"Not just better housing... but, better living with SIPOREX, eco friendly, wonder building material of the modern age."

Hotel Blue Diamond, Pune

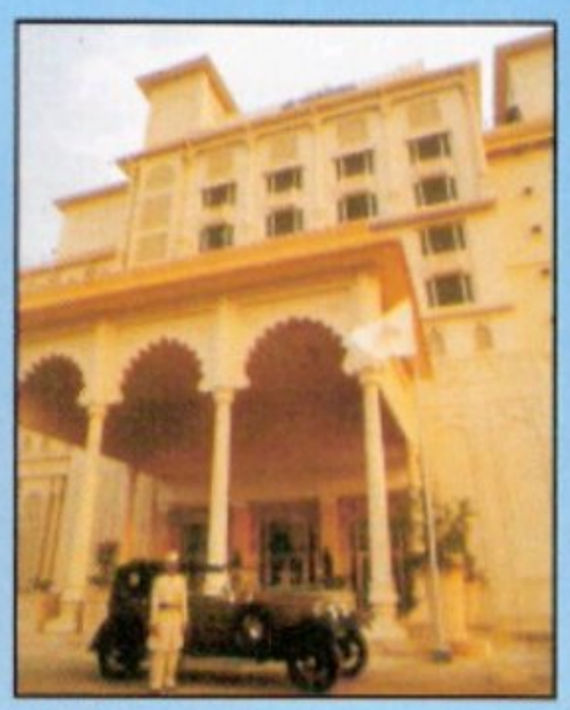
Main entrance to
Shri Shiv Chhatrapati Sports City,
Balewadi, Pune

Residential complex with
Siporex slabs
and block, Mumbai

Siporex slabs for
Thermal Power Station
at Nagpur

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

48 Countries world-wide prefer SIPOREX products for their buildings



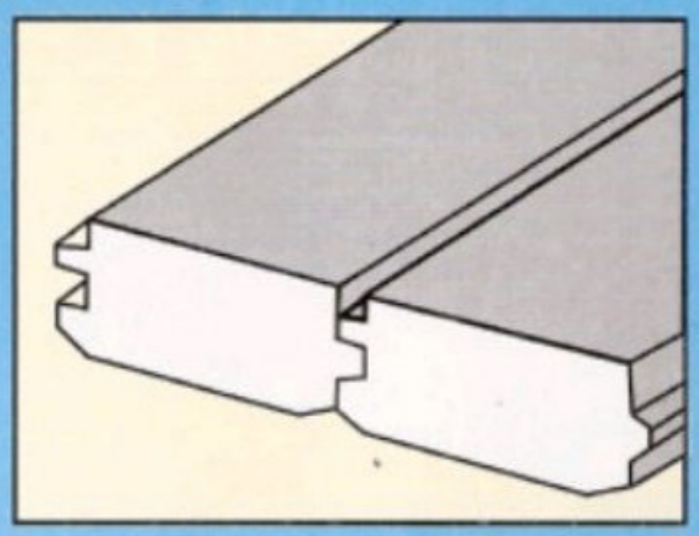
Hotel Le Meridian, Pune

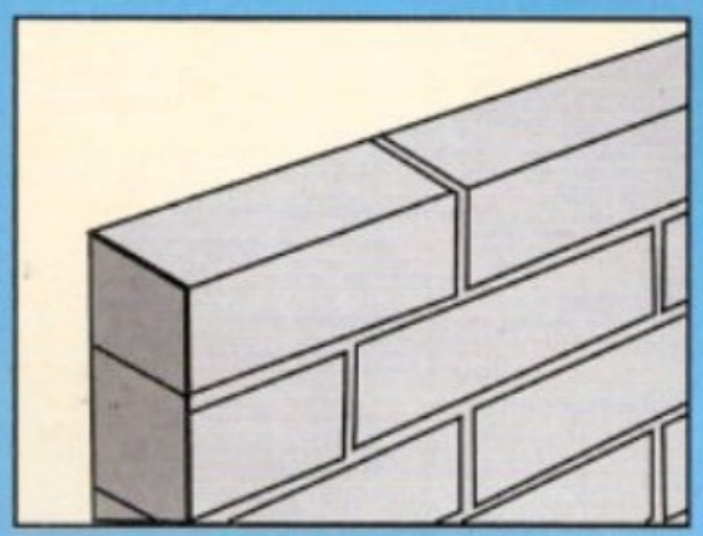
Mural carved out of Siporex blocks,
at Hotel Samrat, Shivajinagar, Pune

