ascolite®
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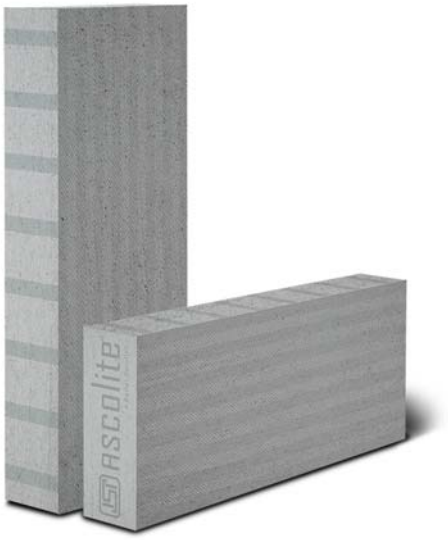
TECHNICAL DATASHEET

FLY ASH AAC BLOCKS

Autoclaved Aerated Concrete Blocks



PRODUCT INTRODUCTION

AAC blocks are used as a substitute for conventional building masonry as it is widely accepted globally because of its beneficial properties such as lightweight, thermal and sound insulation, fire resistant, low capillary water absorption, easy to cut, and other benefits which ease the process of construction. Not only that, but these precast building elements are environment friendly as its processing hardly cause pollution and also boast the consumption of fly ash which is a waste material. AAC elements are being used throughout industrial, commercial, and residential structures for different applications such as external and internal walls, roofs, other partitions, and divisions.

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1. PRODUCT DESCRIPTION

The aeration is caused by a mix of various materials mainly consisting of fly ash, quicklime, cement, gypsum, aluminum powder and performance additives mixed with water in a high-speed mixer. AAC Blocks Consists of up to 80% air, this aerated material is processed through autoclaving which entails high pressurized curing of aerated materials and the resultant product is formed having cellular structure & known as AAC elements. AAC has millions of tiny air pores, is completely inorganic and not combustible. These elements can be further classified into blocks, wall/floor/roof panels and lintels.

2. QUALITY REQUIREMENT OF GOOD BUILDING & RAW MATERIAL USED:

With the development of Building Construction Technology, the requirement of good quality building elements have increased and standards of the same are reviewed and developed. The Raw Materials used in the manufacturing of building products should pass as per the relevant specifications and all parameters should be within range. In conventional clay bricks, there is no control on the quality of raw material. However, in AAC every raw material has proper quality standards and is tested before use. Masonry building elements should have:

- Sufficient Compressive Strength when tested as per the given method.
- Their dry density should be in range.
- Shrinkage on drying must be checked and should not be more than the maximum permissible limit.
- It must be accurate in size and shape.
- Should be fire and termite resistant.
- Should not have any excessive damage and must be free of any visible crack.
- All batches must be consistent in quality.
- To make the building thermal efficient and save electricity cost, we must choose such building materials which have adequate thermal insulating properties with least thermal conductivity value (K value).

3. CONVENTIONAL MATERIALS AND METHOD OF WALL CONSTRUCTION:

In the conventional method, red clay bricks are used for wall construction. But the manufacturing process of clay bricks cause high levels of air pollution and are a prime factor of claiming clay. Moreover, the manufacturing of red clay bricks is unorganized, non-standardized and makes it difficult for the users to adhere to construction quality standards. Further, clay bricks do not provide thermal insulation benefits. Moreover, Red clay bricks are heavy as its dry density is around 1800 Kg/m3. Heavyweight building materials are not recommended when we design our building considering the protection of building from an earthquake. Fly-ash bricks also consume thermal power waste and have good compressive strength but are heavy and don't provide thermal benefits to the building. Also, there is no control in raw material and their manufacturing process due to the unskilled workforce.

