

Lightweight Concrete Elements

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Lightweight Concrete Elements

In the light concrete prefabricated elements is in addition material the gravel replaced by clay pellets, with a maximum grain size of 4 mm.

This creates a weight and cost savings achieved. A balanced mixture of sand,

Clay pebbles, cement and water, combined with the conditioned production conditions, for a constant level of quality in the production of the prefabricated elements.

Because these elements clean and flat, the wall finish in the home easier. The flexibility of light concrete makes it possible to both small and large series as individual homes with unique shaped elements to produce, which makes architectural freedom to combined with efficient construction.



Light concrete SW-elements are applied in both bearing and non-load-bearing purposes in the residential and light commercial construction. Depending on the form, the load and the sound isolation the elements in different strengths are produced. In the production of SW-elements, which takes place on steel tables, a roller used that the mixture, deposited with a overheight, multi-pass compacted.



The Prefabricated wall elements both sides are flat and have of transportation, Assembly and shrink reinforcement.

The prefabricated wall elements can, depending on the form, the load and the sound insulation, in the following strength classes are produced:



SWH:

Normal version with both sides flat, not smooth, but with a slightly porous surface structure.



SWG:

One side smooth and sleek from the mold and the other side close and gespaand. Application to run in different situations, like high taxes, in form critical for demoulding, transport or wall beams.



SWM:

Normal concrete for structural elements with the one side smooth and sleek from the mold and the other side close and extended. Application for designs in different situations where this is constructive asked.



Saini SW-elements

SW-elements offer many application possibilities.

In the housing industry and light commercial construction they can both in load-bearing as non-bearing execution/constructions be applied.

Applications layer construction:

- Single-family Homes
- terraced houses
- 2-under-detached homes
- detached houses
- Recreation/vacation rentals
- Light commercial construction

High-rise applications

(up to 4 floors):

- Apartments
- Hotels
- Office villas

The benefits

by Saini SW-elements are:

- Short construction time.
- Less weather dependent, so little delay.
- Dimensional Accuracy.

Free Baar and nailable.

- Low environmental impact with small amount of waste.
- Reduction Plasterers cost.
- No storage on the construction site.
- Reduction of failure costs by reducing the number of contract partners.
- Sound absorbing, moisture regulating, recyclable and non-combustible.
- Collapses amenities such as wall ties, elektra-, installation and lifting facilities, are included in the elements.
- Reduction in site coast.
- Optimal alignment and engineering by own production of walls and floors and transport.
- Extra building capacity at equal staffing.



Delivery program of Saini system floors and SW-elements

1. ground floor flooring:

- Ribcassette floor $R_c = 3.0-3.0-4.0-4.0-5.0$
- Insulated precast $R_c = 3.0-3.0-4.0-4.0-5.0$

2. Floor-and roof decking:

- precast $100-200-250-300$ mm,
whose thickness 200 mm also available is a guide plate floor.

3. walls:

- light concrete walls B_{10}
- Lightweight Concrete Walls B_{20}
- Solid walls B_{30}

Environment, Living comfort and soundproofing

Saini light concrete prefabricated elements are on the new production site according to the current environmental standards and manufactured thereby suitable for sustainable building.

The minimum waste that is for reuse in the production, made suitable. The construction site remains cleaner, because no longer need sawn and machined be. This will grossly excessive waste limited.

The weather dependency decreases by use of prefabricated elements. By absence application of intermediate storage is at inner-city projects. This because of limited pollution for the vicinity of the construction site.

The somewhat porous structure of light concrete and ensure that the insulation elements slowly heat up and cool down. In the summer is the heat outdoors and in winter the heat kept inside. This creates a pleasant indoor climate.

Thanks to the good vapor diffusion performance

There is no condensation on, making mold formation is avoided.

The noise values of the Saini SW-elements meet the requirements be in the building Act.

Separation walls of 100 mm pick up a value of $l_{w}; k$ greater than -20 dB. At application of a Coreless cavity for woningscheidende walls is the requirement of 0 dB generously met.



Saini SW-elements are non-combustible.
 No harmful gases are released in case of fire and there is no smoke development.
 Lightweight concrete elements can be applied as fireproof wall.
 An element of 70 mm thickness gives a resistance by 90 minutes to fire breakdown,
 while 100 mm gives a value of 120 mm thickness.