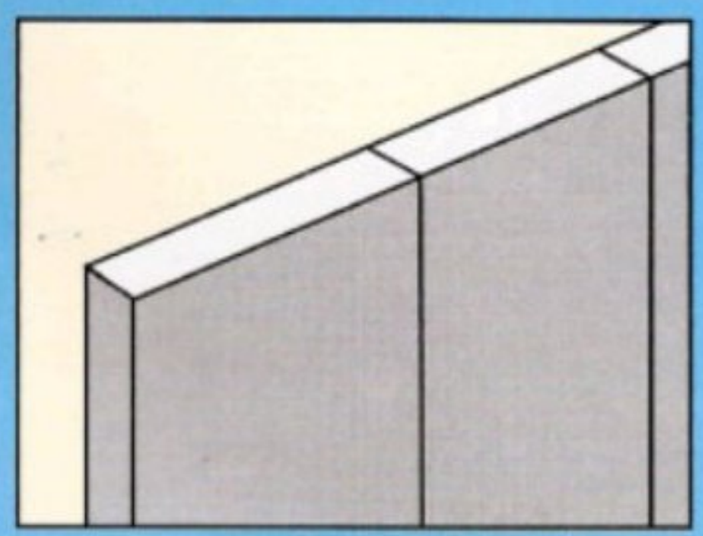
Siporex Wall Panels used as fins
for Sai Chambers, Wakadewadi, Pune

"Japan, a small Country, has 14 SIPOREX factories. India has only one."

"SIPOREX is structural material, steam cured, cellular (aerated) concrete. It is available as blocks, floor and roof slabs and wall panels, for all types of buildings". specially for multi-storeyed buildings.







Roof and floor, slabs

Available in length of 0.96 Mtr. to 4 Mtrs. in increments of 0.24 Mtr and thicknesses from 100 mm to 200 mm, depending upon superimposed loads and spans.

Building blocks

Available sizes :
200 x 240 x 650 mm
150 x 240 x 650 mm
125 x 240 x 650 mm
100 x 240 x 650 mm
075 x 240 x 650 mm

Partition walls

Panels available in length of : 0.96 Mtr. to 3.0 Mtr. in increments of 0.24 Mtr and thickness from 75 mm to 100 mm

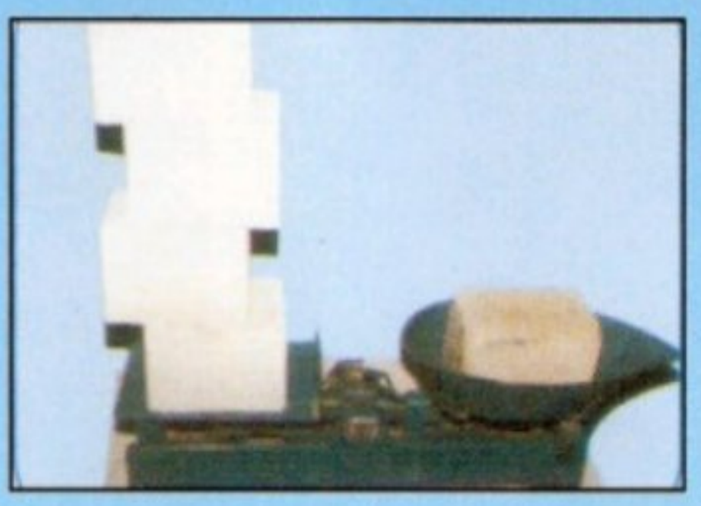
COMPONENTS OF THE SIPOREX BUILDING SYSTEM

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 be incorporated in the other buildings, halls or industrial buildings.

PROPERTIES OF SIPOREX

LIGHT WEIGHT

Oven dry density of SIPOREX is 400 to 650 kg/m^3, 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 storeys 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, forges, steel works, galvanising kettle linings, etc. Saves about 25% cost of installation as well recurring costs of electricity.

SIPOREX INDIA LIMITED

MK-208
R-2

ISO CERTIFIED COMPANY

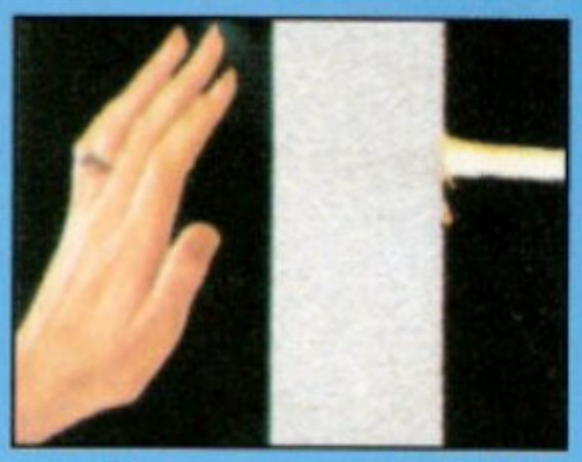
Manufactured in India since 1972, in collaboration with internationella Siporex AB of Sweden. The unique flexibility, structural and physical properties of Siporex (ALC- "Aerated Light Weight Concrete) are appreciated the world over and is the preferred building material. It is ideal for all types of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

Aerated Light Weight concrete is today recognized the world over as an environment friendly product due to its superior insulating the energy saving properties. Increased use of Siporex helps to conserve and protect our planet's precious forest cover.

