

PRODUCTS

4. Siporex Blocks (B)

4.4.1 Product Application & Characteristic Data

Siporex solid blocks are used as load-bearing and non load-bearing walls and as thermally insulating roof tiles in addition to being used as Hordi blocks or infills for ribbed slabs. They are produced with very precise dimensions with slim tolerance of $\pm 3\text{mm}$ for thickness and width, therefore they are able to be laid by thin-bed mortar (Siporex glue) with a maximum of 3mm thick mortar joint. This results to a high quality wall structure with uniform thermal insulation and fast installation.



4.2 Masonry Blocks Dimensions

For the past decades, LCC Siporex had been supplying AAC blocks with a standard face size of 25 cm high x 60 cm long only in various thicknesses. However, due to the increasing demand and growing popularity of the use of AAC blocks, LCC Siporex have started the production of new dimensions of blocks in line with the continued expansion of additional manufacturing plant to sustain the market requirements. Siporex blocks are now produced at the following standard sizes:

Standard face size: 25 cm high x 60 cm long:

Thickness: 10, 15, 20, 25 and 30 cm

Standard face size: 20 cm high x 60 cm long:

Thickness: 10, 15, 20, 30 and 40 cm

Above standard sizes with nominal dry density of 550 kg/m^3 are usually available in our stocks. It is possible to produce other dimensions on request, but should be referred to our Sales or Technical departments for verification.

4.3 Hordi Blocks

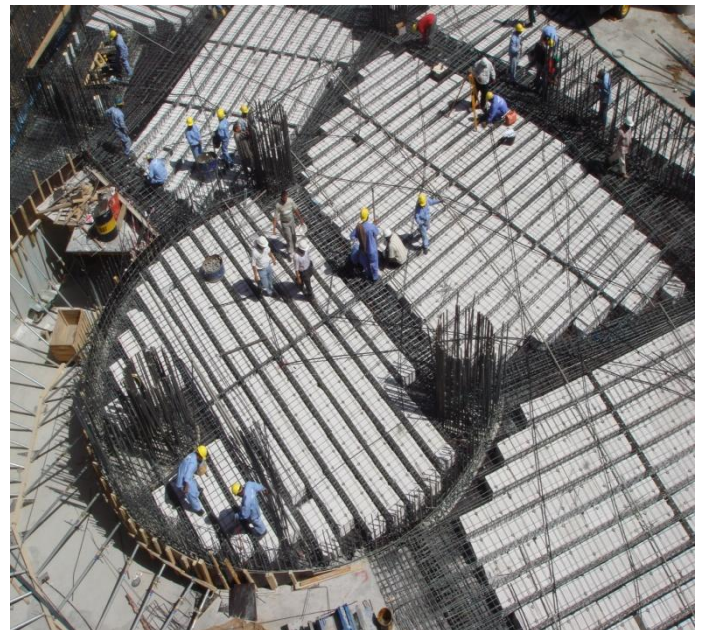
Hordi blocks or infill blocks for ribbed slabs can be produced in various dimensions to form lightweight infill between in-situ reinforced concrete ribs designed to span in one or both directions. Due to their excellent bondage to in-situ concrete, Siporex Hordi blocks are easily arranged to form permanent part of the slab, providing excellent thermal insulation as well as fire resistance material. Hordi blocks are produced with density of 450 kg/m^3 according to the following dimensions:

Length : 60 cm

Width : 37/38 cm or 40 cm

Thickness : 20, 25, 30, 35 cm

Other sizes may be produced upon request only. Hordi blocks are not available in stock and are manufactured against order only.



Hordi blocks application

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4.4 Thermal Insulating Tiles

Roof insulation of existing conventional roof can still be improved with the use of Siporex thermal insulating tiles available at the following dimensions:

4.4.3.1) 60 x 60 x 7.5 cm

4.4.3.2) 60 x 25 x 7.5

4.4.3.3) 60 x 25 x 5 cm

Other dimensions can be produced upon request.

4.5 Packing Data for Siporex Blocks

Siporex blocks are delivered ready for use and packed in easily transportable wooden pallets. The pallets should be unloaded at the site by construction-site cranes, forklifts or other suitable hoisting equipments. For ease in unloading of materials, it is suggested to order Siporex blocks in whole bundle or pallet volume to avoid handling loose quantities. Following table is an easy reference in making order of some standard sizes of Siporex blocks in bundles or pallets.



