



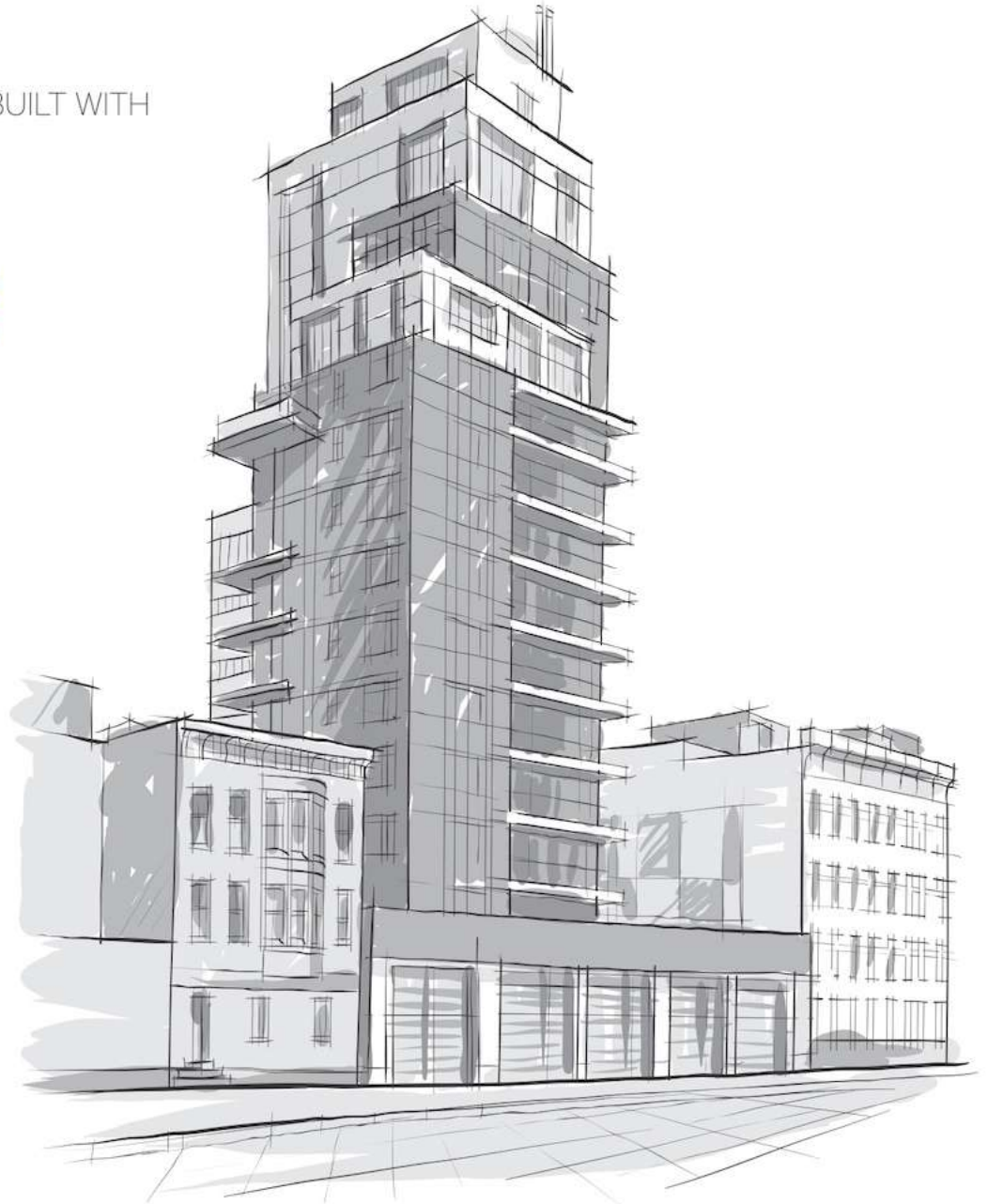
Orilite

New Age Building Solutions

LET YOUR CONSTRUCTION BE BUILT WITH

**STRONG
LIGHT
DURABLE**

NEW AGE BUILDING SOLUTIONS



2185-PT-3



CML8400145510



About Orilite

Oriental Power Cables Limited is a leading manufacturer of Autoclaved Aerated Concrete (AAC) products under the brand name ORILITE. AAC is an extremely innovative, fire resistant, green building material that is pre-cast, lightweight, strong with superior thermal and sound insulation properties. ORILITE is available in the form of blocks and reinforced panels for a wide range of both load bearing and non-load bearing construction applications. The product range includes blocks and panels of different classes and dimensions.