The Coreless cavity at house separating walls must be carried out with a minimum thickness of 120-150 mm.
 The achieved sound insulation it applies in the housing shall comply with:

- $I_{lu}; k \geq 0$ dB (exempt ≥ 0 dB)
- $I_{co} \geq 10$ dB (exempt ≥ 0 dB)

Advice:

Putting a band or strip dense rock wool at the height of the storey-and Attic floors.

Sustainable building

Sustainability, ecology and environment of Saini SW-elements:

- Small quantities of cement.
- The raw material clay is a natural product.
- By reusing the rinse water is water consumption low.

- The required energy for the production is slight.
- Noise pollution in the production process is low.
- High construction speed with SW-elements on ' custom '.
- Low road tax at build in inner-city area.
- Small amount of waste on the construction site.

Production Process

The Saini SW-elements are, if the final drawings are ready, on steel production tables produced. The molds be built according to the final production drawings, on which all the necessary data represents the structure of the elements.



When collapses amenities such as electra tours/boxes, mounting pairing, slots, lifting facilities and window and door pairing, are placed, the first layer lightweight concrete.

After that, After placing the reinforcement network the element poured out. The steel roller ensures the compaction. After hardening on the steel tilt tables are the elements ready for transport and Assembly.

In the inner cavity sheets can wall ties be included.

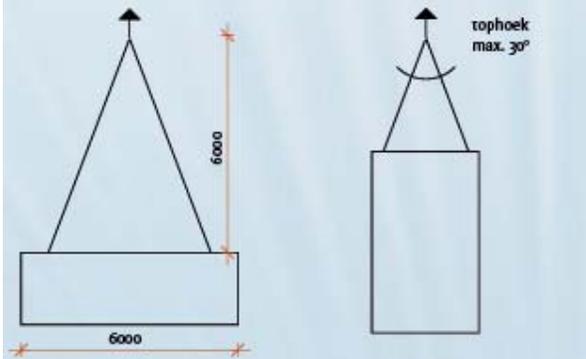
The SW-elements are flat on both sides and sleek, whereby on the construction site little finish is needed.



Processing and mounting

Saini SW-elements are on A-bucks or in inloaders with private means of transport transported to the construction site and directly mounted.

The prefabricated elements must always be perpendicular be hoisted. This can be done using a so-called bifurcation (vertex angle up to 30 degrees) or an Equator.



SW-elements wider than approximately 1000 mm are equipped with two collapsed lifting facilities. Smaller elements are equipped with a single lifting supply. The walls are with a bunch of space of approximately 30 mm on the rough concrete floor mounted.

At 10 mm separation walls kept clear the parent's floor.



A truck may vary depending on the thickness of the SW-elements approximately 60 to 100 square meters.

The couples of the elements takes place using a construction crane on so-called face plate drawers of concrete or plastic or preferably on wooden blocks (minimum two per element).

For asking the walls is made ondersabelingsmortel, in which the walls.

Mounting Connections

with a sand-cement mortar dichtgezet. The SW-elements are with using pull/pressure mounted, salt meadows that the stability required that all mounting connections have been made.

When the intermediate floor is laid and the joint filler is hardened, the trek/ pressure braces be removed. System Floors by Saini are on the construction sites self-Unloaders delivered. This does not apply to floors with the thicknesses of 220 and 220 mm.

Saini limitation of the risk of the structural work

Clients that the risk of the structural work want to reduce to an absolute minimum, may the Assembly of the complete casco at Saifee Casco building systems lodging. The Assembly teams have extensive experience in the processing of the products from Saifee Casco building systems.

The structural work is not only in a high and manageable pace, but is also once remarkably complete.



Finishing

Tiles can be directly on the SW-elements be bonded with an elastic adhesive. Tile surfaces with a maximum distance of 2.00 m should be equipped with an expansion joint. Walls must be dust-free be made and loose grains need to be removed.

Possibly the elements first light cut (no layer set up). Applied painting in the corners incision. Mutual connections of tiling, on floors and on bathroom fixtures equipped with elastic sealants in joints. Dilatations, add glue and elastic joints should be equipped with of tissue strips, before plaster layers be made.

SW-elements are smooth and sleek, the surface is somewhat porous. A finish with a flat medium on plaster base (approximately 1 mm thickness) will be the best result. The walls are hereinafter referred to as ready for finishing, such as wallpaper or spraying work. Should a corners protecting be used in external corners and edge sides.