4. FEATURES & BENEFITS OF AAC:

4.1 Cost Saving:

- AAC Blocks are approximately nine times bigger than red clay bricks reducing the need for mortar joints by over 66%.
- Light weight properties lead to lighter dead load on the building structure. Cost due to steel, cement, and excavation can be reduced using lightweight building materials.
- Due to good surface accuracy and finishing of blocks, the need for plaster on AAC blocks is less.
- High insulation properties result in saving of energy costs.

4.2 Energy Efficient:

Thermal insulation is one of the greatest benefits of using AAC blocks, as the AAC blocks wall helps maintain distinct internal and external temperature saving energy costs.

4.3 Fire Resistant:

- AAC material is non-combustible and completely inorganic.
- AAC Blocks are suitable for use in areas where fire safety is recommended as these blocks are fire resistant for about 2-6 hours depending on the thickness of the wall.

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4.4 Pest Resistant:

The pest-resistant properties (as the blocks are made of inorganic materials) of AAC keep termites away, avoiding damages and losses.

4.5 Minimum Wastage:

Breakage of AAC Blocks is negligible, that is less than 5% which increases the utilization of the blocks.

4.6 Sound Insulation:

Having a commendable STC (Sound Transmission Class), AAC elements are appropriate material for wall construction.

4.7 Earthquake Resistant:

The manufacturing process gives the blocks commendable strength, maintaining its lightweight property due to which the steadiness of these blocks in a building is more reliable, making it earthquake resistant.

4.8 Water Saver:

For the curing process of AAC blocks walls, there is no need to water the blocks, only the mortar joints need to be cured with water in case of conventional mortar mix, saving water consumption.

4.9 Minimum Storage:

Supplies are available at all seasons. So, the AAC Blocks buyers do not need to maintain large storage areas for AAC Blocks.

4.10 Time Saving:

Time consumed in building walls decreases due to lightweight ness of the product and its size over conventional clay bricks. Decreasing lead time as well as installation time.

4.11 Easy Application:

Being light in weight and larger in size, AAC Blocks are easy to apply and facilitates the comfort to the mason to work in high-rise construction.

5. ASCOLITE's AAC BLOCK COVERAGE:

Size (mm)	Quantity of Blocks			Cubic Meters Required	
L x H x W	100 M^2	100 Ft^2	1 CBM	100 M^2	100 Ft^2
650x250x075	615.38	57.17	82.05	7.50	0.70
650x250x100	615.38	57.17	61.54	10.00	0.93
650x250x125	615.38	57.17	49.23	12.50	1.16
650x250x150	615.38	57.17	41.03	15.00	1.39
650x250x200	615.38	57.17	30.77	20.00	1.86
650x250x225	615.38	57.17	27.35	22.50	2.09
650x250x250	615.38	57.17	24.62	25.00	2.32
650x250x300	615.38	57.17	20.51	30.00	2.79
650x200x100	769.23	71.46	76.92	10.00	0.93
650x200x150	769.23	71.46	51.28	15.00	1.39
650x200x225	769.23	71.46	34.19	22.50	2.09
600x200x100	833.33	77.42	83.33	10.00	0.93
600x200x150	833.33	77.42	55.56	15.00	1.39
600x200x225	833.33	77.42	37.04	22.50	2.09

6. *TECHNICAL SPECIFICATIONS:

Particulars	Units	Values	Requirement as per IS-2185 Part-3
Size (Length x Height)	mm	650x250 / 650x200 / 600x200	NA
Size (Width)	mm	75/100/125/150/200/225/250/300	NA
Size Tolerance (Max)	mm	±3 (Height & width) ±3 (Length)	H& W= ±3mm, L= ±5 mm
Compressive Strength	N/mm2	≥ 3.5 for Grade - 2 and ≥ 4.0 for Grade-1	≥ 3 .0 for Grade-2 and ≥ 4.0 for Grade-1 @ density range 551-650 Kg/m3
Oven Dry Density	Kg/m3	560 - 640	551-650
Fire Resistance	Hrs.	4 (for 150 mm thick wall)	Min 2 hrs. is desirable
Thermal Conductivity (K Value)	W/mK	0.16 - 0.21	0.24 Max for G-1 and G- 2 @ density range 551-650 Kg/m3
Sound Reduction	Db	37 - 42	NA
Modulus of Elasticity	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 (Maximum)	%	0.04 Maximum	0.1 for gr-2 & 0.05 for Gr-1 Maximum
Sound Transmission Class Rating	Db	44	NA
Capillary Water Absorption	gm/dm^2	180 Max	< 210 @ 24 hours (as per NFP 14306)

