

brikOTMlite
AAC Block
(Autoclaved Aerated Concrete Block)



SMARTEST CHOICE FOR CONSTRUCTION NEEDS.



E-BROCHURE

brikolite.com

KNOW US BETTER

Sustainable, light weight & cost effective construction solution. Transform the way you build.



Brikolite is not any ordinary AAC block! A specially processed, aqueous solution mixed with high silica sand, lime stone, and fly ash gives Brikolite the strength, stiffness, and durability to stand up to tough weather conditions. Brikolite offers quality AAC blocks made in our 100% automatic processing plant with German technology at an affordable price. Build your dream home with Brikolite AAC block. Our years of research have helped us reach this final stage to bring you the best AAC block in North East India.

Brikolite AAC blocks are a lightweight, highly insulated, cement based building material. Brikolite blocks are cost effective, provide greater safety standards than bricks and are very easy to use. These eco-friendly blocks can reduce your build time by up to 40%. It's never been easier to build greener! Brikolite AAC blocks are manufactured using fly ash as a raw material resulting in an ecologically neutral product. Brikolite's manufacturing process is environmentally friendly with minimal harmful emissions, using very few non-renewable resources, coupled with minimal waste during the production process.

The logo for Brikolite AAC Block. It features the word "brikolite" in a lowercase, sans-serif font. The "o" is replaced by a green circle with a white center. The word "AAC Block" is written in a larger, bold, uppercase font below it. Underneath "AAC Block" is the text "(Autoclaved Aerated Concrete Block)" in a smaller, uppercase font. A small "TM" trademark symbol is located to the right of the "ite" part of "brikolite".

brikoliteTM
AAC Block
(Autoclaved Aerated Concrete Block)

VISION & MISSION

To make BRIKOLITE replace all types of concrete blocks and conventional clay bricks in the construction industry by offering innovative, eco-friendly, and new age technology along with our unmatched customer service.

We aim to become a leading manufacturer of AAC Blocks in North East India, and to stay committed to offering a complete building solution & a system backed up by skilled technical support and excellent customer service. We believe in delivering high quality and cost effective products which adds value to our customers. We act with integrity and respect. We are continuously driven by our commitment to improving our environmental footprint and creating greener and more sustainable planet.

