



# LITE WEIGHT CONCRETE

KEEP YOUR ENVIRONMENT LUXURY & COOL

## লাইট ওয়েট কংক্রিট

প্রস্তুতকারক প্রতিষ্ঠান আই এফ ইঞ্জিনিয়ারিং



HBRI



BUET



MIST



### OUR SERVICES

- Raise Floor
- Site Casting
- Partition Wall
- Foaming Agent
- Waterproofing Chemical Treatment
- Rooftop Heat Insulation(Jol-Chad)

### OUR PRODUCTS

- CLC Block
- Cover Block
- Pavement Tiles
- Uni Paver Block
- Precast Boundary Wall
- Lite Weight Concrete Block

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# What is Lite Weight Concrete ?

*LITE WEIGHT CONCRETE has developed a new innovation concept for production of LITE WEIGHT CONCRETE block to be used as building materials. LITE WEIGHT CONCRETE is made of air bubbles in the form of a foam & then mixing the foam into a cement. The slurry is then poured into moulds. Foam blocks slurries have higher cement contents.*

## Why Choose Lite Weight Concrete Block ?



### Light Weight :

Blocks are lightweight, strong & durable so saving in structures & foundation.



### Heat Insulation :

It provides superior thermal insulation so reduces the heating & cooling expenses



### Fire Resistant :

Blocks products are weather proof, termite resistant & fire proof



### Earthquake Resistant :

it's lightness increases resistance against earthquake so less damage & Save Your assets.



### Environment Friendly :

it is manufactured with 100% recycled resource. It has a dramatic impact on emission of Green House Gases.



### Workability:

Blocks products are in a rectangular or in shapes as required. It can be sawed, drilled & shaped like wood using standard hand tools.



## Advantages

The saving in consumption of Reinforcing Steel & Cement due to over 50% reduction in weight of the walls. The cost of plaster finished in LITE WEIGHT CONCRETE block walls is much lower than the corresponding brick wall. The saving in the number of piles or raft footings for foundations due to dead weight reduction thermal, The saving in energy cost due to thermal insulating properties. Increased carpet area with the same built-up area due to lesser thickness of wall in and cladding. Due to the bigger size of LITE WEIGHT CONCRETE blocks, there are a less number of joints in the masonry, thereby resulting in savings in cement, sand and water which are costly as well as scarce. Uniform and bigger size of block enables speedy construction,

## Maximum Benefit to Whom

LITE WEIGHT CONCRETE is an excellent solution for home walls, floors & ceilings and it ensures Maximum Benefits towards:

**High Rise Building:** LITE WEIGHT CONCRETE IS lightweight, strong & durable so it saves 20% 25% in structure & foundation of high rise building costs.

**Storage :** LITE WEIGHT CONCRETE is weather proof, termite resistant & fire Proof thus save money. Blocks are available in wide range of density from 300kg/m<sup>3</sup> to 650kg/m<sup>3</sup> of average compressive strength of 500-900 PSI

**Cold Storage:** LITE WEIGHT CONCRETE provides superior thermal insulation reduces the heating & cooling expenses substantially



# CELLULAR LIGHTWEIGHT CONCRETE (CLC)



CLC Blocks (Cellular Light Weight Concrete Blocks) are made of Cellular Light weight concrete (CLC) or Foam Concrete. Cellular Light Weight Concrete (CLC) is a light weight concrete that is produced by mixing cement and White Sand slurry with pre-formed foam. These CLC blocks are competitive with red clay bricks in pricing and offer significant savings for finished structures.

## Advantages of CLC blocks in Construction

**Light in Weight:** The density of CLC blocks vary from 600 to 800 Kg/cum. This is almost three times less than the traditional clay bricks or flyash bricks.

**Reduced Construction Cost:** The overall dead load of structure is decreased when CLC blocks are used in construction. By optimizing the design accordingly house owners can save money on major construction materials like cement and steel.

**Eco friendly:** CLC blocks are made of material such as White Sand and other industrial wastes. The production process of CLC blocks don't release any harmful effluents that affects ground, water or air.

**Sound and Thermal Insulation:** CLC Blocks are excellent for both Sound insulation and Heat Insulation. This decreases the energy spent on heating and cooling the houses thereby decreasing the electricity

**Lower Water Absorption:** Due to the presence of air pockets which are not interconnected, the water absorption of CLC blocks are relatively lower than any other materials. This compares much better than concrete 50% and ordinary brick, which has water absorption of around 50% to 80%. The low water absorption property of these blocks will help to reduce the cracks in the walls.