***Note:** The values obtained are from laboratory testing conditions and at 27 ± 2°C. On site tests may show slight variation due to site conditions and/or methods of testing / application.*

7. COMPARISON OF AAC BLOCKS & CONVENTIONAL RED CLAY BRICK:

Particulars`	AAC Blocks	Red Clay Bricks
Size (L x B x H) mm	650x250/200x75-300	230x75x100
Precision in size mm	± 1 (thickness & height)	±5 (length)
Dry Density	550-650 Kg/m^3 (oven dry)	1800 Kg/m^3
Sound Reduction Index (dB)	45 for 200 mm thick wall	50 for 230 mm thick wall
Thermal Conductivity (W/mK)	0.16	0.81
Mortar Consumption m3 with 1:6	0.5 Bag of Cement	1.35 bag of Cement
Construction Time per mason	30 m^2	20 m^2
Chemical Composition	Fly-ash used around 65% which reacts with binders for form AAC	Soil is used which contains inorganic impurities in Efflorescence.
Finishing	Can be directly cut or shaped/ sculptured as required	Not possible
Cost benefit factor	Up to 24% in structural cost (subject to project design)	No Cost benefit.
Energy Saving	Up to 30 % of Air- conditioning load	No Energy Saving
Capillary Water Absorption	Less (due to low density)	More (due to High Density)

8. APPLICATION GUIDELINES (Stepwise):

8.1 Stacking & handling of blocks at site:

i. Stacking of blocks should be done on a dry and proper levelled surface.

ii. Blocks should be kept free from direct rain. Height of stack should not be more than 1.5 meters.

iii. Preferably use pallets to keep the blocks.

iv. Keep the blocks in systematic array to avoid point loading, also making it easy to count.

v. Minimize handling. Do not throw the blocks in handling.

vi. There should not be any foreign material between two blocks, as due to point loading, a block may crack or damage while stacking.

vii. Store material consignment wise enabling easy counting & quality verification post unloading.

8.2 Before AAC Wall construction, Inspection of column & beam and its hacking to be done:

i. Column should be straight enough and have sufficient strength. Straightness between columns to column must be correct.

ii. Structural Beam should be given proper time to settle and cure. It should not have the possibility to deflect after the construction of the wall. Deflection of the beam may impose line load on wall and wall may crack.

iii. Hacking of column provides a positive key for jointing mortar. Hacking should be done just after the construction of column otherwise on later stages, it becomes difficult to provide hacking as it gains complete strength. We can do hacking using heavy pointed hacking tools or use Chisel and Hammer. There are certain chemicals available in the market which after application on beam and column avoids manual hacking.

8.3 Wall thickness:

The Minimum thickness of non-load bearing internal walls shall be 100 mm. The minimum thickness of external walls in framed construction shall not be less than 200 mm however depending upon the local condition and desired effect of thermal transmission and sound reduction, 150 mm thick block wall may be used. The minimum thickness of external and internal load-bearing walls shall be 200mm and 150mm respectively. For parapet walls unless adequately braced at intervals not exceeding 3m. the height of the wall shall be limited to five times its thickness.

8.4 Mortar:

As per IS-6041 (Clause 3.9.2), a 1:2:9 Cement: Lime: Sand mortar may generally be used but where either the intensity of load is high or wall is exposed to severe condition 1:1:6 mortar shall be used. 1:6 cement: sand mortar may also be used.

8.5 Thickness of joints:

Thickness of joints should be kept 10-12 mm in case of traditional mortar or 2-3 mm in case of thin bed jointing mortar.