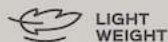
Advantages of construction with **ORILITE**.

- High floor space area.
- Labour cost savings.
- Speedy construction.
- High workability quotient (can easily be cut, chased etc).
- Foundation sizes minimized (due to light weight construction).
- Support structure minimized (due to light weight construction).

Products and systems have been developed for all types of construction Industry

- Residential Buildings
- Industrial Sheds
- Commercial Buildings
- High-Rise Buildings
- Hotels
- Schools
- Hospitals and more.

Why Orilite is far better than conventional clay bricks?



LIGHT WEIGHT

Orilite blocks are one third of the weight of Clay Bricks and can be easily handled.

Clay Bricks are heavy.



RAPID CONSTRUCTION

ORILITE enables genuine cost savings as construction time is reduced and labour costs are minimized.

No such saving from clay bricks



THERMAL INSULATION

Unique cellular structure of ORILITE provides good insulation properties, keeping building cool in summers and warm in winters.

Clay Bricks have less insulation properties.



ACOUSTIC PROPERTIES

With sound transmission class of upto 40dB, ORILITE show better resistance to sound transmission.

Clay Bricks have less acoustic performance and cannot be used as a effective sound barrier.



MECHANICAL PROPERTIES

It is easy to cut, saw, drill, chase with tools manually just like wood.

Clay bricks does not have great mechanical properties.



FIRE RESISTANT

Best in class, fire rating of 4-6 hours. It will prevent the spread of fire to other room.

Clay Bricks do not help to prevent the spread of fire.



ACCURACY

The completely automated manufacturing process ensures that ORILITE panels and blocks are always produced to accurate size.

Clay bricks are available in irregular sizes.



NON TOXIC

ORILITE products are made of inorganic compound and do not contain any toxic gas substances.

Clay Bricks contain toxic gas substances and volatile organic compounds.



ANTI TERMITE

Termites hate ORILITE. Being made of inorganic minerals, it does not promote growth of molds, pests or insects.

Clay Bricks may be affected by termite if they contain some organic material or have some moisture content.



ENVIRONMENT PROTECTION

Designed for consumers who are environmentally conscious. It helps reduce at least 30% of environmental waste.

Pollutes air at the time of the manufacturing of clay bricks. It is not an environment friendly product.

What other benefits ORILITE brings?



HIGH FLOOR SPACE AREA

Various options available with ORILITE, can save floor space area between 4-5%..



VERSATILITY

ORILITE adapts to every structural surface. It is suitable for floors, exterior and interior walls, roofs, elevator shafts, stairwells etc, thus making ORILITE as most flexible material in all the applications.



HIGH STRENGTH MATERIAL

High pressure autoclaving process gives ORILITE unmatched strength to weight ratio. Compressive Strength of ORILITE ranges from - 4.0 - 5.0 N/mm².



SAVES TIME

Constructions with ORILITE saves time because of sizes, ease of work, zero curing etc.



SAVES WATER

Globally construction of buildings consume 16% of water. A large portion of this goes in curing the surface while construction. Use of ORILITE range in construction reduces the consumption of water to 3% thus contributing in saving of natural resources.



DURABILITY POTENTIAL/ WEATHER RESISTANCE

ORILITE products are very durable and will not degrade under normal climatic conditions. They have outstanding durability characteristics over traditional materials relative to humidity, freeze/thaw cycles and chemical attack.



SAVE ELECTRICITY COSTS

Due to excellent thermal insulation properties, ORILITE reduces the consumption for air conditioning or heating system in the buildings. It helps to control temperature upto 30% inside the building hence saving electricity costs.



EARTHQUAKE RESISTANCE

Earthquake forces on structure are proportional to the weight of the building. ORILITE system permits a designer to reduce the mass of the structure, limiting the impact of accelerations introduced in seismic situation. Best option for higher seismic zone.