**Fire Protection:** Foam concrete blocks offers grate fire protection. With a just 100mm thickness of wall with density of 1000 kg/m<sup>3</sup>, offers fire endurance for heat transmission for 4 hours without releasing any toxic fumes during the fire. Fire rating of cellular concrete is far superior to that of brickwork or dense concrete.

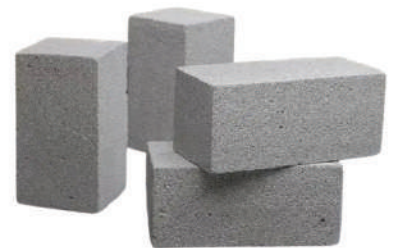
**Ease to Handling:** Due to its less weight CLC blocks are easy to handle and install, thus minimizing the construction costs. They also require lesser materials like cement and sand during construction for bonding.

## Where are CLC blocks Used ?

- ❑ Subways
- ❑ Low cost housing
- ❑ Green construction
- ❑ Precast exterior walls
- ❑ Acoustic construction
- ❑ Air-conditioned buildings
- ❑ Building material for high rises
- ❑ Roof insulation and waterproofing
- ❑ Additional floors to existing structure

## Raw materials used in Manufacturing CLC blocks

- ❑ Water
- ❑ White Sand
- ❑ Foaming agent
- ❑ Portland Cement



## Manufacturing Process of CLC blocks

For manufacturing 1 Cum of CLC bricks approximately 5 Bags of OPC 53 Grade Cement and 500 Kgs of White Sand is added into a mixer. Around 1.2 Kgs of Foaming agent diluted with 30 Litters of water is added and mixed thoroughly Foaming agent allows airs to entrain the mixture making the slurry light weighted One litter of slurry is collected from the mixer and weighed for density. If the required density is achieved, then the slurry is drained into trollies. The slurry is then poured into assembled moulds of bricks of required dimension and is allowed to set for 18 to 24 hours. Finished CLC bricks are taken to the curing area and are allowed to cure for 28 days. Good curing gives strength and dimensional stability to bricks Steam curing is also used in some cases to reduce the curing period. This is suitable for higher production rates. Steam curing requires less labor, less production cost and better finish.



## Standard Sizes of CLC blocks

CLC Blocks are usually available in the following 4 dimensions:

Thickness 3" (500 X 250 X 75)

Thickness 4" (500 X 250 X 100)

Thickness 5" (500 X 250 X 125)

Thickness 6" (500 X 250 X 150)



# Precast Boundary Wall

Precast Boundary walls are constructed by casting concrete in a reusable wall mold or form which is then cured in a controlled environment, transported to the construction site and lifted into place.

## Benefits :

- Space saving
- Cost effective
- Re installation
- Fastest installation
- More essential than bricks wall
- No labour needed For transfer one place to another place

## Features:

- High quality
- Widely used
- Timely delivery
- Completely tested

## Precast Boundary Wall Materials:

- Cement 1: Sand 2: Brick Chips 4, Ratio 1:2:4, 6mm Rod.

## Precast Boundary Wall Size:

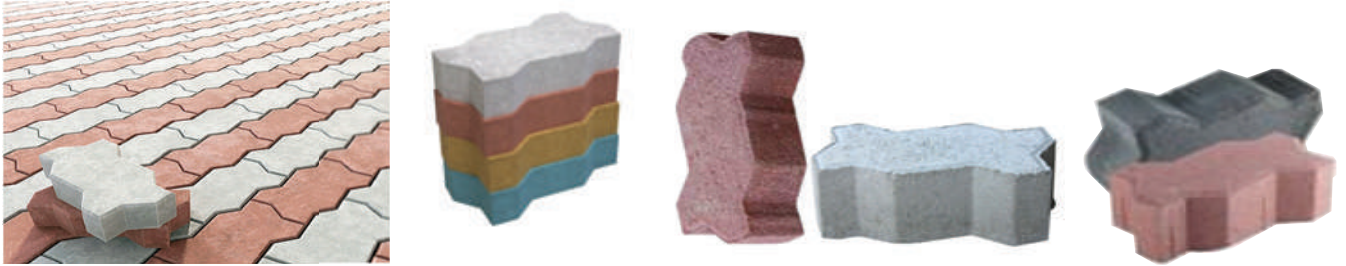
- ( Wall panel - Width 1' Height 6',Thickness 2.5" ) ( Column - 6"x 6" ,Height 11" )