8.6 Method of Wetting of blocks before Use:

Surface wetting of blocks is required just before use. For wetting, you can dip the blocks in a water bucket for a few seconds. You can use other methods depending upon site condition & convenience. For each method, we need to understand the purpose of wetting. All high porosity building elements including AAC sucks water from a mortar at the time of application. Due to lack of water, the mix may get shrink or crack due to excessive heat of hydration, and required adhesion and compressive strength of mix is reduced. So, it is necessary to pre-wet the blocks just before use.

8.7 Laying of the first course of AAC Blocks:

The first course of AAC block masonry wall shall be laid with greater care making sure that it is properly aligned, levelled, and plumbed, as this may assist the mason in laying succeeding courses to obtain a straight and truly vertical wall. The first layer of AAC blocks masonry on the plinth should preferably have a groove/offset outside so that rainwater coming down the wall falls out. Before laying the first course, the alignment of the wall shall be marked on the damp-proof course. The blocks for the course shall first be laid dry, that is, without mortar along a string stretched between properly located corners of the wall in order to determine the correct position of the blocks including those of the cross walls jointing it and also adjust their spacing. When the blocks are set in the proper position, the two corner blocks shall be
removed, a mortar bedspread, and these blocks laid back in place truly level and plumb. The string shall then be stretched tightly along with the faces of two corner blocks and the faces of the intermediate ones adjusted to coincide with the line. Thereafter, each block shall be removed and re-laid over a bed of mortar. After every three or four blocks have been laid. Their correct alignment, level, and verticality shall be carefully checked. It is recommended to give a drying time of 24 hours for the first course and then subsequent courses should be started.

8.8 Gap filling between column and AAC Block:

At least a 10mm gap must be provided between the concrete column and AAC wall and the gap must be filled using lean mortar. Use suitable wall tie after every 3rd course of AAC block between beam and Wall.

8.9 Gap filling between beam and AAC Block:

The gap should be planned at the time of design planning between beam and AAC blocks. The beam may have a tendency to deflect due to its own weight or weight of upper stories construction. Deflection of beam imposes a point load or line load on the wall, due to which wall may get crack. Moreover, a beam may shrink or expand after setting. For this purpose, a suitable gap is provided between beam and wall so that deflection of the beam may not impose any load on the wall. It is recommended to provide 15-20 mm space in between beam and uppermost course. Fill this gap using suitable flexible backing rods & lean mortar/ resilient material paste. The backing rods should be installed leaving 10 mm gaps for both sides so the lean mortar/resilient material paste can be applied within those gaps.

8.10 Provision of control Joint (Refer IS-6041, 4.6.6):

All type of building material have the tendency to expand or contract including a clay brick wall. To Control Possible Cracking in the wall due to shrinkage or expansion, it is recommended to provide a control joint. Control Joints are vertical separations of the wall. Movement and flexibility are required in all building elements, movement joints should be considered during wall construction for this purpose, it is suggested to leave a space of 10mm after every 3-meter in length for long walls from corners. i.e. After every 3-meter running length, an expansion joint must be given from the corner. On lengthy walls, vertical movement joint must be given after every 6-meter maximum. For filling the gap, may use the foam backing rod. The backing rod is resilient in nature and compresses easily. It is a small foam rod that is used to fill the joints between building materials. Fill the gap with suitable resilient material or lean mortar. In the case of acoustic separating walls, an expansion joint must not be given. Movement control mesh may also be used after every 2-3 courses as per requirement. In the case of using thin-bed jointing mortar, Flexible control mesh is well suited for horizontal movement control and it also does not affect the thickness of thin-bed joint mortar.