THE WONDER BUILDING MATERIAL OF THE WORLD

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.



70°C 1100°C

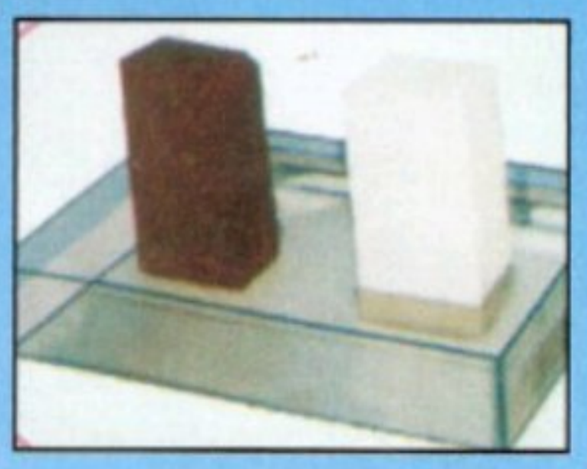
- **SIPOREX ROOF SLABS**
  The data of evaluation and their analysis reveal that the roof of the siporex roof slabs was able to withstand the standard fire for 150 minutes under uniform load of 320 kg/m2 as per IS:3809, BS:476 Part 20 and ISO 834
- **SIPOREX WALL PANELS**
  The data of evaluation reveal 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/m^2 as per IS:3809, BS:476 Part 20 and ISO 834

HIGH STRENGTH TO WEIGHT RATIO

For SIPOREX 18 to 22 against 16 for concrete of M 150 grade.

WATER PENETRATION

SIPOREX structure being of closed cells, there is less capillary action and high surface activity 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.

COMFORTABLY WORKED

SIPOREX is versatile. It can be drilled, chieselled or nailed using simple carpentry tools. Thus, it simplifies plumbing, electric work, fixing joinery, etc., preventing wastages at site. SIPOREX is workable like wood and endures like stone.

SOUND ABSORPTION

Sound absorbency of air borne sound for 3" and 4" walls is 38 to 40 db, thus absorbency of air borne sound for 8" thick walls given an increase of 45 db. Hence, ideal for auditoriums and theatres and for cutting off workshop sounds from offices.

CORROSION RESISTANT

Reinforcement bars used in SIPOREX slabs and wall panel are treated with a patented, highly effective, anticorrosive treatment which has been evaluated by CBRI, Roorkee, with recommendation that "Protective Coating (two coats of ACM and one coat of Inertol) applied by Siporex India Ltd., is highly satisfactory for preventing corrosion of M.S. reinforcement in Siporex concrete in coastal and highly polluted areas like Mumbai". Also, Silicon oil is used during production to make the slabs water repellant.

ENVIRONMENT FRIENDLY

By indiscriminately cutting down our forests, natural disasters are rapidly increasing, SIPOREX eliminates use of timber and thus helps to conserve our forests. SIPOREX also eliminates the use of bricks which consume valuable fertile soil required to grow food for our vast population.

BENEFITS FOR MULTI STOREY BUILDINGS

- Increased carpet area within the same built-up areas due to lesser thickness of walling and cladding (i.e. 200 mm, 150 mm, 100 mm in SIPOREX instead of 350 mm, 230 mm and 115 mm in conventional systems.)
- Due to bigger sized of SIPOREX blocks, there are less number of joints in the masonry, thereby effecting substantial savings in cement and sand which are both costly as well as scarce.
- Due to light weight, the dead load on foundations as well as on supporting structures reduces, thereby saving concrete and steel.
- High thermal insulation and fire resistance properties help to reduce fire hazards. Installation and recurring air conditioning costs also reduce substantially.
- Uniform and bigger size of blocks enable speedy construction.
- Mass manufacture in factory under strict quality ensures total quality.