Cost Impact Analysis Compared to Bricks

COST COMPONENT	SAVING IN COMPONENT	ESTIMATED IMPACT ON PROJECT COST	EXPLANATION
MORTAR	61%	1.2%	ORILITE blocks are 8 times the size of conventional bricks, resulting in 1/3rd the number of joints.
STRUCTURE STEEL & CONCRETE	20%	6.25%	Being light weight, ORILITE blocks drastically reduce dead weight of the building, resulting in reduction in steel and cement utilized in structure.
WASTAGE	5%	0.25%	Breakage in Bricks might be as high as 12-15% and in case of ORILITE Blocks, it is much less.
SAVING IN LABOUR COST	10%	3.1%	Relatively larger sizes, exceptional dimensional and smooth surface ensure rapid construction and more walls laid per min hour.
SAVING IN FLOOR SPACE	4.5%	11.25%	Due to exceptional thermal insulation properties, it is possible to use thinner blocks, which results in increase in carpet area .

TOTAL IMPACT ON PROJECT COST

22.05%

• Selling Rate of Floor Space @ 2500/Sqft and considered Floor Area 3 BHK Apartment.

ORILITE STANDARD BLOCKS

ORILITE Autoclaved Aerated Concrete Blocks can be used to build load-bearing and non load-bearing walls.

AVAILABLE DIMENSIONS (MM)

Length : 650
Height : 200, 250
Width : 75 to 300 (with 25 mm increment)



BLOCK SIZES

S.NO.	SIZE (MM)			QUANTITY OF BLOCKS IN NOS		QUANTITY OF BLOCKS IN CUM	THIN BED MORTAR (ORIFIX) REQUIRED FOR 1 CUM WALL VOLUME	
	L	H	W	FOR 100SQFT	FOR 1 CUM	FOR 100 SQFT	(KG/CUM)	
1	650	X	200 X	75	71.49	102.56	0.70	25.60
2	650	X	200 X	100	71.49	76.92	0.93	25.69
3	650	X	200 X	150	71.49	51.28	1.39	25.78
4	650	X	200 X	200	71.49	38.46	1.86	25.69
5	650	X	200 X	225	71.49	34.19	2.09	25.72
6	650	X	250 X	100	57.19	61.54	0.93	21.82
7	650	X	250 X	150	57.19	41.03	1.39	21.90
8	650	X	250 X	200	57.19	30.77	1.86	21.82
9	650	X	250 X	225	57.19	27.35	2.09	21.84
10	650	X	250 X	250	57.19	24.62	2.32	21.87
11	650	X	250 X	300	57.19	20.51	2.79	21.82

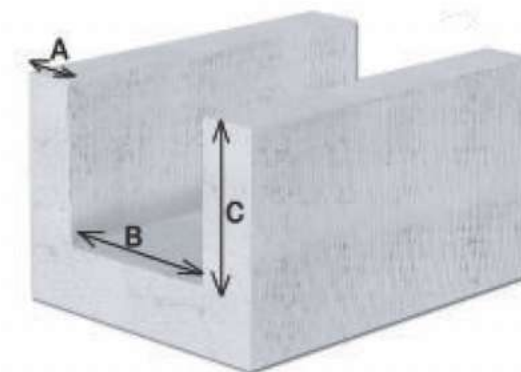
Note : Calculation of Blocks is considered without wastage, bond beam and thickness of jointing mortar.

ORILITE U BLOCK

Orilite U blocks are a special type of block which can be used to build bond beams, lintels & vertical mullions as per structural requirement of block masonry. Orilite U block may be used to support for laying of cables and pipe also.

AVAILABLE DIMENSIONS (MM)

Length : 650 MM
Height : 200, 250 MM
Width : 100,150,200 MM



SELECTION OF U BLOCK AS PER THICKNESS

S.NO.	Block Width (mm)		Groove Size (mm)	
	A	B	C	
1	100	25	50	150
2	150	50	50	150
3	200	50	100	150



For Bond Beam



CONCRETE MULLION

For Concrete Mullion



For Laying of Cables

ORIFIX THIN BED MORTAR



ORIFIX is a factory prepared blend of carefully selected raw materials, Portland cement and graded aggregates and polymers. Designed for use with water to produce high strength thixotropic mortar, for laying Aerated, light weight concrete, Fly ash bricks, cement hollow blocks, Cellular concrete blocks or smoothing over the block work surface in layers of up to 3mm thickness, that meets and exceeds the requirements of National and International standards.