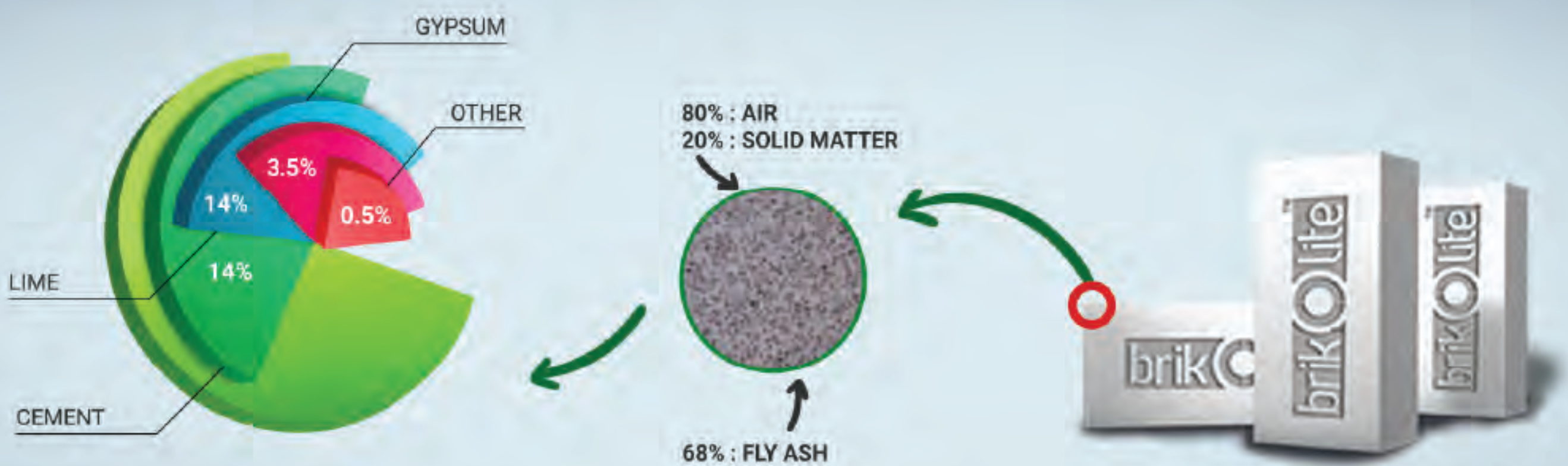


Lohia Group, the promoters of M/s KD Infra. has been one of the most reputed business houses of the North Eastern Region. The group has commanded consistent growth and performance over the last few decades. The group holds manufacturing interests in varied construction related industries like cement, GP/GC sheets, TMT Bars, AAC Blocks, Wire Rods, Ferro Alloys etc. thus controlling a substantial portion of the market in construction materials, here in the NER.

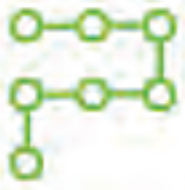
AAC BLOCK HISTORY

Autoclaved Aerated Concrete(AAC), was first manufactured in the mid 1920s by the Swedish architect and inventor, Dr. Johan Axel Eriksson, working in collaboration with Professor Henrik Kreuger, at the Royal Institute of Technology. Although the process was patented in 1924, production started in Sweden in 1929, under the brand name Ytong. The second major autoclaved cellular concrete international brand was Hebel, which opened its first plant in 1943, in Germany.

The Ytong Autoclaved Aerated Concrete in Sweden was produced with Alum Slate, whose combustible Carbon content made it beneficial to use in the production process. As the slate deposits used for Ytong contained a bit of uranium, the manufacturers started using new methods, with a composition of Quartz sand/Fly Ash, calcined gypsum, lime, cement, water and Aluminium powder. After 1975, Ytong produced a new type of Autoclaved Aerated Concrete block without using Alum Slate, thus the effects from radioactive radon gas, that was there in earlier products was eliminated. Brikolite AAC blocks, follows the same process of manufacturing.



TECHNICAL ADVANTAGES



STRUCTURAL SAVINGS

Brikolite blocks are very light thus it reduces dead weight and also reduces consumption of steel. Moreover, the customized and well shaped blocks lead to minimum use of plaster and are cost saving.



HIGH STRENGTH

Brik-O-Lite AAC Blocks have higher compressive strength. Steam curing at high pressure gives Brikolite Blocks unmatched strength to weight ratio which exceeds the Indian Building code requirement.



HIGHER FLEXIBILITY

Brik-O-Lite blocks are worker friendly. The blocks can be easily grooved, cut and shaped to desired size as easily as wooden planks. Thus, significantly improving the speed of construction, which further leads to cost savings, especially in high volume projects and facilitates easy installation.



FASTER CONSTRUCTION

Huge reduction in construction time as Brikolite blocks are lighter in weight, construction time is lesser and the blocks take lesser setting time.



GREEN BUILDING : ECO FRIENDLY & ENERGY SAVING

AAC blocks qualifies for LEED/GRIHA with high rating point contribution. Due to its environmental friendliness, Carbon free manufacturing and higher installation, Brikolite is highly recommended for green building. Brikolite also saves energy consumption as it takes far less energy to manufacture and because of its light weight it reduces the fuel cost for transportation. Brikolite also reduces the water consumption in-comparison to Red Clay Bricks. So for going green Brikolite is recommended.



INSTALLATION BENEFITS OF BRIKOLITE AAC BLOCKS

Cutting of Brikolite AAC blocks is very easy. It can be cut with simple working tools at site itself without any extra skills to get desired shape and size. Laying of Brikolite AAC blocks are very easy, due to its light weight it is easy to install with skin coat of mortar. Nailability in Brikolite AAC blocks can be easily done. Conducting in Brikolite AAC wall can be done without any extra skill with simple working tool Drilling can also be done in Brikolite AAC wall.



EARTHQUAKE RESISTANT

Brikolite AAC blocks are lighter and they absorb and transmit minimum force of seismic vibrations. Brikolite blocks therefore fulfill the requirement of seismic Zone IV and V in which the North East of India lies.



FIRE RESISTANT

Unique cellular beehive like structure of AAC Brikolite blocks allows it to face temperatures as high as 1500 degrees centigrade and hold up to flames for 4 to 5 hours at a stretch. They also do not emit any toxic fumes during such hazards.



