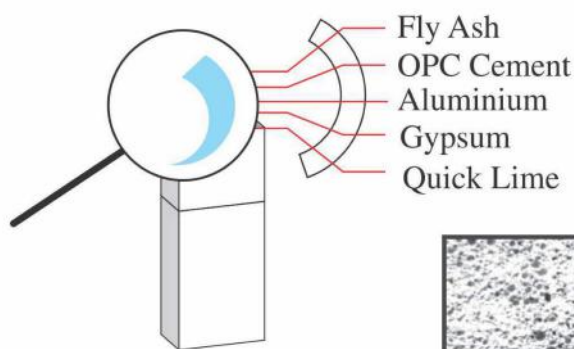




WHY 5 STAR AAC BLOCKS ARE ECO-FRIENDLY & ENERGY SAVING

Makes productive use of recycled industrial waste - Fly ash (by-product from Thermal power plant)

- Non-polluting manufacturing process
- Made of non-toxic ingredients (no toxic chemicals)
- Does not emit gases even when they are exposed to fire (like Carbon dioxide, Carbon monoxide, etc)
- Low Thermal conductivity (more energy efficient)



AAC is an acronym for Autoclaved Aerated Concrete (AAC) Block. It is the new age, smart & green building materials used in India. This has helped us emerge as the most viable substitute of the conventional Red Clay Bricks used in building walls in residential, commercial and Institutional construction activities.

AAC Blocks is made from 60 - 65% Flyash (by weight), OPC Cement, Quicklime, Aluminum powder and Gypsum. They are extremely strong and durable despite their light weight. AAC's solidity comes from the calcium silicate and from the process of curing in a pressurized steam chamber called an Autoclave .

5 Star AAC Blocks are best suited for construction of Partition, Internal Walls, External Walls of Residential, Commercial, Industrial Buildings, Malls, Multiplexes, Institutional Buildings, Hotels, Hospitals, Airports, Factories, Apartments, Ware Houses, Godown's and all high rise buildings.

5 STAR AAC BLOCK BENEFITS

LOW COST & LIGHTWEIGHT

It has come about as an economical environ—friendly substitution for red clay bricks for constructing edifices because of its exceptional qualities of high load bearing capacity and lightweight mass. AAC blocks have a distinct porous structure, and insulation property, when compared to other lightweight concrete materials, The occurrence of even air pockets in AAC blocks lead to their substantial less weight as compared to the clay bricks.

ACOUSTIC INSULATION

AAC Blocks are unique and first-rate in the genre of building materials because they offer definitive work-ability, durability and suppleness along with sound insulation properties. The sound reduction index of the AAC blocks are outstanding as per the global Sound Reduction Index that is used at international standards for evaluating the performance of acoustic properties of partition (wall) structure. The sounds in structures built with AAC blocks get reflected due to its low sound absorption index of 0.1 and a very low sound transmission index of 0.03. This demonstrates the dissipation of sound traveling through AAC and thus it is not transmitted.

FIRE RESISTANT AAC

blocks are incredibly operative against fire and fall within the stringent requirements of fire safety as they can endure fire up to 1200°C. The fractional air pockets add to a thermal diffusion that is 60% of that of the clay brick, The exceptional thermal insulation is able to withstand extraordinary hot/cold environments very successfully, The energy efficiency is increased as the heating and cooling requirements of structures using AAC blocks are quite low irrespective of the surrounding temperatures.

RESILIENCE

The compressive strength of AAC blocks ranges around 3.5-4N/m² compared to just 2.5-3N/m² of clay bricks

PEST RESISTANT

The lack of organic components in the AAC blocks provides terrific resistance against ordinary pests, rodents and also moulds.

ENERGY EFFICACY

AAC blocks are forerunners when it comes to thermal ratings and are LEED certified construction blocks. Carbon dioxide emission can be lessened up to 200mn tones with the usage of AAC blocks thus rendering a saving of almost \$20 Billion each year.

EARTHQUAKE RESISTANT

The manufacturing process gives the blocks considerable strength, this along with their lightweight impart steadiness to a building, making it earthquake resistant.