TECHNICAL DATA SHEET

Test		Result
Appearance		Grey
Water Demand		30-35%
Bulk Density (gm/ml)		1.40-1.45
Pot Life		90 Min
Shelf Life		1 Yr.
Self Curing		Yes
Tensile Adhesion Strength	14 Days	0.41N/mm ² (IS-15477)
	28 Days	0.74N/mm ² (IS-15477)
Compressive Strength	14 Days	2.46N/mm ² (IS-2542)
	28 Days	4.76N/mm ² (IS-2542)
Flexural Adhesion Strength	14 Days	2.05N/mm ² (IS-2542)
	28 Days	3.26N/mm ² (IS-2542)

PREPARATION APPLICATION



Mix Oriflex Thin bed mortar in 30-35% of water.



Mix first for 5-10 min by electrical mixer to mix homogeneously.



Allow mortar to stand for 5 min.



Now clean the surface of blocks using suitable tools like brush.



Wet the surface of blocks before applying mortar.



Use spirit level and fibre hammer to remove any air Gaps in between blocks for proper jointing and alignment.



Mortar should be spread on all sides of block way to maintain the bond thickness 2-3 mm.



Do not disturb the wall after application of mortar for at least 24hrs.

KEY FEATURES



ORIFINISH WHITE CEMENT BASED PUTTY



Orifinish Wall putty is a finish coat applied on the wall and ceilings to cover unevenness and pinholes on the plastered wall. Its not only strengthening the walls but also protects expensive paint from dampness and moisture. That as per the norms of National and International standards.

TECHNICAL DATA SHEET

Test	Result
Bulk Density (gm/ml)	1.004
Pot Life	90 Min
Shelf Life	1 year from date of manufacturing
Water Demand	35-38%
Tensile Adhesion Strength - 28 days, N/mm ²	>1.0, EN 1348
Compressive Strength - 28 days, N/mm ²	8.0, En196
Water Absorption Coefficient (kg/m ² /H1/2)	<1.0, DIN52617
Touch Dry Time	19-22 Min
Water Capillary (ml) Absorption (24 hr)	0.8, Karsten Tube
Water Retentivity (%)	>98, En196
Coverage (Single Coat)	18-20 Sq.ft./Kg

PREPARATION APPLICATION



- Surface shall be plastered or made with cementitious material & totally clean.
- Surface shall be moderately rough (Neither too-rough nor too-smooth).
- Surface shall be just wet.
- Apply first coat.
- Use spatula / blade / trowel on the wall with "bottom to top" configuration.
- Apply second coat preferably after @ 8 hrs in hot season & after overnight in cold season.
- Second coat if needed to be applied to even out.
- Re-mix putty paste again for @ 1 minute, if it is left un-disturbed for @ 30 minutes.
- Allow to dry completely. To get extra smooth finish apply two coat of fine Orifinish wall putty maximum up to 1mm total thickness.
- Allow complete dry. Paint could be done after complete drying of putty normally after 3 days.

KEY FEATURES





Oritilo TILE ADHESIVE

Oritilo 101 is pre-mixed, self-curing and specially formulated from Portland cement, selected fine sand, and polymers to improve its essential properties for laying Vitrified tiles, ceramic tiles and small format stone on interior floor & wall. Oritilo 101 is fast & efficient, requires less amount of material, cost effective and its bonding strength is superior from conventional sand cement mortar. Oritilo 101 complies the IS 15477 – Type 2 Adhesive standards.

Substrate : RCC /PCC concrete surface, Concrete / Brick masonry, Cement plaster / Mortar bed, rough tiles & stone

TECHNICAL DATA SHEET

Required Test	Required Standard Code	Result
Bulk Density		1.28 gm/ml
Water Demand by Weight		26 % -30 %
Pot Life		3hr
Self life		12 month
Adjustability	IS:15477	25min
Shear Adhesion Strength	IS:15477 - Dry condition 24 h under normal laboratory conditions (4.0KN)	>4.0KN
	IS:15477 - Dry condition 14 days under normal laboratory (10.0KN)	>10.0KN
	IS:15477 - Heat aging conditions 7 days under normal laboratory conditions followed by 7 days at 100+ 2°C, and (5.0KN)	>5.0KN
	IS:15477 - Wet conditions 7 Days under normal laboratory conditions followed by 7 days in water at laboratory temperature. (5.0KN)	>5.0 KN
Coverage *		Approx 55-60 sft per 20kg bag with 1/4" x 1/4" (6mm x6mm) square notched trowel for average bed of 3mm.

