STRUCTURES BUILT IN HOURS

42 m² COTTAGE

67 m² GARAGE

LIVESTOCK TROUGH
**ILLUSTRATED USE OF STUMBELBLOC**

**STEP 1: FOUNDATION**

Cast Foundations to standard building regulations requirements.

Foundations must be **cast completely level**, 600mm wide by 230mm deep for single storey, double storey is not allowed by NHBRC.

If stepping is required, **step at 180mm** as seen in this picture.

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**STEP 2: SET OUT BLOCK WORK**

You **MAY NOT** use a half block on your set out layer when building a house, your module will be wrong.

Create the spacing of the module by packing out 2 courses of blocks by dry stacking them first.

The second course determines the correct interlock spacing, and then once fitted properly lift the top row and dip into Blockgrip and pack.

If the foundations are not level you have to place the blocks on a mortar bed like conventional building in order to create a level base.

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**STEP 3: BUILD FOUNDATION WALL ACCORDING TO APPROVED PLAN**

Dry stacking the foundation walls are acceptable if you fill them with concrete.

Small houses with foundation wall not exceeding 2 courses do not need concrete in plinth, but walls must be built to roof height before compacting floor.

More than 3 courses high must have steel and concrete. 4 courses high get 1 x Y10 steel per course. 5 courses and more add vertical steel as per engineer.

Knock off middle teeth and insert reinforcing steel per course, determined by engineer.

Then fill with concrete.

Clean top of block with brush and water, insert damp course to be level with top of slab.
Chop off middle teeth when fitting steel between layers in plinth.
The blocks have a convex and flat ends; **always build the flat ends in the same clockwise direction.**

Mix sufficient amount of Blockgrip at a time. (See Leaflet)

Dip the bottom of the block into NHBRC approved Blockgrip and simply place.

Where a reveal finishes with a half block at every 2\textsuperscript{nd} course the system has a tendency to dip down. Eliminate this by **double dipping the block.** Remove the block when you notice it is lower and dip it again.

The mixture remains soft and wet for a few minutes so that you can adjust the blocks.

Only build two courses at a time and then correct while glue is wet. Use a spirit level and a straight edge to correct block work after every 2 courses.

If you find that you have gone too fast and your levels are slightly out, then mix a slightly thicker batch of Blockgrip and correct your levels.

Build outer walls to roof height on small dwellings before compacting floor for floating slab to stabilize foundation walls with the weight.

This is only done when no concrete is cast into plinth.
Always create a complete module on the foundation and only remove blocks for door openings when the spacing is correct, maintain the interlock spacing.

The one meter concrete door frame supplied by Beterete as well as the standard steel door frame (The 760 door size) fits perfectly in the module as seen in the pictures.

760 door size, Beterete frames also fit in the module.
Prop a soffit plank in opening and simply carry on with block work for 1 course.

Then knock off the middle teeth and place two Y10 reinforcing bars in the next 2 courses at least. The span may not exceed 1.6 meters if the span is larger than 1 meter use 2 x Y12. For 1.6m use 3 x Y12.

A bigger span than 1.6 meters requires standard beams:
These must conform to SABS National Building Regulations.

The Y-bar length must exceed the opening by 200mm on each side.

When filling with concrete the lintel automatically fills the two cores of the upright reveals to which windows or door are fitted.

Betcrete windows work the best with the Stumbelbloc system. It is very cost effective. It fits in the module and works as a prop at the same time. It is glued in with Blockgrip.
Internal walls can be built on a stiffener or thickened slab. Internal walls can be built afterwards but make sure to place bracing straps in outer wall during construction at every 3rd course.

Make sure that the module spacing is correct on the outer walls to accept the inner walls.
Check squareness.

Place a bracing strap (galvanised hoop iron) between the blocks at position of ‘T’.

Fill afterwards with concrete in both cavities of outer and tying walls.
Push a cement bag down the core of the correct truss position, according to the roof plan. Place a bracing strap down the core, bend the bottom of the bracing strap like a fishing hook and fill with 20Mpa concrete 3 blocks deep. Knock off middle teeth of block before placing wall plate in centre of wall to spread load evenly.
**STEP 11: DOORS**

**IF THERE IS NO POWER:**

Leave an opening larger than the door frame, one meter.

Build the door frame in, with bracing straps, into the wall on both sides.

Fill the gap on one side with bricks.

**IF ELECTRICITY IS AVAILABLE:**

Build door opening smaller than frame size 800mm, place frame, and mark and cut to size with diamond blade grinder.

Fill cavity next to frame with concrete and let it set for two days before cutting.

Fix frame with 8 x 8mm Fischer Plugs

**STEP 12: PLASTERING**

Mix water with left over blockgrip and brush walls for plaster keying.

As it is waterproof before painting.

‘Skimplaster’ is the best option when available.