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3MM JOINT THICKNESS



WATER CURING IS NOT REQUIRED



CONSISTENT PRODUCT / WORK



LESS WASTAGE / EASY SITE CONTROL

PROJECT IMPACT

Impact on project & material usage when 5 star AAC Blocks used as compared to Red Clay Bricks or Fly Ash Bricks

Materials	Saving of materials in %
Steel & Concrete	10%
Plastering material	35%
Jointing Mortar	60 &
Wastage	10%



5 STAR AAC BLOCKS FEATURES

HIGH BOND STRENGTH

NO SHRINKAGE CRACKS

HIGH THERMAL INSULATION

ZERO WASTAGE

HIGH COVERAGE

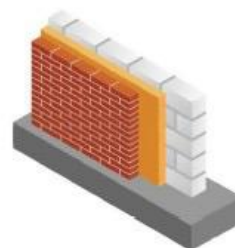
NO CURING REQUIRED

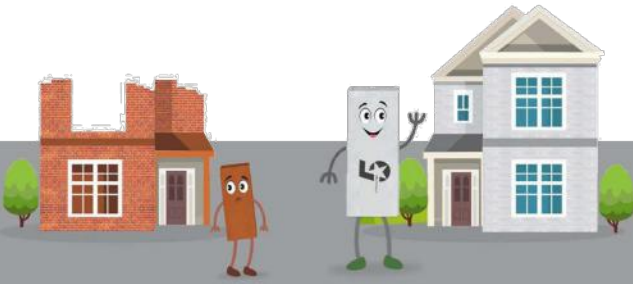
ECONOMICAL

EASY APPLICATION - WORK ABILITY

TECHNICAL COMPARISON BETWEEN 5 STAR AAC BLOCKS VS CLAY BRICKS

PARAMETER	5 STAR AAC BLOCKS	CLAY BRICKS
SIZE (LxHxB)	625mm x 240mm x 100mm,150mm, 200mm & 230mm	225mm x 100mm x 75mm
Structural Cost	Steel saving upto 15%	No Such Saving
Mortar Consumption/ Cu.M with 1:6	0.5 Bag of cement (due to Flat, even surfaces & less no. of joints)	1.35 bag of cement (due to irregular surface and more no. of Joints)
Breakage	Less than 3%	Up to 15%.
Construction Speed	Speedy Construction due to its big size, light weight & easy to cut in any size or shape	comparatively slow
Quality	Uniforms & Consistent	Normally varies
Carpet Area	More due to less thickness of walls	Comparatively low
Availability	Any time	Shortage in Monsoon
Energy Saving	Approx. 30% reduction in air - conditioned load	No Such Saving
Chemical Composition	Sond/Flyash used around 60 - 70% which reacts with lime & cement to form AAC	Soil used which contains many inorganic impurities like sulphates etc. resulting in efflorescence
Precision in Size	Vorition 1.00 (+/-) mm	Variation 3.15 (.1-)
Compressive Strength	3.5 - 4.5N/mm ² (As per IS:2185 part III)	2.5 - 3.0 N/mm ²
Sound Reduction Indexl (dB)	45 for 20 mm thick wall	50 for 230 mm thick wall
Thermal Conductivity (Kw-m/C)	It transfers heat between 0.21 to 0.42 W/mk	It transfer heat between 6-10 W/mk
Cost benefit factor	Savings up to 24% in structural cast due to reduction of dead load (Subject to project design)	No Such Saving
Weight	550 to 600 kg / Cubic Meter	1950 to 2000 kg / Cubic Meter
Fire Resistance	4 - 6 hrs depending on thickness	2 Hours
Water Absorption	Should not be more than 10% of its weight (If the block or Brick absorbs more water than the above specified limit, it causes adverse effect on the strength and durability)	Should not be more than 20% of its weight
Moisture Resistance	Better than Red Brick	Average
Saving Plaster	Overall 35% cut down in the cost of plastering	No Such Saving
Environment Impact	Made up of ashes, thus does no soil is consumed	Around 32kgs of fertile soil Is used to produce one brick
Maintenance	Superior properties of AAC blocks reduces the maintenance cost	Very High
Water Using during Manufacturing	Low. only used for auto - cloying	High, need curing before use





EASILY CUSTOMIZED INTO
DIFFERENT SHAPE AND SIZE

TECHNICAL SPECIFICATION

PARTICULARS	UNITS	Values	REQUIREMENT as per IS - 2185 Part-3
Comprehensive Strength	N/mm ²	>4.0	>40 (Density range 551-650 Grade-1)
Oven Dry Density	Kg/m ³	560-640	551-650
Fire rating	Hrs.	8.00 (for 200 mm wall)	6 Hrs is desirable
Thermal Conductivity (K Value)	W/mL	0.16 - 0.21	0.24 Max
Sound Reduction		45 db for 200 mm blocks without plastering	NA
Modulus of Elastic	Mpa	2040	NA
Thermal Resistance (R Value)	M2K/W	0.95 (200 mm width) @ 0.21 W/mK	Max Value is desirable
Thermal Conductance (U Value)	W/m2K	1.05 (200 mm width) @ 0.21 W/mK	Minimum value is desirable
Drying Shrinkage (Max.)	%	0.04	0.05 for Gr - 1 max.
Sound Transmission Class	Db	44	NA



Length (L)	625 mm	24.6"
Height (H)	240 mm	9.5"
Width (W)	100 / 150 / 200 / 225 / 250 / 300 mm	4" / 5" / 8" / 9" / 10" / 12"
Tolerance	-0.01	