PEST RESISTANT

The inorganic constitution of Brikolite AAC blocks facilitate resistance to pests. Prevention of infestation and attacks by termites and other insects is easier and structures are safer.



HIGH ACOUSTIC INSULATION

The porous Brikolite blocks which falls in STC-44(Sound Transmission Class) offers attenuation of about 45 to 49dB. The sound absorbing property enhances the quality of living spaces and fulfills requirements in commercial areas too.

TECHNICAL SPECIFICATIONS



BRIKOLITE SIZES

SL. NO.	DIMENSION OF AAC BLOCKS (L X H X B)	CUBIC METER OF AAC BLOCK	NO. OF AAC BLOCK IN 1 CUBIC METRE	WEIGHT OF ONE AAC BLOCK
1	600*200*075 MM	0.00900	111 Pcs (Approx)	6/7 KGS (Approx)
2	600*200*100 MM	0.01200	083 Pcs (Approx)	8/9 KGS (Approx)
3	600*200*125 MM	0.01500	066 Pcs (Approx)	10/11 KGS (Approx)
4	600*200*150 MM	0.01500	055 Pcs (Approx)	12/13 KGS (Approx)
5	600*200*175 MM	0.02100	047 Pcs (Approx)	14/15 KGS (Approx)
6	600*200*200 MM	0.02400	041 Pcs (Approx)	16/17 KGS (Approx)
7	600*200*225 MM	0.02700	037 Pcs (Approx)	18/19 KGS (Approx)
8	600*200*250 MM	0.03000	033 Pcs (Approx)	20/21 KGS (Approx)

BRIKOLITE SPECIFICATIONS

PRODUCT SPECIFICATIONS	UNITS	CAPACITY
Length	mm	600
Height	mm	200
Thickness	mm	75,100,125,150,200,225,250
Compression Strength	Ni mm-	>4 (As per IS . 2185 Part III)
Normal Dry Density	Kg/m ³	550-650
Thermal Conductivity	W/mk	0.24
Sound Reduction	Db	Upto 42
Fire Resistance	Hrs	*4
Dry Shrinkage	%	0.04

BRIKOLITE COST EFFECTIVENESS

COST COMPONENT	SAVING IN COMPONENT	ESTIMATED IMPACT ON PROJECT COST	EXPLANATION
MORTAR MATERIAL	60%	2%	BRIKOLITE AAC BLOCKS ARE 7 TIMES THE SIZE OF CONVENTIONAL BRICKS. RESULTING IN 1/3 RD THE NUMBER OF JOINTS. THUS AN OVERALL MORTAR SAVINGS UP TO 60%
PLASTERING MATERIAL	35%	2%	EXCEPTIONAL DIMENSIONAL ACCURACY & SMOOTH SURFACES. ELIMINATES NEED OF THREE COAT PLASTER WALLS & ALLOWS FOR A FINAL 6 MM SKIN COAT (PUTTY/GYPSUM PLASTER)
WASTAGE	10%	0.5%	BREAKAGE IN BRICKS MIGHT BE AS HIGH AS 15% WHICH IN CASE OF AAC BLOCKS IS LESS THAN 5%
STRUCTURAL MATERIAL (STEEL & CONCRETE)	20%	8%	BEING LIGHT WEIGHT. MC BLOCKS DRASTICALLY REDUCE THE DEAD WEIGHT OF THE BUILDING. THIS TRANSLATES TO DESIGN OF LIGHTER STRUCTURES LEADING TO REDUCTION IN STEEL AND CONCRETE (UP TO 20%)
INCREASE IN FLOOR SPACE AREA	2%	2%	BEING TO EXCEPTIONAL THERMAL INSULATION & WEATHER BARRIER PROPERTIES, ITS POSSIBLE TO USE THINNER BLOCKS, WHICH RESULTS IN INCREASE OF CARPET AREA.
SAVINGS IN CAPEX FOR HVAC SYSTEMS	30%	0.5%	AAC BLOCKS HAVE EXCELLENT INSULATION PROPERTIES, WHICH RESULTS IN SAVING IN CAPEX & OPEX OF HVAC SYSTEMS.
TOTAL IMPACT ON PROJECT COST		15%	