Conventional plaster can be used with a good acrylic paint.

**STEP 13: HOW TO MIX AND USE BLOCKGRIP (DIP AND PACK)**

1. Mix, Dip and Pack
2. (see Blockgrip leaflet)
**STEP 14: PLUMBING**

All water supplies come from the roof, no cutting of walls is necessary.

Simply grind a small hole in the block and put pipes in cavity which is always clean with this system.

Only drainage goes in the slab where necessary, the preference is straight through the wall.

**STEP 15: ELECTRICITY**

No Cutting of walls, all supply is from the top through the cavity.

Take a small diamond blade grinder and simply cut a hole the size of an electric box.

Glue in the box with Blockgrip.

Drop the cutting into the wall and no rubble is created.

Simply draw SABS approved twin and earth wire through the draw box.
Control joints are necessary in long walls. Break the wall up into maximum 5m sections.

Build the joints by placing 2 half blocks on either side of the joint position every second course or simply cut a joint with a grinder after construction. When plastering a control joint make sure to plaster a V-joint and waterproof with silicone after painting.

Expansion/Control joints are compulsory at a maximum of 5 meter intervals.

When building a boundary wall lateral support is required by creating a rebate step at the columns.

These columns must have Y12 rebar as in picture. The rebar must curl into the foundation with a 600mm bend when casting the foundation.

Fill columns with concrete after construction.

Example of control joint in retaining wall.
These structures are load bearing immediately.

Rotate the flat side of the block on each course to remain vertical.

STEP 18: LATERAL REINFORCEMENTS

Use brickforce 2.8 to 3.55 diameter wire x 75mm wide.

brickforce has to be placed right through an entire course of the house to keep it level and have the desired effect.

only 1 course of brickforce is required, midway between door soffit and wall plate
Place lugs of window inside core and fill with concrete.
STEP 20: CAVITY / WEEP HOLE

Using the ‘Blockgrip’, Dip and Pack method keeps the hollow core clear so that weep holes are effective and thermal features are not compromised.

STEP 21: BLOCK DIMENSIONS

STEP 22: HOW TO FIT WALL PLATE

Knock off middle teeth and place wall plate in centre of wall.
Blockgrip is used to bond the courses of the STUMBELBLOC together. It is much easier to use than conventional mortar (Dagha) and results in a much stronger wall. It also adds virtually no extra height to the structure and remains workable in the wall for about 10 minutes allowing for the adjustment of the blocks as building progresses. Added to this, it is more economical, less wasteful and much faster than mortar.

Mixing a bag of BLOCKGRIP requires between 8.5 and 9 litres of water. Add the Blockgrip to the water. Add extra water if necessary to get the consistency which is shown in the Building Manual. It is important to get a thin liquid consistency to ensure the most economical results. Pour into a tray wide enough to take a full block. The mix can be used for 2 hours. Do not add water again. Dip and pack as fast as you can!

BLOCKGRIP CONCENTRATE is made for economy of transport to outlying areas where the convenience of a ready mixed product is outweighed by the saving.

BLOCKGRIP is made from the concentrate by mixing dry plaster sand (no coarse particles, sift if necessary) with cement and the Concentrate. Measure out a full builder's wheelbarrow of the sand and add one packet of cement for each 1kg packet of Concentrate. Mix thoroughly. Provided the sand is dry, this mix can be kept in a dry place. Sand can be dried by spreading it out on a concrete or tiled surface. It will dry out in about a day. It is obvious when it is dry as it can be sifted damp sand cannot be sifted.

Should damp sand be used, then the mix must be used immediately. Lesser quantities can be mixed by dividing the parts up evenly into 5. This will yield the equivalent of one bag of ready-mixed BLOCKGRIP. Using damp sand results in a mix that will go hard after a few hours.

SKIMPLASTER

SKIMPLASTER is a fibre reinforced thin skin plaster ideally suited to the plastering of STUMBELBLOC structures. It is waterproof without a paint topcoat. It is pre-mixed - only water needs to be added.

Anyone can apply SKIMPLASTER – it as easy as spreading butter! Apply a first coat to close any gaps and produce a relatively smooth surface.

Apply a second coat to obtain the desired smooth finish and hide the joints between blocks, preferably after allowing to dry for a day.

BLOCKGRIP, BLOCKGRIP CONCENTRATE and SKIMPLASTER are the registered names of:
TECHNICAL FINISHES (Pty) Ltd suppliers of the products to STUMBELBLOC
Tel: 021-535 4455

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A warm, dry home with...

Skimplaster

The waterproof, fibre-reinforced thin skin plaster

Applied at only 3 - 5mm thick

No wastage

Even over PVA paint and facebrick

Quick and easy, minimal skill required

For new and old construction

Carbon footprint much smaller than conventional plaster

Technical Finishes

We deliver results

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