Manufactured in India since 1972, in collaboration with international Siporex AB of Sweden. The unique flexibility, structural and physical properties of Siporex (ALC – “Aerated Light Weight Concrete) are appreciated the world over and is the preferred building material. It is ideal for all types of climatic and seismic Zones.

Aerated Light Weight Concrete is today recognized the world over as an environment friendly product due to its superior insulating thus energy saving properties. Increased use of Siporex helps to conserve and protect our planet’s precious forest cover.
“Not just better housing… but, better living with SIPOREX, eco friendly, wonder building material of modern age.”

Hotel Blue Diamond Pune  Main Entrance to Shri Shiv Chhatrapati Sports City  Residential Complex with Siporex Slabs & Blocks, Mumbai

Siporex Wall Panels used as Fins for Sai Chambers, Pune

“The superior properties of SIPOREX make it eminently suitable for all climatic and seismic zones.”

Complex of 25 Buildings having 24 Storey is under construction.

48 Countries world-wide prefer SIPOREX products for their buildings.
COMPONENTS OF THE SIPOREX BUILDING SYSTEM

The different products – Floor, Wall, Roof Slabs and Building Blocks – form between them an open building system that can constitute the whole structure of a low rise building up to two storeys. It is a system that also incorporates in other buildings, halls or industrial buildings.

Sizes:

<table>
<thead>
<tr>
<th>Roof and Floor slabs</th>
<th>Building Blocks</th>
<th>Partition walls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available in length of 0.96 Meter to 3 Meter, in increments of 0.24 meter and thickness from 100 mm to 200 mm, depending upon superimposed loads and spans. Width is 600 mm.</td>
<td>075 x 240 x 650 mm. 100 x 240 x 650 mm. 125 x 240 x 650 mm. 150 x 240 x 650 mm. 200 x 240 x 650 mm.</td>
<td>Panels available in length of 0.96 Meter to 3 Meter, in increments of 0.24 meter and thickness from 75 mm to 100 mm,</td>
</tr>
</tbody>
</table>

“SIPOREX is structural material, steam cured, cellular (aerated) concrete. It is available as blocks, floors and roof slabs and wall panels, for all types of buildings, especially for multi-storied buildings.”
PROPERTIES OF SIPOREX

• LIGHT WEIGHT

Oven dry density of SIPOREX is 400 to 650 Kg/m³, i.e. just one fourth the weight of dense concrete, thus ensuring economic design. It also makes SIPOREX ideal for low bearing soils, for seismic zones and for adding storey to existing buildings. It is easy to handle, hoist and transport. It is the ideal material for use in existing buildings where additional FSI/TDR is available.

• HIGHLY INSULATING

Cuts the peaks of heat and cold to provide economy in the working of air-conditioning. K value 0.122 Kcal/Hr/M 0°C makes it suitable as insulation material for boilers, heat exchangers, furnaces, ovens, forgess, steel works, galvanizing kettle linings, etc. Saves about 25% cost of installation as well recurring costs of electricity.

• FIRE RESISTANT & INCOMBUSTIBLE

SIPOREX, is completely inorganic, is totally incombustible and offers twice the fire protection of concrete. It is ideal for fire walls and for fire protection of structural steel. SIPOREX has been tested for fire resistance at CBRI, Roorkee. Their conclusions are as follows:

❖ SIPOREX ROOF SLABS
The Data of evaluation and their analysis reveal that the roof of the Siporex Roof Slabs was able to withstand the Standard fire for 150 minutes under uniform load of 320 kg/M² as per IS:3809, BS:476 Part 20 and ISO 834.

❖ SIPOREX WALL PANELS
The data of evaluation reveal that the partitions wall of Siporex wall panels was able to withstand the standard fire for 180 minutes as per IS:3809, BS:476 Part 20 and ISO 834.

❖ SIPOREX LOAD BEARING BLOCKS
The data of evaluation reveal that the wall of Siporex load bearing Blocks was able to withstand the standard fire for 240 minutes under uniform compressive load of 15 kg/m² as per IS:3809, BS:476 Part 20 and ISO 834.

