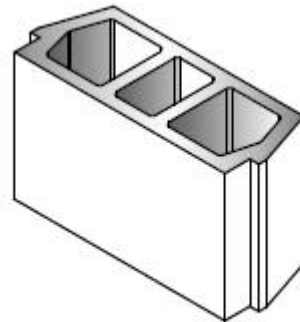
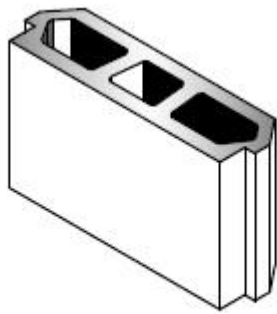


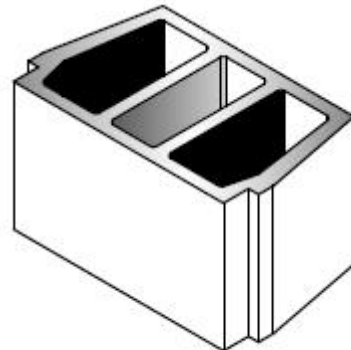
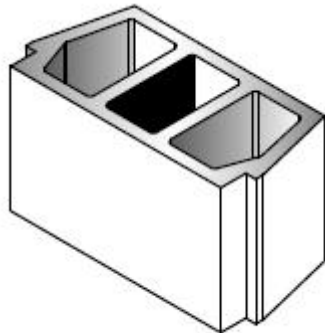


Cat5+ Floor and Roof System

Our Roof and Floor Block design



— TYPICAL 130MM (5 INCH) BLOCK — — TYPICAL 178MM (7 INCH) BLOCK —



— TYPICAL 228MM (9 INCH) BLOCK — — TYPICAL 280MM (11 INCH) BLOCK —

Notice the “lip” on the block edges which slots in place on the edge of the Rebar Trusses (see pictures below)

Raised First Floor slab (flooding)

The hurricanes of 2017 have illustrated that structures not built above the flood plain have incurred serious flooding and caused billions of dollars of damage to the structure of the buildings. The solution is to raise the ground slab above the flood level for all new builds.

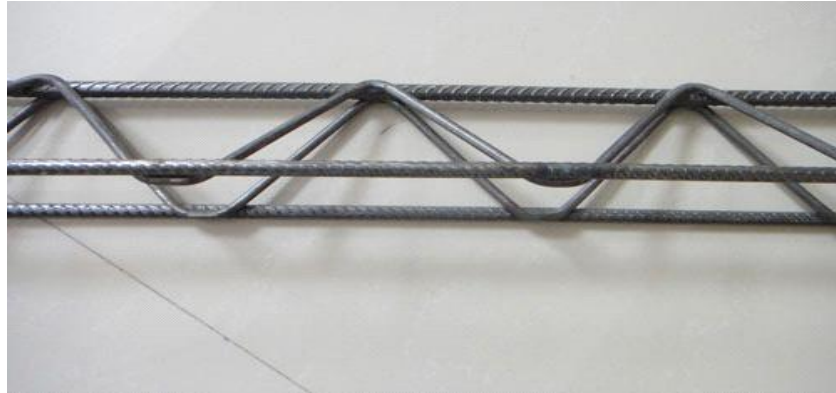
This is achieved utilizing the External Block Wall System building short stub supporting walls directly off the foundations designed by the structural engineer (typically 3 feet high).

The last two blocks are the “Black” blocks which are filled with rebar and concrete.

Structure coat is then applied to these walls.

All under slab utilities such as plumbing and electrical is then put into place and supported where necessary.