<p><b>Precast Boundary Wall Materials:</b> Cement 1: Sand 2: Brick Chips 4, Ratio 1:2:4, 6mm Rod.</p>	<p>LWC Precast Boundary Wall : ( Wall - Width 1' Height 6', Thickness 2.5" ) ( Column - 6"x 6" ,Height 8" )</p>
<p><b>Great Beam :</b></p> <p>Cement 1: Sand 2: Brick Chips 4, Ratio 1:2:4, 6mm Rod.</p> <p><b>Materials:</b></p>	<p>Great Beam: Column - 6"x 6"</p>
<p><b>Basement</b></p>	<p>Basement Casting: 1'x1'</p>



# LWC UNI PAVER BLOCK

LWC Uni paver block is mainly concrete that is used in the port container yard, industrial yard, driveway, parking yard, courtyard, grade road, footpath, and many other areas. Uni-paver blocks are high-strength solid blocks and produced by high pressure and vibration. It is very popular nowadays in our developing country and many areas in cities because of its use. There are various types of color and depth concrete uni paver blocks available in our country. So you may easily design or decorate with uni paver blocks as you want.



# LWC- COVER BLOCKS

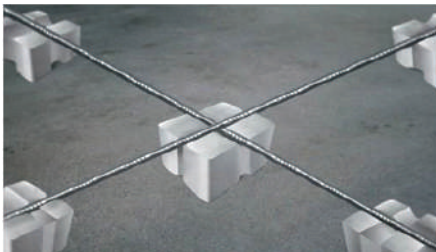
We offer a wide range of COVER BLOCKS that are suitable for various applications. We provide our range of COVER BLOCKS as per the requirements of our clients along with our standardized range. Known for better output and efficient performance, these blocks are designed in compliance with international standards.

**LWC - COVER BLOCK** is a multi dimensional concrete cover block which is used to ensure perfect clear cover to rebar in concrete structure.



## Features:

- Made with High Quality Concrete Elements
- High Compressive Strength (equivalent or greater than surrounding concrete)
- Cast in precision moulds to ensure accurate dimension - Uniform Size and Shape
- Cost Effective



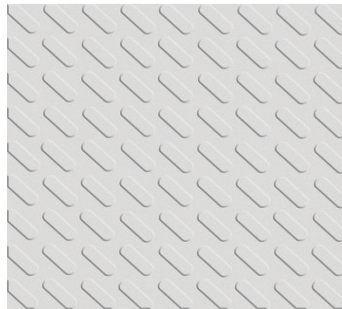
# LWC PAVEMENT TILES

LWC Pavement Tiles size (300mm x 300mm)

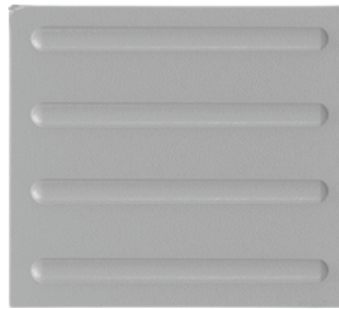
Available Three colour Red, Gray and Black