- PREPARATION APPLICATION**
- Mix the dry adhesive with the potable water 26 to 30 % by weight .
 - Apply adhesive to the substrate with the flat side of the trowel, pressing firmly to work into surface.
 - Comb on additional adhesive with the notched side. Spread as much adhesive as can be covered with tile in 10 minutes.
 - Back butter large format tiles (> 12"x12") to provide full bedding and firm support. Place tiles into wet, sticky adhesive and beat in using a beating block and rubber mallet to imbed tile and adjust level.
 - Check adhesive for complete coverage by periodically removing a tile and inspecting bedding adhesive transfer onto back of tile.
 - Use spacers to provide grout joints between tiles / stones. Remove the spacers when the adhesive is set firm.

KEY FEATURES

- EASY TO USE
- BONDING STRENGTH
- THIN JOINTS
- SELF CURING
- LOW SHRINKAGE

ORICOL MARINE

Oricol marine is specially designed for bonding in furniture, which is exposed to water or placed in high humidity areas.



TECHNICAL DATA SHEET

Sr.No.	Specifications	Observations
1	Appearance	Milky white emulsion
2	Viscosity at 30 ± 2 °C, L-4, 30rpm	12848 cp
3	Solid	48.60%
4	pH	2.5-5.0
5	Flow	Continuous
6	Spread ability	Smooth and easy
7	Appearance of polymer film	Slightly opaque, soft film.
8	Standard	EN 204 D3
9	Green building norms	LOW VOC
10	Formaldehyde	Free
11	Shelf Life	Best to use before 12 Months from the date of manufacture if stored in cool & dry place.

USES

- For bonding wood,plywood,laminates,veneers,particle board,block board,MDF to each other.
- Kitchen units,wall units,bathroom where exposure water is high.
- Sports goods,paper labelling,paper tube,wall paper.

PREPARATION APPLICATION

Oricol marine can be applied with brush, roller, spreader or finger.The usual procedure to be followed is:

- Clean both the surfaces to be bonded.
- Apply a thin coat of oricol marine on both or one surface (as a requirement).
- Press the two surfaces together and keep under pressure till the adhesive dries completely.
- Excess adhesive pressed outside the joints should be wiped out with a wet cloth.

KEY FEATURES

- WATER RESISTANT ADHESIVE
- WEATHER PROOF
- ANTI-TERMITE FORMULA
- HIGHER COVERAGE

Material properties of **ORILITE AAC**

S.N.	Characteristics	Unit	Value
1	Compressive Strength	N/mm ²	4.0 to 5.0
2	Density in Oven Dry Condition	kg/m ³	551 to 700
3	Thermal Expansion Coefficient	/°K	8 x 10 ⁶
4	Thermal Conductivity Air Dry Condition	W/m.K	0.15 to 0.26
5	Modulus of Elasticity	N/mm ²	2000 to 2330
6	Modulus of Rupture	N/mm ²	0.8 to 0.9
7	Fire Resistance	Hours	2-4
8	Sound Insulation	dB	40 for 200 mm wall



Hand Tools recommended to use with **ORILITE**



NOTCHED TROWEL

This tool comes in same width as the available ORILITE products. Notched teeth ensure even mortar distribution.



SAW - WITH CARBIDE TEETH (HALF / FULL WIDTH)

This hand saw is big enough with long blade for cutting ORILITE blocks (just like wood).



RUBBER MALLET

Used for aligning and adjusting blocks.



MULTIPOR HAND BRUSH

It is used to remove dust from the surface of the ORILITE blocks before installation.



PUTTY BLADE

Used to fill the gaps of joints & clean the PMC Mortar from block surface.



SAW GUIDE

For a perfect fit and right-angled cut.



MIXER

It is used for mixing ORIFIX mortar.



ANGLE GRINDER

It is used for chiselling due to MEP services in block wall.



PLASTIC BUCKET

Used for Mortar Preparation.

Installation Guidelines for ORILITE Blocks Masonry Construction



STEP 1

Layout walls lines on the building slab. The surface should be in level. Clean the surface by water.



STEP 2

Place full width maximum" thick sand cement (1:6)mortar for levelling. If floor is unlevelled more then 1" then do concreting (with 6mm aggregate).Minimum 7 days curing is required.