USER GUIDELINES

STACKING



Stack on dry and even surface to avoid damage and contact with moisture

CUTTING OF BLOCK



Use tool like hacksaw or rotary cutter

MORTAR FOR MASONRY



Thin bed Mortar or Cement & Sand (1:6)

WETTING OF BLOCK



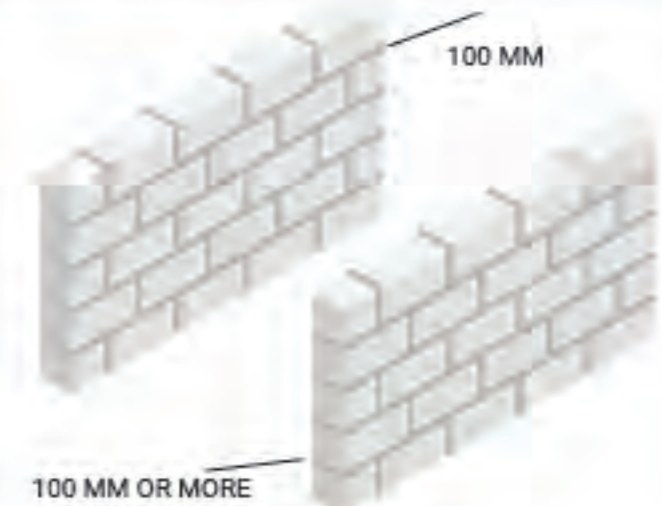
Moisten the top and the sides of the blocks slightly before completing application.

MORTAR THICKNESS

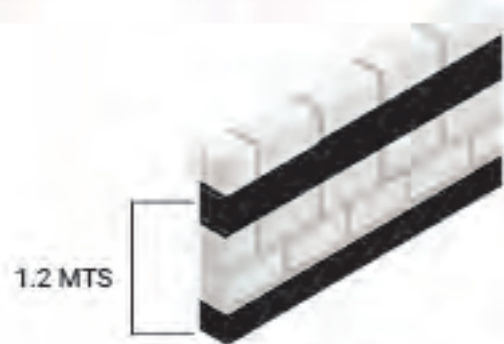


Conventional : 10-12mm
Premix Thin-Bed : 3-4 mm

BOND PATTERN



MORTAR THICKNESS



Coping beam with 2 nos 8mm reinforcement after 1.2 mts. height

LINTEL SUPPORT



Lintel support on full block

CURING OF WALL



Curing required only for mortar joint when conventional mortar used

ELECTRIC OR SANITARY CASING



Chases to be de-grooved before plaster of wall

BEAM & COLUMN JUNCTIONS



Wire Mesh & Chemical grout to be provided

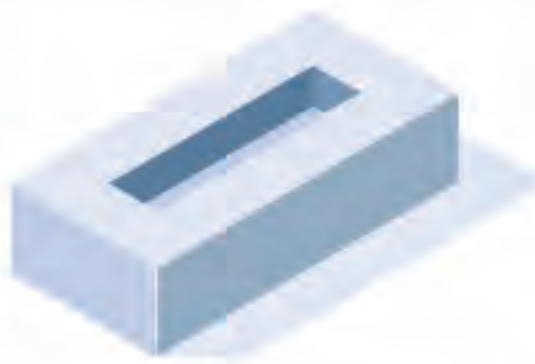
CURING OF WALL



Thickness of Plaster as per given recommendation

COMPARISON

AAC BLOCK VS. RED CLAY BRICK



AAC BLOCK



High Thermal Insulation does not allow heat to penetrate to the house.



Saves carpet area by 8-12 mm



Low water seepage and high water absorption



RED CLAY BRICK



Low Thermal Insulation allows heat to penetrate to the house.



Takes a larger area due to its size.