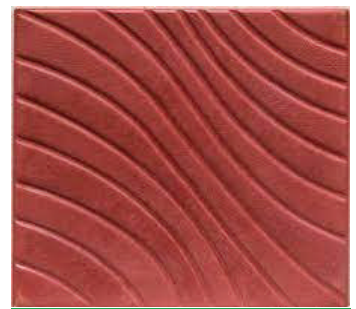
LWC Century



LWC Capsul 81



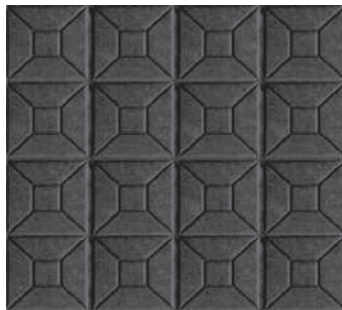
LWC 4 Beat



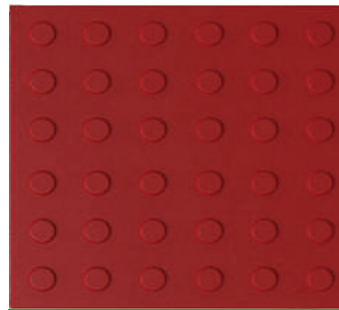
LWC Banglalink



LWC 16 BOX



LWC Ghor



LWC 36 button



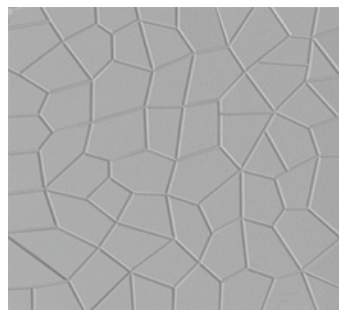
LWC Color Coll 4



LWC Brick



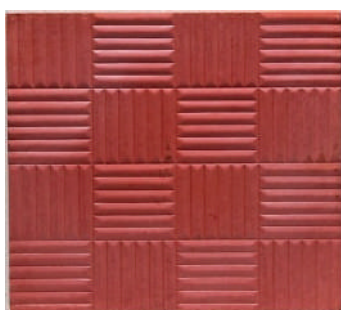
LWC 16 BOX



LWC Glass Broken



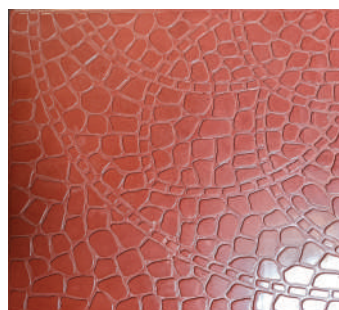
LWC Krishno



LWC Biscuit



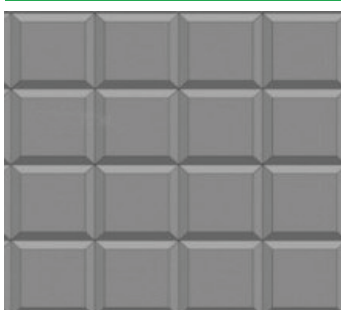
LWC Shapla



LWC Pathor Bahar



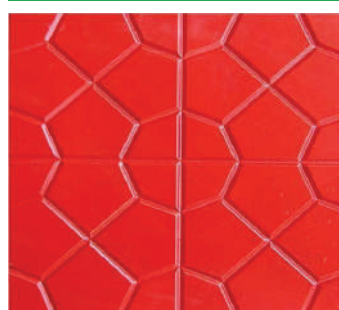
LWC Color Coll



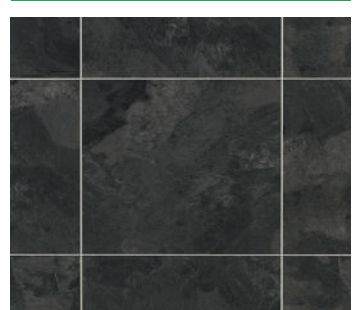
LWC Ghar



LWC Krishno 24



LWC Circle Ghar



LWC Ceramic



# RAISE FLOOR

A raised Floor is a data center construction model in which a slightly higher floor is constructed above the building's original concrete slab floor, leaving the open space created between the two for wiring or cooling infrastructure.

**Raise Floor Product Materials :-** Cement, Polystyrene Crushed Bubbles and Foaming Agent (Chemicals). It's cost is calculated on the complete works including Materials price, Mason, Helper Bills and Casting Charges .

**Raise Floor Product ratio :-** Cement 1 Bag , Polystyrene Crush Bubbles 3 Kg, Foaming Agent 300 ml and our Engineers remain present at the casting site to make sure that the ratio is maintained is strictly.



# SITE CASTING

Lite Weight Concrete Can Be Molded to Various Sizes With Required Thickness and Casting of this Concrete Can Be Done As Per Our Valuable Clients



**Site Casting Product Materials :-** Cement, Polystyrene Crushed Bubbles and Foaming Agent (Chemicals). It's cost is calculated on the complete works including Materials price, Mason, Helper Bills and Casting Charges .

**Working Process For Site Casting :-** Lite Weight Concrete Side Casting can be done at your Site/Project and we are fully equipped to do this at your site .casting can be done at your site by providing suitable slope as per your requirement.