8.11 Provision of Nominal Bond Beam in Wall:

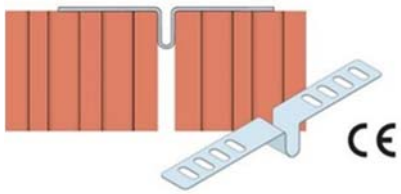
A Horizontal Reinforced bond beam must be provided to provide adequate stability, stiffness, and strength to all types of all walls including AAC so its slenderness ratio can be maintained. It also serves as a means of crack control. The nominal bond beam must be constructed the same as the structural bond beam using 8 mm mild steel bars or 6 mm deformed steel bars. In a wall without opening the bond beam shall be spaced at heights of 1200mm apart and may be of any length up to 18 meters. The nominal bond beam shall be discontinuous at the control joint. Dummy Joints shall be formed when the bond beam is continuous at control Joints.

8.12 Bond Beam Specification:

Parameter	For 100-150 mm thick blocks wall	Above 150 mm thick blocks wall
Number of rods	Two	Four
Thickness of bond beam	3“	4”
Concrete Mix	1:4	1:4
Steel diameter	8mm mild steel bars or 6mm deformed steel bars	8mm mild steel bars or 6mm deformed steel bars
Steel dia for ring tie	6-8 mm steel bars	6-8 mm steel bars
Gap between two rings	6”-9”	6”-9”
Concrete cover	15-20 mm	15-20
Depth of steel in column	5-6 times of steel dia	5-6 times of steel dia

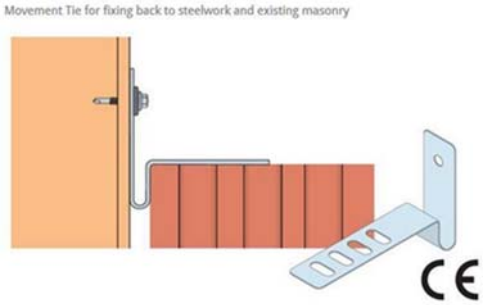
8.13 Use of movement tie:

Suitable stainless steel movement ties should be used in case of thin-bed joint mortar to apply between the joint of two blocks as per below given picture while providing a control joint.



Over the bed face, there should be one tie per 100mm thickness of block. Therefore on a 200mm thickness of blocks, two ties must be used. Movement ties may be used after every third course. In U gap of movement tie, the gap should be left blank for wall contraction and avoid mortar filling.

8.14 Movement tie for fixing back to steelwork & existing masonry:



These types of tie are flexible on joints and needs to be screwed from base as it is proven to be very effective in controlling movements for two dissimilar materials.

8.15 Intersecting wall:

When two walls meet or intersect and the courses to be laid up at same time; a true masonry bond of 50% of the units at intersection is necessary.

8.16 Rendering:

Rendering on walls should be avoided during wet condition or in monsoon. The walls should be dried before rendering. The surface of wall should be cleaned from dust for proper adhesion. Moisten the wall with water just before rendering to prevent the absorption of water. The sand to be used for plaster finish shall be graded from 3mm downwards. The rendering should be done in two coats with a total thickness of 18mm - 20mm where the first coat be a rough coat of 8mm - 12mm and the second coat (finish coat) to be applied after 24 hours with water curing. In-order to improve adhesion, rough groove in first coat must be created followed by application of cement slurry to provide a positive key for the second coat. Mix for rendering should be either 1:6 cement: sand mortar or 1:1:6 cement: lime: sand mortar. Second coat (finishing coat) shall be of 5mm - 10mm thickness under 1:1:6 to 1:2:9 cement: lime: sand mortar or 1:6 cement: sand mortar depending upon the extent of rainfall.

It is recommended to use ASCOLITE Ready Mix plaster for better results as the product contains dry graded sand with strict control on quality.

8.17 Door window frame:

Leave appropriate space for door and window frame during construction of the wall. Door and window frames shall be attached to the surrounding masonry either by conventional method or with 200mm flooring nails with screwed ends to be fixed directly into the blocks after the frame has been wedged into opening at every nailing position. Adequate stability of nails is dependent on the dimensions of frames. The nails should be spaced at maximum 400mm and the first nail should not be farther than 200mm from corner.