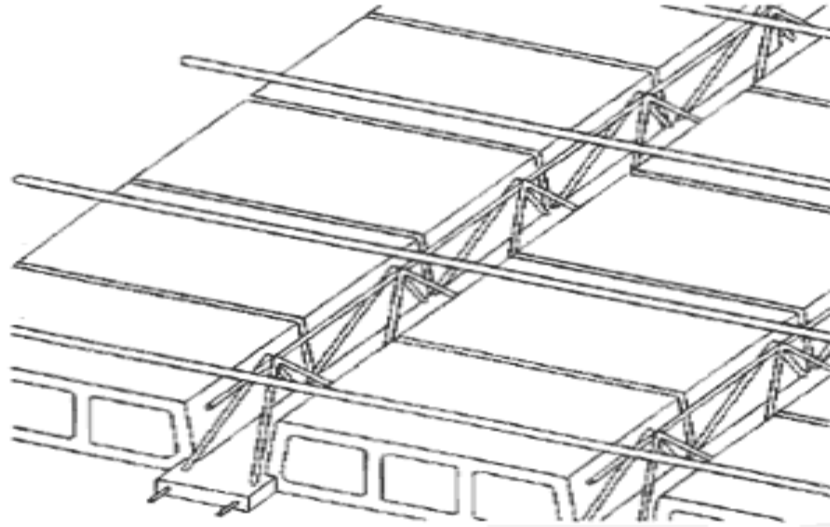
Our rebar trusses are laid between these short stub walls block 24 inches apart, connecting the rebar trusses into the rebar protruding from the “Black” block.



Finished rebar beam



The “Roof and Floor Block” is laid between the rebar trusses as seen below:



Our lightweight concrete block - below



Flexible conduit is then inserted into the “hollows” in the blocks as designed by the architect and structural engineer. We can supply special electrical/plumbing boxes which are laid in place in certain areas instead of the normal blocks as designed the architect.

The electrician and plumber then lay their wires and pipe inside of the conduit normally to the electrical/plumbing boxes.

Rebar is then laid on top of each row of block and tied to the rebar trusses and the rebar protruding from the “black” wall block.

Wire mesh is then laid on top of the blocks and the wire mesh tied to the rebar.

The “Roof and Floor Block” is then injected with the Cat5+ foam to give excellent insulation.

The sides of the building are then shuttered ready to receive concrete.

Concrete is poured onto the wire mesh and vibrated to remove all air forming the slab.

The concrete is then left to set.

A waterproof membrane is laid over the concrete to the specification as designed by the structural engineer.

An additional layer of concrete is then laid over the membrane as designed by the structural engineer.

This becomes the ground floor slab which is now raised above the flood level.

Second floor

Either a wooden truss system or our rebar truss system may be used.

If a wooden truss system is used then this can be put together on the ground making its erection much faster and safer and then lowered in place as seen below.



Roof System

The roof is built in a similar way to the ground floor slab as described above except our rebar trusses are put in place on top of the supporting walls as designed by the architect and structural engineer.

Our rebar trusses are laid on top of the supporting walls 24 inches apart, tying the rebar trusses into the rebar protruding from the “Black” wall block. The rebar trusses are then supported by a line of props usually 5-8 blocks apart.

The “Roof and Floor Block” is then inserted between the rebar trusses as seen below:



Note:- we use a lightweight concrete block in our system rather than terracotta block.



Flexible conduit is then inserted into the “hollows” in the blocks as designed by the architect and structural engineer. We can supply special electrical/plumbing boxes which are laid in place in certain areas instead of the normal blocks as designed the architect.

The electrician and plumber then lay their wires and pipe inside of the conduit normally to the electrical/plumbing boxes.

Rebar is then laid on top of each row of blocks and tied to the rebar truss and the rebar protruding from the “black” wall block.



Wire mesh is then laid on top of the blocks and the wire mesh tied to the rebar.

The “Roof and Floor Block” is then injected with the Cat5+ foam to provide excellent insulation.

The sides of the building are then shuttered ready to receive concrete.

Concrete is poured onto the wire mesh and vibrated to remove all air forming the roof slab.

The concrete is then left to set.

A waterproof membrane is laid over the concrete to the specification as designed by the structural engineer.

An additional layer of concrete is then laid over the membrane as designed by the structural engineer.

After the roof concrete is set the props are removed.

The roof is finished to the specifications of the architect and engineers which may be concrete tile, metal, shingles or just painted.

Alternatively our sister company’s **3 KW Solar panels** are installed on top of the concrete in the foam sandwich adding an additional **R8** factor to the roof insulation.