Block Dimensions	No. of Blocks per m ³	No. of Blocks per m ²	No. of Blocks per Bundle	No. of Bundle per Pallet	m ³ per Bundle	m ³ per Pallet
10 x 25 x 60 cm	66.66	6.67	75	2	1.125	2.25
15 x 25 x 60 cm	44.44	6.67	50	3	1.125	3.375
20 x 25 x 60 cm	33.33	6.67	35	3	1.05	3.15
25 x 25 x 60 cm	26.66	6.67	30	3	1.125	3.375
30 x 25 x 60 cm	22.22	6.67	25	3	1.125	3.375
10 x 20 x 60 cm	83.33	8.33	72	3	0.864	2.592
15 x 20 x 60 cm	55.55	8.33	48	3	0.864	2.592
20 x 20 x 60 cm	41.67	8.33	36	3	0.864	2.592
30 x 20 x 60 cm	27.78	8.33	24	3	0.864	2.592
40 x 20 x 60 cm	20.83	8.33	18	3	0.864	2.592
SIPOREX ROOF TILES:						
5 x 25 x 60 cm	133.33	6.67	150	2	1.125	2.25
7.5 x 25 x 60 cm	88.89	6.67	100	2	1.125	2.25
7.5 x 60 x 60 cm	37.04	2.78	40	3	1.08	3.24
SIPOREX HORDI BLOCKS:						
20 x 37/38 x 60 cm	22.22	4.44	21	3	0.945	2.835
20 x 40 x 60 cm	20.83	4.17	18	3	0.864	2.592
25 x 37/38 x 60 cm	17.78	4.44	18	3	1.013	3.038
30 x 37/38 x 60 cm	14.81	4.44	15	3	1.013	3.038
30 x 40 x 60 cm	13.89	4.17	12	3	0.864	2.592
35 x 37/38 x 60 cm	12.70	4.44	12	3	0.945	2.835

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4.6 Block Laying

The first course should be laid on cement-mortar bed of thickness about 1 to 3 cm depending on the evenness of the base and should maintain a correct level for fast installation progress in the following courses. It is recommended to spray the mortar face of the block before installation to keep damp at erection time especially during the hot seasons. After installation, spray with water twice a day for 3 consecutive days for curing of the mortar.

Three types of Mortars can be applied on the succeeding courses:

4.6.1) **Siporex Glue (for thin joints):**

Pre-mixed mortar – only water is to be added. Thickness of glue should not exceed 3 mm in horizontal and vertical joints in order to achieve the ideal consumption rate as follows:

- 7 kg/m² for Siporex blocks 25 cm thick
- 6 kg/m² for Siporex blocks 20 cm thick
- 5 kg/m² for Siporex blocks 15 cm thick

4.6.2) **Ordinary Mortar with Gesol**

1:6 Cement : Sand (by volume) respectively in addition to water (with 10% of Gesol). The erection can be carried out normally as for conventional blocks. (Gesol is a liquid material used as bonding agent and retardant for the mortar especially during hot weather. Gesol is available at Siporex factory in 3 kg and 25 kg plastic containers).

4.6.3) **Ordinary Mortar with Lime:**

1:1:10 Cement : Lime : Sand (by volume)

4.7 Plastering of Siporex Block Wall

Before plastering, dirt and loose particles should be removed from walls. Spray walls with water and follow one of the two methods mentioned below:

4.7.1) **Traditional Plastering:**

Similar to plastering of conventional block walls with the following mix:

- Splattering (3mm): Use 1 cement : 3 sand mixed with solution of water and Gesol (20% of the volume). Spray with water twice a day.
- Ordinary Plastering Mortar: (1 – 1.5 cm thick, apply 24 hours after the splattering)
Use 1 cement : 6 sand mixed with solution of water and Gesol (10% of volume).

4.7.2) **Plastering with Pre-mixed Mortar (Serpo Prime)**

Water is added to the pre-mixed plaster supplied in bags of 25 and 50 kgs. Surfaces should be thoroughly cleaned and wetted without any splattering. Apply plaster directly with a thickness ranging between 0.5 to 1 cm

In both above methods, walls should be watered twice a day after plastering for three consecutive days.

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4.8 Cladding with Marble or Artificial Stone

Marble or artificial stones are fixed using hooks and screws. It is necessary to use screws with plastic plugs like Fisher and Hilti anchors in addition to several other types specially made for use in cellular concrete. Refer to figure 7.9 on page 43 showing the typical section of wall with stone cladding.

4.9 Bolts and Fixings

Various type of bolts and fixings applicable for both Siporex blocks walls and reinforced panels are discussed in section 10. These types of fixings are used in installation of doors and windows, as well as wall accessories with weights not exceeding the allowable loads of the type of fixing used. Through-bolts should be used in case of heavy fixtures such as water tanks and hanging lavatories (please refer to fig. 7.7 & 7.8 on page 43).



Siporex blocks construction