Frames may be attached to masonry by holdfasts, anchored in vertical reinforced concrete studs. Use coping beam above door and window frame which is to be stretched 6”-9” from the width of frame on both sides. Cast coping beam to be separated using two rods of 8mm size with thickness of 3” along with a concrete cover of 15 - 20mm.

8.18 Nailing of AAC Wall:

Use plastic or metal fasteners and avoid usage of normal plain nails. Using self-drilling chasing in AAC wall for conduit or water pipe is recommended. For this purpose, it is also recommended to use motorized wall chaser or jhari machine. AAC wall chasing depth should be under 1/3rd of its thickness.

Wall chasing for conduit pipe:- Proper chasing is required for electrical and water conduit pipe. By using special purpose chasing machine will save the time and labor cost. During chasing, first make the chase of required depth as per requirement. Then clean it with brush and wash it with water. Then insert the conduit pipe and hold the pipe with help of nails from side. After fixing the pipe, fill the gap by some non-shrinkable grout using wire mesh and leave it for 24 hours water curing.

9. REASON AND PREVENTION OF BUILDING, FROM CRACKS:

Building component develops cracks when it exceeds it’s strength. Cracks in building can be broadly classified into structural and nonstructural cracks. Structural cracks are thick and endangers the safety of a building due to faulty design of building and portioned soil settlement. Extensive cracking in RCC beam is an example of structural crack. Non-structural cracks are thin cracks, not endangering the safety of building as it develops due to internally induced stress in building component such as wall.

9.1 Reason of cracks:

There may be nonstructural types of cracks due to following reasons:

Moisture Change	Thermal Movement
Creep	Elastic deformation
Chemical Reaction	Foundation movement

Settlement of soil

9.2 Prevention from cracks:

Masonry work in a structure should be carried out in uniform levels at all parts of structure in-order to prevent differential settlement of foundation. The difference in the height of masonry in every part of a building should normally not exceed 1 meter during construction. Masonry work should be properly cured for a minimum period of 7-10 days. Masonry work on RCC elements such as RCC beam should be started after minimum two weeks. In reinforced concrete members such as cantilever beams and slabs which are liable to deflect appreciably under load, removal of centering and imposition of load should be deferred at least one month so that the concrete gains sufficient strength for bearing the load. Curing of any concrete member should be done for minimum 7-10 days and to be terminated gradually to avoid quick drying. Concrete work in very hot and windy climate should be avoided, and in case it is not avoidable then precautions should be taken to keep the temperature of fresh concrete down in-order to prevent quick drying of concrete. Part of mixing water may be replaced by pounded ice. Only moisture controlled AAC blocks to be used.

10. Do's and Don'ts:

i. While laying the blocks for construction, keep the blocks in heighted direction or upward direction.

ii. Avoid using the blocks in foundation area, drainage pit, water tank or areas with excessive dampness.

iii. The first course should be laid on a conventional 10-15mm, 1:6 cement: sand mortar ratio.

iv. The first course should be allowed to mature for 24 hours for drying at a perfect level.

v. Do not use dry blocks as it sucks water from mortar and plaster, leading to poor adhesion. Do proper wetting of the blocks before using them.

vi. For long-stretched walls, provide suitable space for
expansion joints and wall ties. Alternatively, a vertical mullion can be provided at every 3mm.

vii. In case of plastering on external wall, do it in two coats. First rough coat and then finish coat to avoid deboning of plaster. Do the second coat after 24 hours followed by water curing for at least 7 days.

11. INGREDIENTS AND CURING METHOD:

i. Fly-ash, OPC 53 grade cement, quick lime, foaming agents, performance additives.

ii. Steam curing is done during the process of AAC blocks manufacturing

12. PACKAGING AND DELIVERY:

Material is supplied in unit of m^3 in an open body or close body trucks. Material packing is done by tightening plastic strips and thermocol is used to fill voides.

13. SHELF LIFE, AND CONDITION OF APPLICATION:

Before use, it should be protected from direct rain and must not be used at a low temperature or where continuous fall of snow is there. Also must not be used as fire brick.