STEP 3

Make a mixture of Polymer Modified Cement (thin bed mortar) with the mortar mixer rod such that it easily flows through a mortar bed's teeth ratio (water: PMC:: 1:3). Use notch trowel to spread mortar of 2-4mm thickness.



STEP 4

Clean the block from dust and spray the water on block. Set the first corner block on the mortar bed, using rubber mallet. If RCC column is there then do hacking minimum of 20 no. in 1 sq.ft. before start.



STEP 5

Set the second corner block using PMC mortar with a joint of thickness 2-4 mm and push towards corner block by rubber mallet.



STEP 6

After building the corners, level them using a spirit level. If any difference in level then adjust by cement sand mortar.



STEP 7

For installing the second course of blocks, one block at a time. Install blocks with minimum 8" overlap. Vertical joint should not be in single line.



STEP 8

Apply PMC to the head and bed joints of AAC blocks, one block at a time. Install blocks with minimum 8" overlap. Vertical joint should not be in single line.



STEP 9

Move every block close to the head joint before lowering the block on a bed joint. Check vertical level of masonry by spirit level.



STEP 10

Clean off spilled thin bed mortar and repeat the same steps for subsequent courses.



STEP 11

Provide joint reinforcements /bond beam as per details in Reinforcement section in block wall. Provide mullions/-control Joint after each 6m length of wall.



STEP 12

Install lintels with minimum bearing 8 inches.



STEP 13

Fill all joint gape if they are not filled by PMC. do not try to patch on outer surface without filling gape.

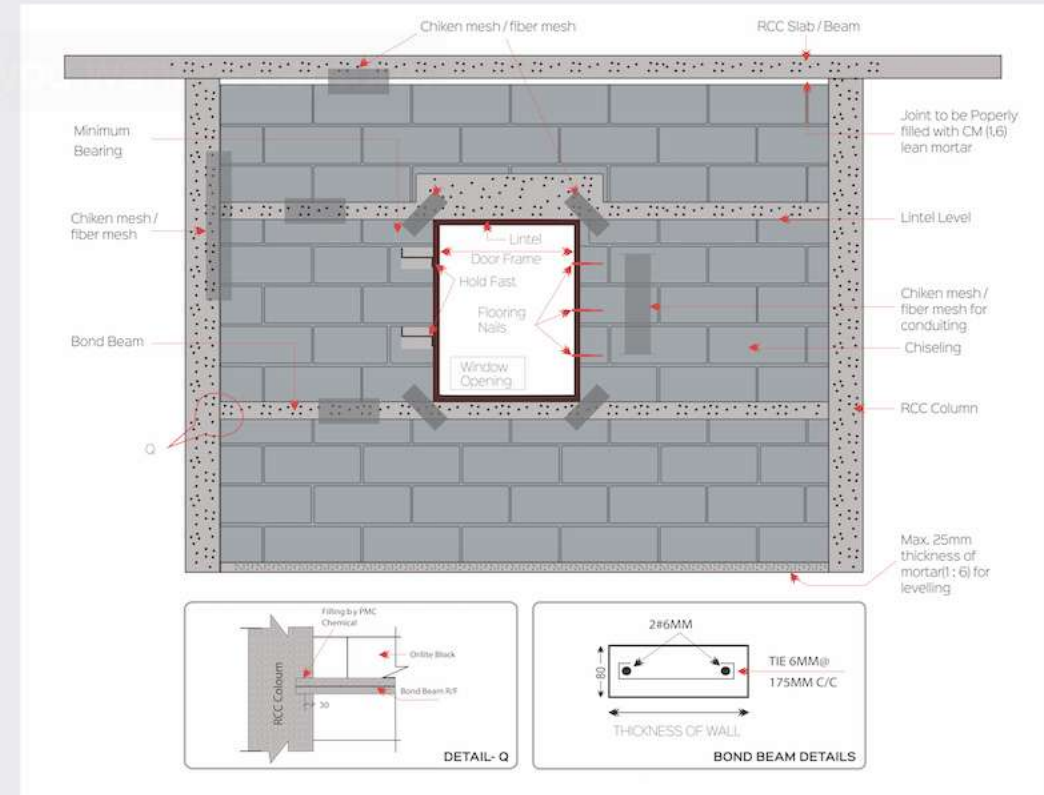


Reinforcement

To minimize the effects of shrinkage, tensile & diagonal cracking and to enhance stability, it is recommended to provide joint reinforcement or nominal bond beams.