• HIGH STRENGTH TO WEIGHT RATIO

For Siporex 18 to 22 against 16 for M15 grade concrete.
• LESS WATER PENETRATION

Siporex structure being closed cells, there is less capillary action. Moreover, high surface area allows for fast evaporation of moisture.

• WATER REPELLENT

While manufacturing reinforced Siporex Slabs & Wall Panels silicon oil is added in wet mass which makes the product water repellent

• SOUND ABSORPTION

Sound absorbency of air borne sound for 3” & 4” walls is 38 to 40 db, hence, it is ideal for auditoriums and theaters and for cutting off workshop sounds from offices.

• COMFORTABLY WORKED

Siporex is versatile. It can be drilled, chiseled or nailed using simple carpentry tools. Thus, it simplifies plumbing, electric work, fixing, joining etc. Siporex is workable like wood and endures like stone.

• ENVIRONMENTAL FRIENDLY

Siporex eliminates use of timber as centering and shuttering is absolutely not required for placing the Siporex slabs. Thus Siporex helps to save the forests. Also it eliminates the use of bricks which consumes valuable fertile soil required to grow food for our vast population.

• CORROSION RESISTANT

Reinforced bars used in SIPOREX Slabs and Wall Panel are treated with a patented, highly effective, anti-corrosive treatment which has been evaluated by CBRI, Roorkee with recommendation that “Protective Coating (two coats of ACM & one coat of Inertol) applied by Siporex India P Ltd, is highly satisfactory for preventing corrosion of M S reinforcement in Siporex concrete in costal and highly polluted areas like Mumbai.” Also, Silicon oil is used during production to make the product water repellent

• ISI MARK & NORMS

Being a factory made, quality of Siporex products is assured. Siporex products have BIS norms and markings. Siporex slabs are conforming to IS 6073 and Siporex blocks are conforming to IS 2185 (Part 3).
ENGINEERING CHARACTERISTICS

1. Confirms to ISI (BIS) standards and certification markings. These standards cover design, manufacture, performance load testing and use.

2. Compressive strength of SIPOREX as per IS 2185 (part3) is as under:

<table>
<thead>
<tr>
<th>Sr No</th>
<th>STANDARD SIZES</th>
<th>DENSITY (OVEN DRY)</th>
<th>COMPRESSIVE STRENGTH (Grade II) as per IS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>75 / 100 mm</td>
<td>400 to 550 kg/m³</td>
<td>Min 15 kg/m³</td>
</tr>
<tr>
<td>2</td>
<td>125 / 150 / 200 mm</td>
<td>551 to 650 kg/m³</td>
<td>Min 30 kg/m³</td>
</tr>
</tbody>
</table>

3. Oven Dry Density for slabs – 640 kg/cm²
4. Bending compression - 15 kg/cm²
5. Shear Strength – 1 kg/cm²
6. Modulus of elasticity – 2.1 x 10⁴ kg/cm²
7. Coefficient of linear expansion – 0.000008 per °C
8. SIPOREX slabs are normally designed for residential buildings (Live load 200 kg/m²) and these can be designed for higher loads up to 1000 kg/cm² depending on span and ultimate use.

BIS SPECIFICATIONS FOR SIPOREX

BIS-2185 Part 3 : Specification for Autoclaved Cellular Concrete Blocks.
BIS-6041 : Construction of Autoclaved Cellular Concrete Masonry.
BIS-6072 : Specification for Autoclaved Cellular Concrete Wall Slabs.
BIS-6441 : Methods of tests for Autoclaved Cellular Concrete products. (Determination of unit weight or bulk density & moisture content) Part 1. 2. 4. 5. 6 & 8
BIS-6073 : Autoclaved Reinforced Cellular Concrete Floor and Roof Slabs.
BIS-3809 : Fire resistance Test of Structure.

NOTE: Please refer to guidelines for use of Siporex Blocks and Slabs
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