HOMES YOU CAN TRUST TO LAST A LIFETIME.
A Kamaal Ka Promise by ACC.

ACC
Cementing Relationships

1800 1033 444

Email: gbc@acclimited.com
Website: www.acclimited.com/sustainable/green-building-centre
ABOUT GREEN BUILDING CENTRE

Green Building Centre (GBC) is a franchise-based manufacturing unit fully equipped to develop end-to-end housing in addition to rural & urban developmental products and solutions.

It aims to accelerate the production and commercialization of ACC Green Bricks, ACC Green Blocks (both solid and hollow) and ACC Green AAC Blocks.

Supported by ACC Limited, a LafargeHolcim operating company in India, GBC provides consistent quality products leading to long-lasting homes. This environmental-friendly and cost-effective solution addresses the growing demands for affordable housing for billions of people living in earth-based houses. It also addresses deforestation and sustainable resource management in emerging markets by providing low-carbon construction techniques.
<table>
<thead>
<tr>
<th>Foundation</th>
<th>AAC Blocks</th>
<th>Interlocking Blocks</th>
<th>Foundation Blocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walling Solution</td>
<td>Cement Bricks</td>
<td>Concrete Hollow &amp; Solid Blocks</td>
<td>Precast Boundary Walls</td>
</tr>
<tr>
<td>Roofing Solution</td>
<td>Roofing Tiles</td>
<td>Concrete Cover Blocks</td>
<td>Coloured Roofing Tiles</td>
</tr>
<tr>
<td>Pavement Solution</td>
<td>Cement Paver Blocks</td>
<td>Cement Chequered Tiles</td>
<td>Plain Blocks</td>
</tr>
<tr>
<td>Outdoor Solution</td>
<td>Designer Garden Benches</td>
<td>Green Toilets</td>
<td>Kerb Stone</td>
</tr>
</tbody>
</table>

- Eco-friendly products to meet all your needs
- Durable and quality products for sustainable rural development
GREEN HOMES

Through the Green Homes initiative, we provide complete support in faster construction of beautifully designed homes with quality products from ACC Cement. Additionally, we also provide trained masons and keep customer inputs in mind during construction. Government housing projects also benefit from the Green Homes initiative.

HEALTH & SAFETY

The health and safety of all our employees and customers is the first and primary priority for GBC. All customers are therefore encouraged to ensure they build their projects safely and use the appropriate personal protective equipment (PPE) to protect everyone on site.

Below are some tips to ensure a safe construction site:

- Wear appropriate protective wear
- Store tools in order and in designated areas to avoid accidents
- Always have a clearly marked entry and exit to your site
- Do not leave waste materials at the work site as they can become tripping hazards
- Store waste neatly for proper disposal
- Ensure that electrical cables and water pipes are visible and clearly marked
- Take precautions when working at height
- Ensure that the existing structure is sound before continuing construction
- Make strong connections between joining elements such as beams and columns to avoid collapse of the structure
- Always use the correct proportions of the material for specific applications
- Too much or too little of any material may make your structure weak
- Store all your materials in a cool dry place to avoid damaging them
HOW TO CHOOSE THE RIGHT BUILDING MATERIALS

**BRICKS**
All GBC products deliver the highest quality and performance guarantee.

**STONE**
Use hard and angular stones and gravel. Avoid rounded stones as they weaken the concrete.

**SAND**
Use clean sand for mortar and concrete. Test the cleanliness by putting it in a cup or bottle and shaking it after adding water.

**WATER**
The water should not get too dirty as this is a sign that the sand contains mud which may compromise the mix and quality of construction.

**STEEL**
Use ribbed steel for reinforcement. Avoid using recycled or rusty steel in your construction.

**FOUNDATION BLOCKS**
Ensure that the blocks have no cracks or chips. Blocks should be square and not wavy or curved. The sizes of the block should not vary too much.

RURAL AFFORDABLE HOUSE
(A GOVT. SUPPORTED INITIATIVE)

SPECIFICATIONS AND DESIGN PARAMETERS OF A SAMPLE HOUSE
Rural housing scheme design to be aligned with respective state condition / soil parameters.