ADDITIONAL ADVANTAGES

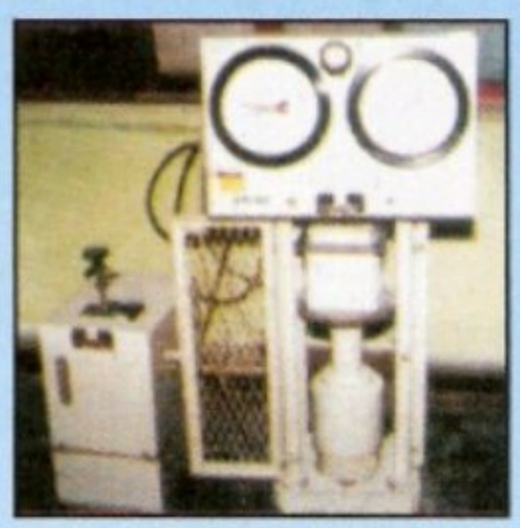
- Speedy return on investment due to speedy construction and earlier starting of production in case of factories.
- Saves cement, steel, construction and supervision cost, construction time, water used in construction and, most importantly, the timber used for centering and form work used in conventional system.
- Uniform quality assured due to mass manufacture in factory.
- Convenient for use in congested and water deficient areas. Also useful for Multi Storied Buildings, Cold Storages, Spinning Mills etc.

Humidity Test

Checking of anti-corrosion coating given to steel reinforcement in slabs and wall panels.

ENGINEERING CHARACTERISTICS

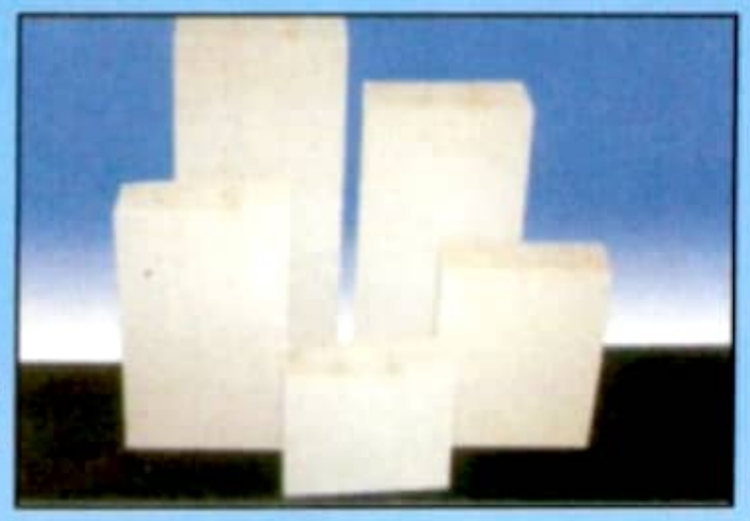
- Conform to ISI (BIS) standards and certification markings. These standards cover design, manufacture, performance load testing and use.
- Compressive strength of SIPOREX as per IS 2185 (part 3) are as given overleaf :



Testing of Compressive Strength

Sr. No.	STANDARD SIZES	DENSITY (OVEN DRY)	COMPRESSIVE STRENGTH (Grade II) As per IS
1	75/100 mm	400 to 550 kg/M^3	Min. 15 Kg/cm^2
2	125/150/200 mm	551 to 650 kg/M^3	Min. 30 Kg/cm^2

1. Oven Dry Density for slabs will be 640 kg/m^3
2. Bending compression : 15 kg/cm^2
3. Shear strength : 1 kg/cm^2
4. Modulas of elasticity : 2.1 x 10^4 kg/cm^2
5. Coefficient of liner expansion : 0.000008 per °C
6. SIPOREX slabs are normally designed for residential loading (live load 200kg/m^2) and these can be designed for higher loads up to 1000 kg/m^2, depending on span and ultimate use.



OTHER TECHNICAL FEATURES

Sr. No.	Thickness	Sizes of Block in mm		Number of blocks in one truck
		Height	Length	
1.	075	240	650	1100
2.	100	240	650	850
3.	125	240	650	700
4.	150	240	650	550
5.	200	240	650	400

Slabs are available from 0.96 mtr. to 6 mtrs. in increments of 0.24 mtr. and thickness from 125 mm to 200 mm depending upon super-imposed loads and spans.

Wall panels are available from 0.96 mtr. to 3 mtrs. in increments of 0.24M and thickness from 75 mm to 100 mm.

BIS SPECIFICATIONS (LATEST) FOR SIPOREX

BIS-2185-Part 3	:	Specifications for Autoclaved Cellular Concrete Blocks.
BIS-6041	:	Construction of autoclaved cellular concrete block masonry.
BIS-6072	:	Specifications for autoclaved reinforced cellular concrete wall slabs.
BIS-6441	:	Methods of test 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.

SIPOREX INDIA LIMITED