Also must not be used in the foundation and damp course condition.

14. STORAGE:

AAC blocks should be protected from direct rain during storage condition.

MARKING ON AAC BLOCKS:

i. All ASCOLITE AAC Blocks have Brand Name, “ASCOLITE” and ISI Stamp

ii. All AAC blocks have numbers printed for back tracing purpose.

iii. Blocks have rough texture on plastering & jointing surface.

iv. BIS stamp side is on the non-rising side of ASCOLITE AAC blocks.

16. TROUBLESHOOTING:

PROBLEM	PROBABLE REASON	RECOMMENDED PRIOR CARE
Excessive Breakage of Blocks Received after delivery if any	⇒ May be due to Negligence of Truck Driver in Driving while transit. ⇒ Packing of Material is not proper. ⇒ Handling of Blocks at site by labor is not proper.	⇒ For 1 &2, In such event, inform to our customer care/sales person for verification. ⇒ 3. Educate Labor and site supervisor to follow safe unloading guidelines.
Testing Parameters are not meeting the requirement	Error in Testing at site as testing of product needs thorough understanding and special skills.	In such event, inform to our customer care/sales person for joint testing.
Cracks developed in wall	May be, guidelines of the application wasn't followed.	Refer Reason and prevention of Cracks.
Material received at site is short in quantity	May be some mistake while dispatch.	Ask our Technical support executive for Assistance.
Plaster is not adhering to blocks	Plastering not done as per recommendation.	Refer to the plastering guidelines.

17. RELEVANT STANDARD CODES FOR AAC—INDIAN STANDARDS:

i. IS-2185 Part-3- 1984 (Reaffirmed 2005): Specification of Concrete Masonry Units, Autoclaved Cellular (Aerated) Concrete Blocks.

ii. IS-6041 - 1985 (Reaffirmed 2005): Code of Practice for construction of Cellular Concrete Block Masonry. NFP 14306: Capillary Water Absorption of AAC.

iii. IS-6441 Part-1, 1972 (Reaffirmed 2001): Methods of test for Autoclaved Cellular Concrete Products. Determination of Unit Weight for Bulk Density and Moisture Content.

iv. IS-6441 Part-2, 1972 (Reaffirmed 2001): Methods of test for Autoclaved Cellular Concrete Products. Determination of Drying Shrinkage.

v. IS-6441 Part-5, 1972 (Reaffirmed 2001): Methods of test for Autoclaved Cellular Concrete Products. Determination of Compressive Strength.

vi. IS-3346, 1980 (Reaffirmed 2005): Method for the determination of thermal conductivity of thermal insulating materials (two slab guarded hot plate method.

International Standards:

i. **British Standard**, BS EN 771-4:2003 Specification for masonry units, Autoclaved Aerated concrete masonry units.

ii. **American Standard**, ASTM C 1386-98, Standard Specification for precast AAC wall construction units.

18. SAFETY GUIDELINES:

ASCOLITE AAC blocks in their natural state do not release airborne dust but dust is produced during cutting, drilling, grinding and other related activity.

Swallowing of the dust must be protected using nose mask as may result in abdominal discomfort. The dust may also irritate the nose, throat and lungs.

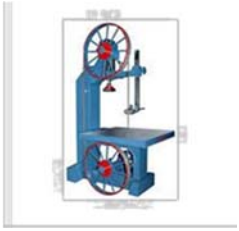
Eyes must be protected from dust using goggles as dust may be irritating and corrosive to the eyes.

While handling, the block may fall on leg or foot, so always wear safety shoes. Also while handling, rashes may develop in the palm, so it is recommended to use hand gloves.

18.1 Safety items:

Use Safety shoes, hand gloves, goggles and nose mask and safety jacket while truck loading, unloading, and during construction.