<table>
<thead>
<tr>
<th>SIZE</th>
<th>240 - 260 SQ. FT. (15 FT X 18 FT or 5 MT x 6 MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEN VERANDAH</td>
<td>5 FT X 8 FT</td>
</tr>
<tr>
<td>FOUNDATION B/W</td>
<td>14 INCHES THICK</td>
</tr>
<tr>
<td>DEPTH BELOW GL</td>
<td>18 INCHES / 450 MM</td>
</tr>
<tr>
<td>ROOF HEIGHT</td>
<td>9 FT</td>
</tr>
<tr>
<td>EXTERNAL WALL THICKNESS</td>
<td>9 INCHES / 230 MM</td>
</tr>
<tr>
<td>INTERNAL WALL THICKNESS</td>
<td>4.5 INCHES</td>
</tr>
<tr>
<td>WINDOW 2 NOS</td>
<td>4 FT X 3 FT AND 5 FT X 3 FT</td>
</tr>
<tr>
<td>INTERNAL FLOORING</td>
<td>PLAIN TILES / NEAT FINISH WITH CEMENT</td>
</tr>
<tr>
<td>EXTERNAL PLINTH PROTECTION</td>
<td>PLAIN TILES / PAVER BLOCKS</td>
</tr>
<tr>
<td>INTERNAL KITCHEN PROTECTION</td>
<td>4 FT X 4 FT</td>
</tr>
<tr>
<td>ROOFING</td>
<td>IN SITU / PLANK AND JOIST / SHEETS / CONCRETE TILES</td>
</tr>
<tr>
<td>TOILET</td>
<td>CAN BE ATTACHED ADDITIONALLY</td>
</tr>
</tbody>
</table>
GREEN TOILETS

Green Toilets provide a complete solution for quality toilet construction and are handed over in a ready-to-use-state. They come in different designs as per government specifications and customer demands.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>SIZE (IN MM)</th>
<th>BENEFITS</th>
<th>APPLICATION</th>
</tr>
</thead>
</table>
| Dish Channel with Drainage Holes | 500x325x100  | - High strength  
- Long lasting solution  
- Aesthetically pleasing | To drain water in a perfect manner and channelling the water flow during monsoon. |
| Drain Cover without recess  | 750x400x100  | - High strength  
- Good finishing to the landscape  
- Aesthetically pleasing | These products are manufactured with the latest state of the art WET PRESSED VACUUM DEWATERED PRINCIPLE for best strength and lesser curing time. Higher production capacity than manual process. |
| Drain Cover with recess     | 750x400x100  | - High strength  
- Good finishing to the landscape  
- Aesthetically pleasing |These products are manufactured with the latest state of the art WET PRESSED VACUUM DEWATERED PRINCIPLE for best strength and lesser curing time. Higher production capacity than manual process. |
| Drain Cover without recess  | 900x400x100  | - High strength  
- Good finishing to the landscape  
- Aesthetically pleasing |These products are manufactured with the latest state of the art WET PRESSED VACUUM DEWATERED PRINCIPLE for best strength and lesser curing time. Higher production capacity than manual process. |
| Drain Cover with recess     | 900x400x100  | - Better than concreting  
- Easy-to-install and maintain  
- Quick replacement possible |These flag tiles are in square shape. Best for light vehicular movements like car parking pathways, jogging track areas, swimming pool decks and garden slits. |
| Tactile Slab                |              | - Excellent surface finish  
- Rust-proof  
- No threat from pests  
- Handle and bolt are easy to fit  
- Produced as per BIS |To make your windows secure and fire-resistant |
| Bar Face Slab               |              | - High strength  
- Faster vertical solution |An excellent product for boundary walls, exterior windows and cladding. |
| Chambered Slab              |              | - High strength  
- Faster vertical solution |An excellent product for boundary walls, exterior windows and cladding. |
ACC GREEN CONCRETE PRODUCTS

KERB STONE

**BENEFITS**
- High strength
- Perfect corners
- Aesthetically pleasing

**APPLICATIONS**
Used as road dividers, locking for pavers in landscaping

**SIZE (IN MM)**
- 300 x 300
- Thickness 100 mm
- 500 x 400
- Thickness 150 mm
Produced as per BIS

GREEN CEMENT DOORS AND WINDOW FRAMES

**BENEFITS**
- Excellent surface finish
- Rust-proof
- Pest-resistant
- High quality and long-lasting
- Made using reinforced cement

GREEN CEMENT DOORS & WINDOW FRAMES

RURAL SANITATION SUPPORT BY GREEN BUILDING CENTRES

**SPECIFICATIONS AND DESIGN PARAMETERS FOR SAMPLE TOILETS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOUNDATION</td>
<td>450 MM HEIGHT ABOVE THE GROUND AND 400 MM BELOW</td>
</tr>
<tr>
<td>SIZE (INTERNAL)</td>
<td>900 MM X 900 MM</td>
</tr>
<tr>
<td>HEIGHT</td>
<td>2100 MM</td>
</tr>
<tr>
<td>TANK (TOP/ SIDE)</td>
<td>900 MM X 900 MM X 450 MM</td>
</tr>
<tr>
<td>INDIAN WC</td>
<td>1 NO.</td>
</tr>
<tr>
<td>INTERNAL WALL TILES</td>
<td>450 MM</td>
</tr>
<tr>
<td>FLOOR TILES</td>
<td>850 MM X 850 MM</td>
</tr>
<tr>
<td>DOOR</td>
<td>1800 MM X 900 MM</td>
</tr>
<tr>
<td>VENTILATOR</td>
<td>300 MM</td>
</tr>
<tr>
<td>LEACH PIT</td>
<td>2 NO. ROUND 900 MM DIA X 1200 MM DEPTH</td>
</tr>
</tbody>
</table>
**ACC GREEN CEMENT BRICKS**