CUSTOMIZED SIZED BLOCKS CAN BE SUPPLIED
AS PER SPECIFIC REQUIREMENT

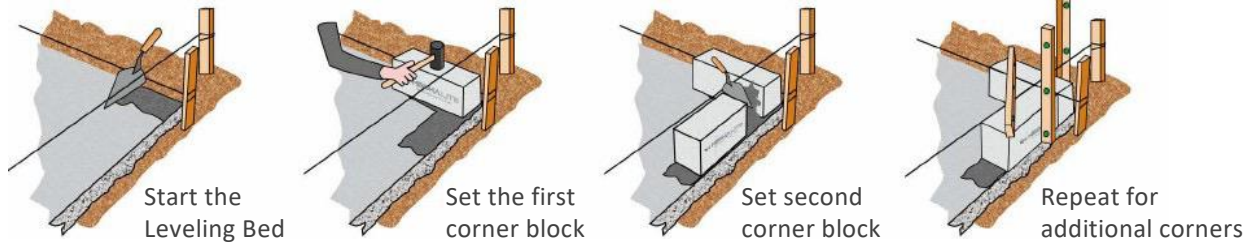
SIZE L x H x W	VOLUME CBM	NO OF BLOCKS (PER CBM)	FACE AREA (PER BLOCKS in SQ.FT.)
625 x 240 x 100	0.015	66.66	1.62
625 x 240 x 125	0.019	53.33	1.62
625 x 240 x 150	0.023	44.44	1.62
625 x 240 x 200	0.030	33.33	1.62

Note: The values are from our laboratory testing conditions. tests on site conditions may show a slight variation due to method of testing / applications

GENERAL INSTRUCTION

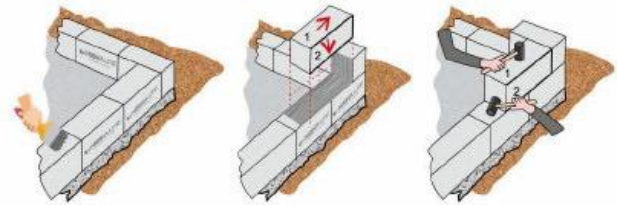
Wall Installation — 1" Level Coursing

- Place a full width 1/2" deep sand-cement mortar joint using a masonry trowel. Mortar composition can either be 1:6 or 1:5 (Portland Cement : Sand) or any approved thin bed mortar.
- Set the first corner block in the sand-cement mortar.
- Increase or decrease the height of the block by tapping on the block with a rubber mallet or by adding additional mortar under the block

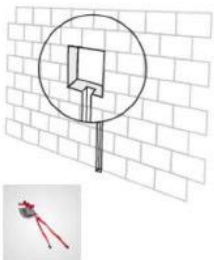


Wall Installation — Normal Course

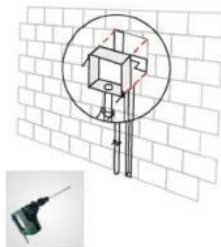
- Clean the bed joint surface with a brush ensuring there's no dust or any other particles so that the adhesion with mortar is optimum.
- Now apply mortar to head and bed joints using a clean, notched trowel. Ensure that the mortar covers the full width of the joints.
- Carefully ensure each block is close to the head joint.
- Finally tap the end of the blocks with a rubber mallet ensuring full surface coverage of the thin bed mortar.
- Repeat the above steps till the wall is complete.



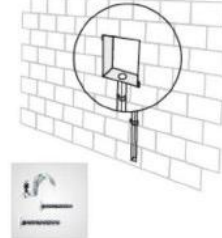
Chasing for Conduit



Install Conduit



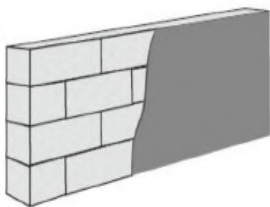
Install Electric Boxes



Making Conduits in Wall

- For the purposes of making conduits for electricity and piping make a chase with chasing tools or an electric router.
- Do not drill beyond 1/3rd the depth of the wall.
- After drilling conduits use mortar (1:6 — cement:sand) to fill the notch.
- Then install the necessary cables and fasten with clips if necessary.

Plastering



- Before plastering, cement slurry may be applied on the walls and only leaner mix shall be applied.
- The thickness must be 10-12 mm of 2 layers on the exterior Ovals and on the internal wall it should be 1 layer of 10-12 mm.
- Before plastering the wall should be watered adequately.
- After watering, plastering should be done by applying rendering material. Chicken mesh should be used during plastering the wall. Chicken mesh is a must while plastering along the beam / column (concrete) - block joints.
- Only well-sieved sand should be used for plastering.
- Once done, the plastered wall should be watered for 7 days.



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