16. LIST OF MASONRY TOOLS:

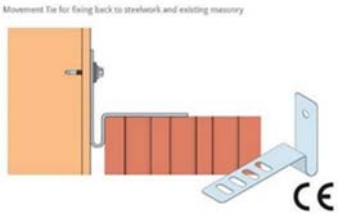
Sr. No.	Technical name of Tool in English	Picture	Use
1	Hand Saw (Heavy duty)		AAC Block Cutting for various sizes
2	Motorized Cutting Machine		AAC Blocks Cutting for Speedy and accurate cutting
3	Band Saw Machine		AAC Blocks Cutting for big project

Sr. No.	Technical name of Tool in English	Picture	Use
4	Spirit Level 2 feet		AAC Blocks leveling while jointing
5	Spirit Level 2 meter		AAC Block leveling of complete course and wall perpendicularity
6	Rubber Mallet		AAC Blocks Jointing tapping
7	Metal hammer		For hammering due to hacking
8	Chisel		For hacking
9	Electrical operated hand mortar mixer		For mixing mortar or tile adhesives etc.
10	Mason Trowel		General purpose trowel

Sr. No.	Technical name of Tool in English	Picture	Use
11	Trowel for plastering		Long trowel
12	Gurmala		For finish coat of plaster made of metal
13	Gutka		For rough coat of plaster made of wood
14	Notched Trowel		For applying thin bed mortar and grooving.
15	Notched Scoop Trowel		For Applying thin bed mortar on AAC blocks
16	Mason line Dori		For checking level of wall
17	Plumb bob		For Checking level of wall

Sr. No.	Technical name of Tool in English	Picture	Use
18	Right Angle 600 mm		For checking right angle of wall
19	Measuring tape 3 met		For measurement
20	Ghamela		For mixing mortar.
21	Water Drum filled with fresh water.		For wetting of AAC Blocks
22	Bucket 20 Lit		For Keeping water
23	Plastic Mug		For Water pouring in water.
24	Tancha for Hacking		For hacking

Sr. No.	Technical name of Tool in English	Picture	Use
25	Electric Jhari Machine		For making groove for conduting.
26	Conduit Tool		For making groove for conduting
27	Fasteners/Ra wl plug for wall		For nails in wall using special fas-teners.
28	Self-Drilling Screws		For special purpose
29	Electric Drilling machine with drill bit		For fasteners application
30	Wire Mesh for laying in horizontal course		For Crack control
31	Wire mesh for Column Corners and Conduit grooves		For Crack Control

Sr. No.	Technical name of Tool in English	Picture	Use
32	Expansion Tie		For Crack Control
33	Movement Tie		For Expansion Joint
34	Backing rod		
35	Metal wire brush		For Wall Cleaning.
36	Normal Hair Wire brush		For cleaning.
37	Safety Helmet		For head safety
38	Safety Gloves		For hand safety

Sr. No.	Technical name of Tool in English	Picture	Use
39	Safety Goggles		For eyes safety
40	Safety Shoes		For leg safety
41	Nose & Mouth Safety Mask		For dust safety
42	Safety Jacket		To wear during construction work

DISCLAIMER:

While the technical details & recommendations contained in this document and the related details given by the representatives of the company correspond to the best of our knowledge & experience, all the above information must, in any case, be considered as merely indicative and subject to confirmation. Users are recommended to conduct a product suitability test before it is used at full scale. In any case, the consumer alone is entirely liable for any consequences resulting from using the product. For the most up-to-date TDS, please visit our website at www.ascolite.in. Our company policy is one of ongoing R&D; therefore, we reserve the right to update this information without prior notice at any time. As the correct identification of the problems, the quality of other materials used, on-site environmental conditions and the workmanship on-site are factors beyond our control, there is no express or implied guarantee/warranty as to the results achieved. The company assumes no liability or consequential damage arising from the use of our products for unsatisfactory results. Site visits are not a supervisory responsibility wherever provided. Suggestions made either verbally or in writing by the company may be followed, modified or rejected by the owner, engineer or contractor since they are solely responsible for carrying out procedures appropriate to a specific application.