- 15-20% cost savings in wall construction due to uniformity in size, shape and low breakage
- Cost savings due to 10-15% lesser Fly Ash bricks and mortar consumed
- Retains wall finish by preventing seepage and efflorescence
- 20% better thermal insulation compared to clay bricks leading to cost savings in air-conditioning
- Beautiful exterior finish with direct application of paint

- Used for construction of both load-bearing and non-load-bearing walls
- Approved for use in Govt. Departments (CPWD, PWD and MES etc.)

**SIZE (IN MM)**

- 230x110x75
- 250x125x75
- 190x90x90

- Manufactured as per IS Code 16720 (2018) for Fly Ash - Cement Bricks

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**ACC GREEN CONCRETE PRODUCTS**

**DESIGNER GARDEN BENCHES**

**BENEFITS**

- Strong and durable
- Easy to install
- Spacious and beautiful designs

**APPLICATIONS**

- Parks, railway platforms, schools and gram panchayats

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**PRECAST BOUNDARY WALL**

**BENEFITS**

- Ease of installation and faster construction process
- Inherent strength and structural capacity that are able to meet engineering design standards for housing
- High structural efficiency, low wastage rates on-site
- High cost benefit when compared to other on-site construction practices
- Helps to avoid installation of water borewell, electricity connection, cement column, guard and labour quarter
- Prepared to withstand harsh climatic conditions and incur minimal maintenance

**DESIGNER GARDEN BENCHES**

6 Sections, each of 1 Feet Height and 6 Feet Length and Two Poles of 8 Feet Height
## COMPARISON BETWEEN ACC AAC BLOCK AND OTHER AAC BLOCKS

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameter</th>
<th>ACC AAC Block</th>
<th>Other AAC Blocks in market</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Compressive Strength</td>
<td>3.5-4 MPa</td>
<td>Fluctuates between 2.5 – 3.5 MPa</td>
</tr>
<tr>
<td>2.</td>
<td>Precision in Size</td>
<td>+1.5 mm</td>
<td>+1.5-2.5 mm</td>
</tr>
<tr>
<td>3.</td>
<td>Breakage</td>
<td>2-3%</td>
<td>3-5%</td>
</tr>
</tbody>
</table>

## COMPARISON BETWEEN ACC CEMENT BRICK, FLY ASH BRICK (MARKET) & RED BRICK

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameter</th>
<th>ACC Cement Brick</th>
<th>Fly Ash Brick (Market)</th>
<th>Red Brick</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Quality Assurance and Control</td>
<td>In-house quality lab</td>
<td>No established quality control procedure</td>
<td>No equipments for quality testing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lot-wise testing of raw materials and finished products</td>
<td>No equipments for quality testing</td>
<td>No equipments for quality testing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mix design standardized by ACC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight batching of raw materials for consistent quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Strength</td>
<td>10 MPa (can be customised as per customer requirements)</td>
<td>5-7 MPa (customisation not possible due to lack of testing equipment and technical knowledge)</td>
<td>8-10 MPa (far less in west and south due to poor quality of clay)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 MPa (can be customised as per customer requirements)</td>
<td>Customisation not possible due to lack of testing equipment and technical knowledge</td>
<td>Customisation not possible</td>
</tr>
<tr>
<td>3.</td>
<td>Breakage</td>
<td>Within 1-2%</td>
<td>Can be 5% or more</td>
<td>15-20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Long-Term Structural Stability</td>
<td>Manufactured using ACC cement</td>
<td>Manufactured using non-standard raw materials without testing</td>
<td>Deteriorates over time due to seepage and corrosion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Structure has greater durability as bricks do not crack</td>
<td>Lime based bricks can develop cracks on hydration due to improper processing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Less prone to develop seepage and corrosion</td>
<td>No control on moisture absorption which leads to seepage</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Efflorescence</td>
<td>Lowest</td>
<td>Moderate</td>
<td>Highest</td>
</tr>
<tr>
<td>6.</td>
<td>Cost Saving</td>
<td>Highest</td>
<td>Moderate</td>
<td>Lowest</td>
</tr>
<tr>
<td>7.</td>
<td>Repair and Maintenance Cost</td>
<td>Lowest</td>
<td>Moderate</td>
<td>Highest</td>
</tr>
</tbody>
</table>
ACC GREEN CONCRETE HOLLOW AND SOLID BLOCKS