High water seepage and high water absorption

AAC BLOCK VS. RED CLAY BRICK

PARAMETER	BRIKOLITE AAC BLOCK	RED CLAY BRICK
BASIC RAW MATERIALS & OTHER INPUTS	Cement 15-12269, 13-8112, Stand/PFA-IS-383, High Quality Lime IS-712, Gypsum, Water - IS-456, Fly Ash-IS-3812 (PT-1) & aluminum as aearating compound.	Top Soil & Energy
DRY DENSITY KG/M ³	550-650 kg/m ³ (dry oven)IS-2185 (PT-3)	1900 kg /m ³
COMPRESSIVE STRENGTH IN KG/CM ²	30-45 kg/cm ² , IS-2185 (PT-4)	40-75- kg/cm ²
AGING	Gains in strength with age.	No gain in strength with age
THERMAL CONDUCTIVITY W/m.k	0.24 W/m.K. (for 551 - 650 kg/m ³)	0.81 W/m.K.
SOUND INSULATION	Superior than burnt clay & hollow concrete.	Normal
EASE OF WORKING	Can be cut, nailed & drilled.	Normal
FIRE RESISTANCE	4 to 6 Hours (depending on thickness)	2 Hours
SOUND REDUCING INDEX	45 db for 200mm thick wall	50db for 230mm thick wall, for the frequency ranging from 200 to 2000 Hz
PEST & RODENT RESISTANCE	No fungus & algae germination due to non organic properties	Algae Susceptible
PROCESS	Casting-rising-Precuring-IS-456, IS-2185 (PT-4)	Moulding heat treatment
PRE-CAST BRICK SIZE	600x200x75 To 300mm-IS-2185(PT-3,4)	230x100x70 mm
PRE CAST ELEMENTS	Any size of elements.	Not feasible
WATER ABSORPTION % BY WEIGHT	Less than 20% by volume -IS-2185 (PT-3)	20% by volume
DRYING SHRINKAGE MM/METER	Shrinkage after maturing 0.011 (for 600 kg/m) IS-2815 (PT-3)	No shrinkage
PRODUCTIVITY	Output 100% more than brick work	Normal
ECO FRIENDLINESS	Pollution free, normal energy requirement, open process uses fly ash or sand lime.	Creates smoke, uses high energy, wastes agricultural land
STRUCTURAL SAVING DUE TO DEAD WEIGHT REDUCTION DELIVERY	55% reduction in weight of walls-Tremendous structural saving for high rise buildings in earthquake I poor soil area	No additional saving
AUTOMATION	Automated manufacturing process-accurate design mix	Manual
LABOUR INVOLVEMENT FOR 10X10 FT WALL	1 Labour	2 Labours
CONSTRUCTION SPEED	Very high due to bigger size, light weight	Comparatively lower
QUALITY	Uniform and finished	Normally varies
DELIVERY	Pre-Cured and ready for delivery-IS-456	Seasonal

LIST OF RELEVANT STANDARDS

IS: 1661	Code of practice for application of cement and cement-lime plaster finishes.
IS: 1905	Code of practice for structural use of un-reinforcement masonry
IS: 2185 Part 3	Specification for concrete masonry units (Autoclaved cellular concrete blocks)
IS: 2250	Code of practice for preparation and use of masonry mortars
IS: 6041	Code of practice construction of autoclaved cellular concrete block masonry
BS:5628 Pt.1, 2 & 3	Code of practice for use of masonry

LIST OF APPROVALS

CPWD NE Region

Assam PWD

Meghalaya PWD

IIT Guwahati

IIIT Guwahati

RITES

Indian Oil Corporation

Assam Electrical Grid Corporation Ltd.

Assam Tourism

National Institute of Technology

National Health Mission Projects

Mizoram PWD Projects

Assam Rifles

Engineering Projects India Limited

FCI Projects

ADB Funded Schools Projects

Public Health Enterprise Projects

Hindustan Pre Fab Ltd.

NBCC (India Ltd.) Projects

Power Grid Corporation Ltd. Projects

CERTIFICATIONS

B.I.S. 2185:1984 (Part-3)

ISO 9001:2008

ISO 14004:2004

IGBC Approved & Certified

Bhutan Standard Bureau

OUR PROJECTS



ASSAM ADMIN. BUILDING : PWD



HOTEL NOVOTEL : GUWAHATI



ROYAL PARK : GUWAHATI



PARK PANORAMA : GUWAHATI



IIT CAMPUS : GUWAHATI

OUR PROJECTS



NEW SECRETARIAT BUILDING : DISPUR



EXOTICA GREENS : GUWAHATI



PWD AUDITORIUM : GUWAHATI



GANESH TAMULI ENGINEERING



COMMERCIAL PROJECT : GUWAHATI

OUR FACTORY



OUR TEAM



BRIKOLITE FAQs

How BRIKOLITE AAC Blocks should be stacked?