(1) Joint reinforcement Option – refer clause 4.6.5 - IS 6041-1985.

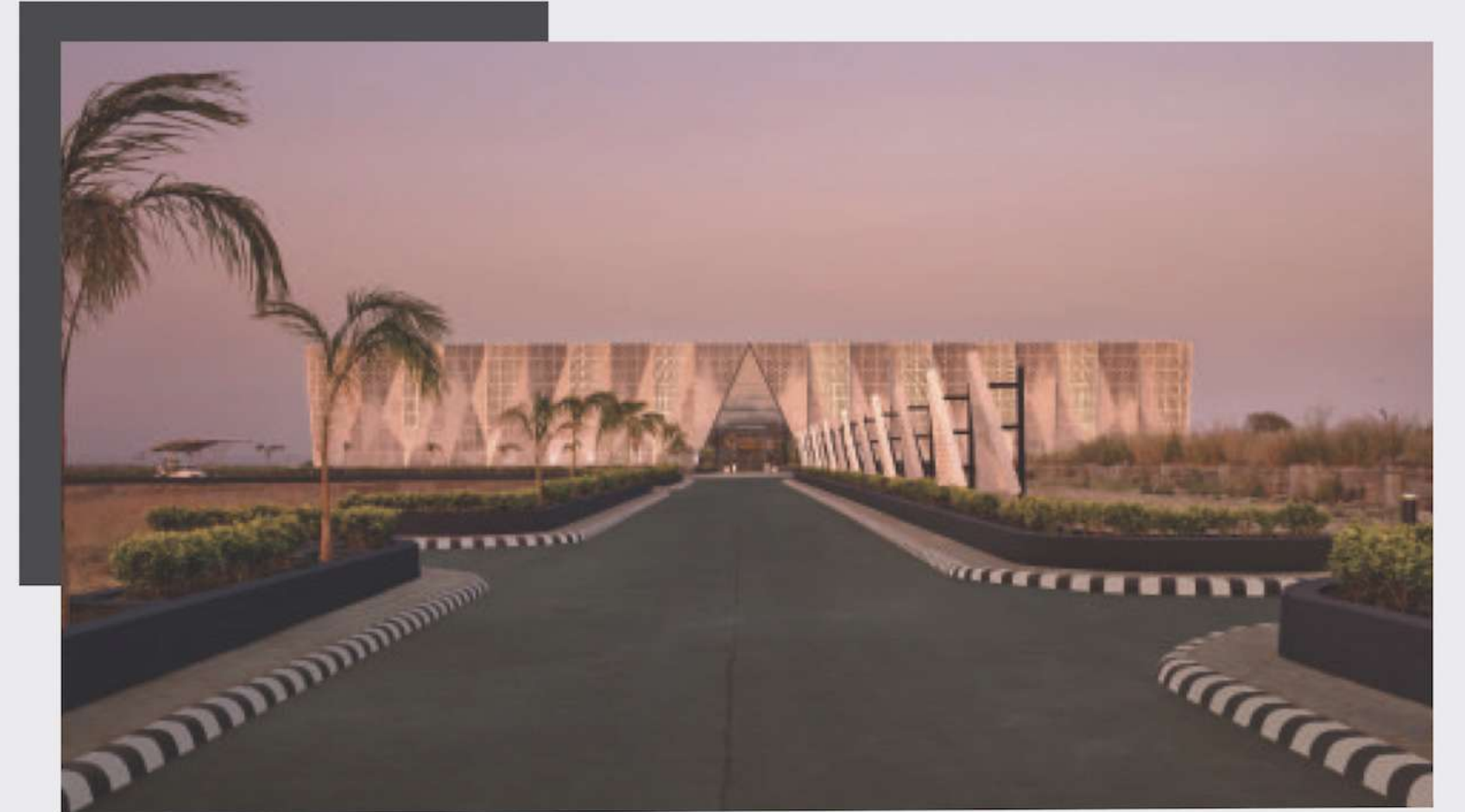
(2) Nominal Bond Beam option -As per clause 4.6.4 BIS 6041 -1985 , provide minimum 2 no. of 6 mm HYSD longitudinal bar and tie bar of 6mm dia. in 175 mm c/c spacing in bond beam as per the image shown below. Keep minimum thickness 80mm & width as per wall thickness. It has to place at sill level & lintel level for large height of wall keep vertical distance in between bond beam maximum 1200 mm .