**BENEFITS**
- Faster construction time as each block is equal to 4-6 bricks of standard size
- Cost-effective due to reduction in mortar use
- Trapped air in hollow blocks result in better thermal insulation
- Superior fire resistance
- Consistent quality, high strength and excellent finish

**APPLICATIONS**
- Suitable for all types of walls and foundations
- Used for both load-bearing and non-load bearing walls, partitions and panel walls
- Used as backing for other types of facing material, plasters and columns, garden walls and as shuttering for beams, columns and lintels

**SIZE (IN MM)**
- Length: 400, 500 or 600
- Height: 200, 100
- Width: 50, 75, 100, 150, 200, 250 or 300
- Manufactured as per IS code 2185 part 1 (2005)

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ACC GREEN AAC BLOCKS

**BENEFITS**
- Easy to handle, faster construction as weight of block is 3 times lighter than clay bricks
- Savings of 15% in steel in addition to cement, mortar and labour over clay bricks due to lightweight and flat surface
- Approximately 30% savings in air conditioning costs due to superior insulation than clay bricks
- Better sound-proofing as compared to clay bricks
- Resistant to fire, earthquakes and pests
- Good finish

**APPLICATIONS**
- Can be used for both load-bearing and non-load bearing internal walls, partitions and panels
- Can also be used for walls and external load-bearing walls, panel walls in steel or reinforced concrete frame construction when protected from weather by rendering or by some other efficient treatment

**SIZE (IN MM)**
- Length: 400, 500 or 600
- Height: 200, 250 or 300
- Width: 100, 150, 200 or 250

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**NOTE:** Usage of AAC blocks in load-bearing walls is subject to the clearance from the competent authority.
ACC GREEN CONCRETE COVER BLOCKS

**BENEFITS**
- Provides superior protection to steel rebars from rust and corrosion and enhances the life of the roof.
- Concrete spreads evenly on the entire surface leading to greater roof strength.
- Provides fire protection to steel rebar.
- Helps in maintaining the distance between iron bars and shuttering.

**APPLICATIONS**
- For all RCC applications such as slabs, columns, beams, etc.

**SIZE (IN MM)**
20 mm, 25 mm, 30 mm, 40 mm, 50 mm, 75 mm Circular Type for Columns


ACC GREEN CEMENT INTERLOCKING PAVER BLOCKS

**BENEFITS**
- Large number of colour and design options.
- Long-lasting.
- Easy-to-install, maintain and repair.
- Uniform edges.

**APPLICATIONS**
Can be used for paving in a variety of traffic conditions such as:
1. Building premises, gardens and parks.
2. Pedestrian plazas, shopping complexes, ramps, car parks, office driveways, housing colonies, office complexes and rural roads with low volume traffic.
3. City streets, small and medium market roads and low volume roads.

**SIZE (IN MM)**
- Cosmic : 60
- Cosmic : 80
- Zig-zag : 60
- Zig-zag : 80
- Tri Hexagonal : 60
- Tri Hexagonal : 80
- Olympia : 60
- Petal : 80
- Dumbbell : 60
- Dumbbell : 80
- Grass paver : 60
- I-paver : 80
- I-paver : 60

- Manufactured as per IS code 15658 (2006)
**ACC GREEN CEMENT CHEQUERED TILES**

**BENEFITS**
- Excellent anti-skid solution
- Easy-to-install and maintain
- Cost-effective in terms of material consumption and labour
- Large number of design and colour choices
- Uniform thickness and edges

**APPLICATIONS**
- For use in open areas of any building such as driveways and ramps to prevent skidding
- For use in stairways, entrances, passages of large buildings to prevent slipping
- For use on wet floors near swimming pools

**SIZE (IN MM)**
- Ramp Tiles: 300 x 300, 25 mm thickness
- Ramp Tiles: 200 x 200, 25 mm thickness
- Manufactured as per IS code 13801 (1993)

**ACC GREEN ROOFING TILES**

**BENEFITS**
- Strong and durable
- Comfortable during both summers and winters as it maintains interior temperature
- Roof is easy-to-install and maintain, only individual tiles need replacement on breakage
- Much more beneficial than GI (Galvanized Iron) and Cement Sheet as it prevents leakage and is easy to replace
- Can be coloured, based on customer preference

**APPLICATIONS**
- Can be used in a large variety of sloping roofs having large spans
- As a decorative cladding material on roofs