AAC Blocks stacking should be preferably done on Pallet to protect the bottom blocks from dampness. Ground should be clean and leveled. Blocks should be kept on its height side as we construct the wall. Height of Stacking may be taken as 1200-1500 mm. Blocks should be kept lightly on stack to avoid any possible damage during stacking. Blocks must not be lifted or placed rubbing above one another. Blocks must be stacked in systematic arrangement so that counting of same may be easier.

How to prevent cracks in AAC Block?

Deflection of beam, soil settlement to one side, uneven placing of blocks during construction are some reasons of wall cracking. Structural Movements due to Thermal Expansion or change in moisture content or moisture movement can also be the reason. To overcome this, AAC block use must be delayed till equilibrium moisture content is reached. For this purpose MC blocks must be stored 10-15 days prior to its application. Cracks appear in all types of concrete including clay brick. By using some construction techniques and proper workmanship we can minimize these cracks. Leveling of blocks should be accurate and must be checked using Spirit level preferably of 2 meter length. First Course of Blocks should be given sufficient time to set, at least 24 hours must be given. Framed Structure should be given enough time to set to cure and settle at least for 24 hours so that any change in structure due to structure movement can be noticed. Control Joint of 10 mm must be given after every 3 meter from bottom to top of wall. Control joint must be filled with some resilient material or backer-rod which are more easily compressed and sealed with caulking. Expansion Joint Tiles must be given after every 3rd course and placed between gaps of control joint. Bond beam must be given after every 1200 mm in height using reinforcement of two MS rods of 8 mm tied with 6-8 mm steel with a gap of 6'-9". Minimum thickness of bond beam must be taken 3" with concrete cover 15-20 mm on sides. Bond beam must be discontinuous at control joint. Steel rods must be embedded in column 5-6 times of its diameter and must be fixed using non shrinkable high strength grout. Mortar Mix for filling the bond beam can be taken as Cement : Sand in the ratio 1:4. Purpose of bond beam is to give stability and strength to the wall. After every 3rd course, Wall ties must be used between block and concrete column.

Due to excessive change in moisture content, all concrete including AAC exhibit change in volume. For this purpose it is recommended to delay use of AAC for construction by 10-15 days so that MC blocks can achieve equilibrium moisture content.

What are the Water Absorption Parameters?

Water Absorption Test (4) 24 hour water immersion is not given in Standard of AAC Blocks IS-2185 Part-3. It is recommended to test thermal insulating wall elements like AAC for Capillary water absorption. AAC Block is superior for capillary water absorption in comparison to conventional brick. Like red clay brick, AAC is not recommended to use in foundations and damp environment, so water absorption test is not applicable for AAC.

What is the reason for moisten of Block prior to its application?

When we apply mortar on blocks. AAC absorbs certain amount of water from mortar mix and mix may get crack so prior moisten of blocks is essential. For this purpose we sprinkle the block top and side surface with water for few seconds. Purpose is to wet the surface of blocks. Never do too much wetting of blocks.

How is the Nailing & Electrical Chasing Work done?

Normal nails once fixed may come out. Use fasteners or screwed nail. Anchors made of plastic and nylon will work. Use power drill for anchoring. For electrical conducting (Jhari), preferably use electric chaser (Jhari making machine). It gives fine and accurate chasing and no impact on AAC wall. Manual chasing using normal chisel should be avoided.

What type of Plaster to use?

Use any non-shrinkage mortar. First apply thin cement slurry on chase and fix fiber mesh then apply non shrinkable mortar.

What should be the thickness of the Wall?

BRIKOLITE AAC Block recommends. wall can be constructed of minimum 125mm for internal wall purpose & 150mm for external wall purpose.

How to check compressive strength of the Blocks?

A Low Capacity compression testing machine of 250 KN and cutting Machine is recommended for testing compressive strength of MC blocks. High Capacity Machines of 2000-3000 KN are not recommended to use. Follow the testing guidelines as mentioned in IS-6441 Part-5. There is difference between immediate density and oven dry density. In normal condition, MC blocks have certain moisture content so their density is observed higher but for testing purpose, we dry the sample at 105°C for 4-5 days till constant weight is achieved and then we obtain moisture free density or dry density. After this we can achieve the desired result. Refer IS-6441 Part-1 for testing the oven dry density.

REACH OUT TO US

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Sustainable & Economical

