AUTOCLAVED AERATED CONCRETE BLOCKS (AAC)

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, easy to cut, and other benefits which ease the process of construction.

PRODUCT DESCRIPTION

PRODUCT: 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.	
COMPOSITION	Cement, fly ash, lime, gypsum & additive
COLOUR	Grey colour
SIZE (in inches)	4-inch, 6-inch, 8-inch, 9-inch, 12-inch
IS STANDARD	Conforms to IS 2185 and IS 6441
FEATURES & BENEFITS	• Consistent quality due to superior raw material used. • High dimensional accuracy. • Faster application and completion of masonry walls. • Ready to use after 24 hours. • Reduced wastages • Speedy and durable constructions. • Fire resistance and sound insulation • Economical and long lasting • Reduces the dead load of the structure and saves costs • Available in various block thickness • Light weight • Durability & dimensional stability.
AREAS OF APPLICATION	• Suitable for infill masonry wall construction in multi storied structures as well as for normal constructions as a replacement to conventional bricks and blocks. • Excellent for partition wall and fast track construction needs.

TECHNICAL ANALYSIS [Conforms to IS 2185 and IS 6441]

PARAMETERS	SPECIFICATIONS
DIMENSSIONS	600 x 200 x 100 mm 600 x 200 x 150 mm 600 x 200 x 200 mm 600 x 200 x 225 mm
MOISTURE CONTENT	10 %
COMPRESSIVE STRENGTH	> 4.0 N/mm^2
BLOCK DENSITY	551 - 650 Kg/m^3

GENERAL ASPECTS

PARAMETER	AAC BLOCK
STRUCTURAL COST	Steel saving up to 15 %
CEMENT MORTAR FOR PLASTER MASONRY	Requires less due to flat, even surfaces a smaller number of joints
BREAKAGE UTILIZATION	Negligible breakage almost 100% utilization is possible
CONSTRUCTION SPEED	Speedy construction due to its big size, tight weight ease to cut in any size or shape
LABOUR OUTPUT	Approximately double of conventional brick
QUALITY	Uniform consistent
EFFLORESCENCE	No such chance, which improves the durability of wall along with plaster paint in a long run
FITTING CHASING	All kind of fitting chasing possible (as per IS:1905)
CARPET AREA	More due to less thickness of walling material
STORAGE	Readily available at any time & any season in a short notice so no storage required
WATER REQUIRED	Requires less in wetting curing, hence saving in electricity bill labour cost.
ENERGY SAVING	Approximately 30% redution in air-conditioned load for both heating cooling
MAINTANANCE	Less due to its superior properties

GUIDANCE FOR USE

STACKING & HANDLING	• Stacking of blocks should be done on a dry and proper levelled surface. • Blocks should be kept free from direct rain. Height of stack should not be more than 1.5 meters. • Preferably use pallets to keep the blocks. • Minimize handling. Do not throw the blocks in handling.
INSPECTION OF COLUMN & BEAM	• Column should be straight enough and have sufficient strength. Straightness between columns to column must be correct. • Structural Beam should be given proper time to settle and cure. • 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.
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.
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
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.
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. • 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.
GAP FILLING BETWEEN BEAM AND AAC BLOCK	• 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.
GAP FILLING BETWEEN COLUMN AAC	• 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.

PACKAGING & STORAGE

- Material is supplied in unit of m^3 in an open body or close body trucks.
- Material packing is done by tightening plastic strips.
- AAC blocks should be protected from direct rain during storage condition.

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.
- Must not be used in the foundation and damp course condition.

DO'S AND DON'TS

- While laying the blocks for construction, keep the blocks in heighted direction or upward direction
- Avoid using the blocks in foundation area, drainage pit, water tank or areas with excessive dampness.
- The first course should be laid on a conventional 10-15mm, 1:6 cement: sand mortar ratio.
- The first course should be allowed to mature for 24 hours for drying at a perfect level.
- 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.
- For long-stretched walls, provide suitable space for expansion joints and wall ties. Alternatively, a vertical mullion can be provided at every 3mm.
- 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.

HEALTH & SAFETY INFORMATION

- AAC BLOCKS contains only eco-friendly fillers and additives. However, being cement based, it is alkaline and hence it is advisable to avoid direct eye and skin contact with this. In case of eye contact, kindly wash with clean water at least for 15 minutes and seek medical help and keep it out of children reach.

Disclaimer: Technical information is based on knowledge and experience of accurate results. These results refer to the long-term application of the product in practice. Recommendations and suggestions are listed for guidance only. Since site conditions during the applications are beyond the manufacturer's control, hence it is also the responsibility of the end-user to ensure that the content in their possession is the latest case.