Few Completed Projects



Few completed projects



Trusted by the LEADERS



Trusted by the LEADERS

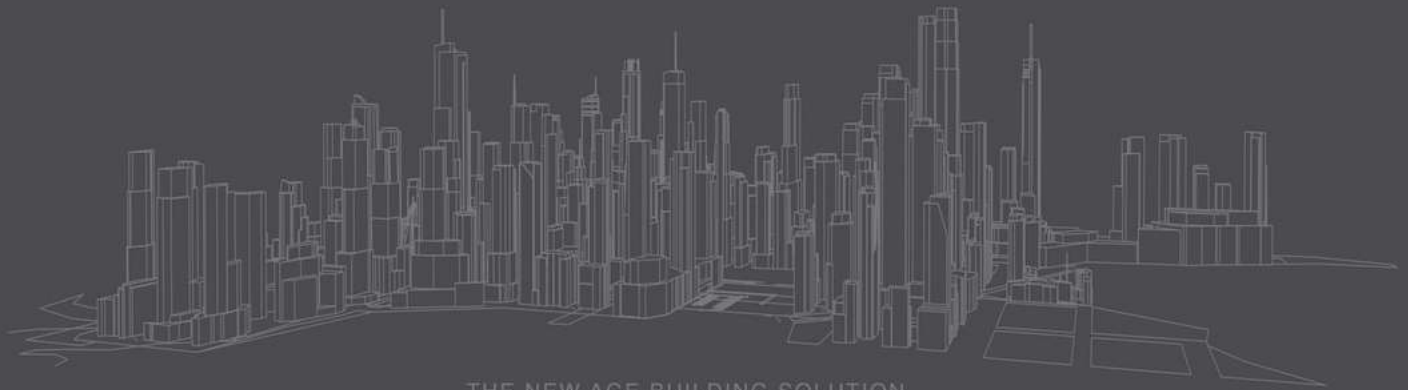


Trusted by the LEADERS



Do's and Don'ts of ORILITE AAC Blocks

	<p>DO NOT STACK THE AAC BLOCKS IN HAPHAZARD MANNER.</p>		<p>MINIMUM LINTEL BEARING 1/3rd OF BLOCK LENGTH.</p>
	<p>DO NOT LEAVE THE AAC BLOCKS ON WET SURFACE.</p>		<p>DO NOT CONSTRUCT WALL WITHOUT JOINT REINFORCEMENT OR COPING BEAM.</p>
	<p>ALWAYS CUT THE AAC BLOCKS USING CARBIDE TIPPED SAW.</p>		<p>DO NOT WET THE WALL ONLY SPRAY THE WATER ON COPING BEAM.</p>
	<p>USE NOTCHED TROWEL FOR SPREADING THINBED MORTAR.</p>		<p>PROVIDE CONTROL JOINT FOR LONGER THAN 6 M WALL.</p>
	<p>DO NOT DIRECTLY APPLY THIN BED MORTAR BETWEEN AAC BLOCK OR RCC COLUMN.</p>		<p>USE HAND OR ELECTRIC ROUTER FOR CHISELLING.</p>
	<p>USE BRUSH TO MOISTEN AND CLEAN AAC BLOCKS BEFORE USING.</p>		<p>REFILLED CHASES WITH LEANER PLASTER IN MORTAR (CM:1:8).</p>
	<p>DO NOT LAY MORE THAN SIX LAYERS OF BLOCKS IN A DAY.</p>		<p>USE CHICKEN MESH/GLASS FIBRE MESH ON CHASE SURFACE AND DISSIMILAR JOINT BEFORE PLASTER.</p>
	<p>DO NOT USE MORE THAN 4MM THICK THIN BED MORTAR & DONT OVER PATCH ON JOINT.</p>		<p>DO NOT PROVIDE CM PLASTER OF THICKNESS MORE THAN 10MM IN SINGLE COAT.</p>



THE NEW AGE BUILDING SOLUTION

ORIENTAL POWER CABLES LTD.

Manufacturers of Precast Building Solutions

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