**Casting ratio :-** Cement 1 Bag , Polystyrene Crush Bubbles 3 Kg, Foaming Agent 300 ml and our Engineers remain present at the casting site to make sure that the ratio is maintained is strictly.



# PARTITION WALL

**Lite Weight Concrete Block :** Use Our Lite Weight Concrete Block at Partition Wall for Some Advantage that's give you weight savings better than any other Block in Our Country. It has Some Extra Advantages : Weather Proof, Heat Insulation, Light Weight, Fire Resistance & ECO Friendly

The Saving in Consumption Of Reinforcing Steel & Cement due to over 50% reduction is weight of the walls. The Cost of Plaster finished in LITE WEIGHT CONCRETE Block walls is much lower than the corresponding brick wall. Increased carpet area with the same built up area due to lesser thickness of wall in and cladding. Uniform and bigger size of block enables speedy construction.



# FOAMING AGENT CHEMICAL

Chemical foaming agents generally are low-molecular-weight inorganic or organic Compounds and are usually supplied in powder or pellet form. Examples of inorganic Chemical Foaming agents include sodium bicarbonate, ammonium carbonate, ammonium bicarbonate and calcium aside. Foaming agent Chemical use for bonding One to another materials in Construction area

**Foaming agent Chemical using area**

- ☑ Lite Weight Concrete Block
- ☑ CLC Block
- ☑ Casting Situ
- ☑ Foam Generate



# WATERPROOFING CHEMICAL TREATMENT

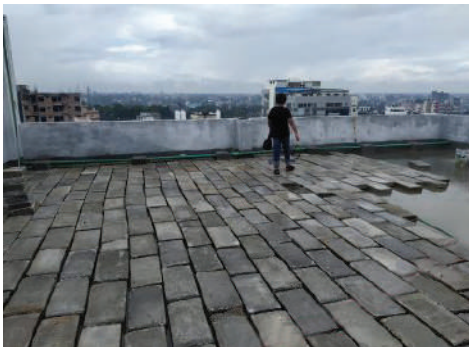
Waterproofing treatment only 1% building construction cost but when ignore, it can be responsible for almost 90% of the damage. Concrete is not Gastight & Watertight unless the pores are closed. waterproofing means treating a surface to protect it from the damage that water could bring .

**Which area in a building need Waterproofing ?**

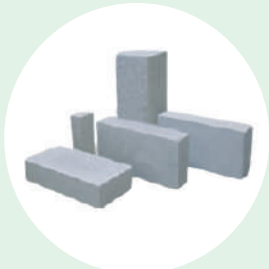


## ROOFTOP HEAT INSULATION (JOL-CHAD)

For many years, LITE WEIGHT CONCRETE is used for rooftop heat insulation (Jol-Chad). LITE WEIGHT CONCRETE has Three benefits when it is used for roofing. It provides a high degree of thermal insulation, it can be used to lay a flat roof to falls & due to low density it does not significantly add to the overall weight of the roof. LITE WEIGHT CONCRETE is a highly workable, low density material incorporating up to 50% entrained air. It is generally self levelling, self compacting and pumped. Risk of plastic shrinkage or settlement cracking is significantly lower than that of a normal concrete. It Provides Superior thermal insulation so reduce the Heating & Cooling Expenses



# OUR PRODUCTS & SERVICE



LWC Block



CLC Block



Precast Boundary Wall



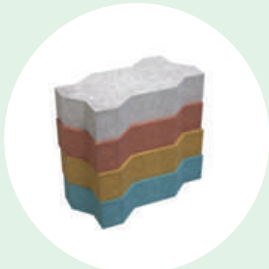
Partition Wall



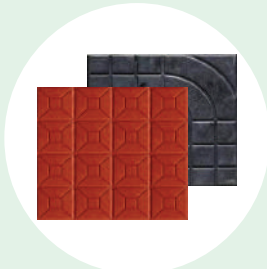
Raise Floor



Site Casting



Uni Paver Block



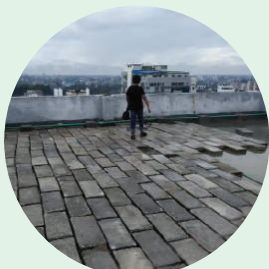
Pavement Tiles



Cover Block



Foaming Agent Chemical



Rooftop Heat Insulation



Waterproofing Treatment

# OUR VALUABLE CLIENTS
