



PRECAST BEAM SYSTEM

*“Laboratory tests conducted by UCT on behalf of Cobute have shown that beams constructed using their Shuttercrete systems are as good if not better than conventionally cast beams”
— Pr.Eng. Ugo Rivera*



TeSik
DECKING

About:

Founded in 1994 in the Western Cape, Cobute (Concrete Building Technology) brings extensive experience in the manufacturing of precast elements for the building industry in Italy. Cobute started with the production of an innovative **precast reinforced concrete decking system**, the lightest precast system available on the market, which does not require the use of a crane to be installed.

New precast products were developed with the assistance of a Civil Engineer in 1996, to offer the easiest method of installation on site; a patent was registered, under the name Shuttercrete, for **permanent precast concrete shutters for columns, beams and staircases**.

Currently, Cobute produces and offers over 30 different products that serve markets not only in the Western Cape but throughout South Africa and the SADC community. In 2016, TeSik Decking started manufacturing the Cobute system in Swakopmund, bringing this innovative technology to Namibia.

Shuttercrete Beams by Cobute consist of **two L-shaped elements** of precast concrete with reinforcement cast in, to dramatically reduce carpentry costs as well as to minimise the need for timber shutters. Beams are reasonably light, weighting 20-37kg/m per element.

UCT laboratory testing shows that the Shuttercrete system for beams produced by Cobute is as good as, if not better in both shear and bending, than conventionally cast in-situ beams. The exterior has an excellent finish, being off-steel shutter.

INSTALLATION

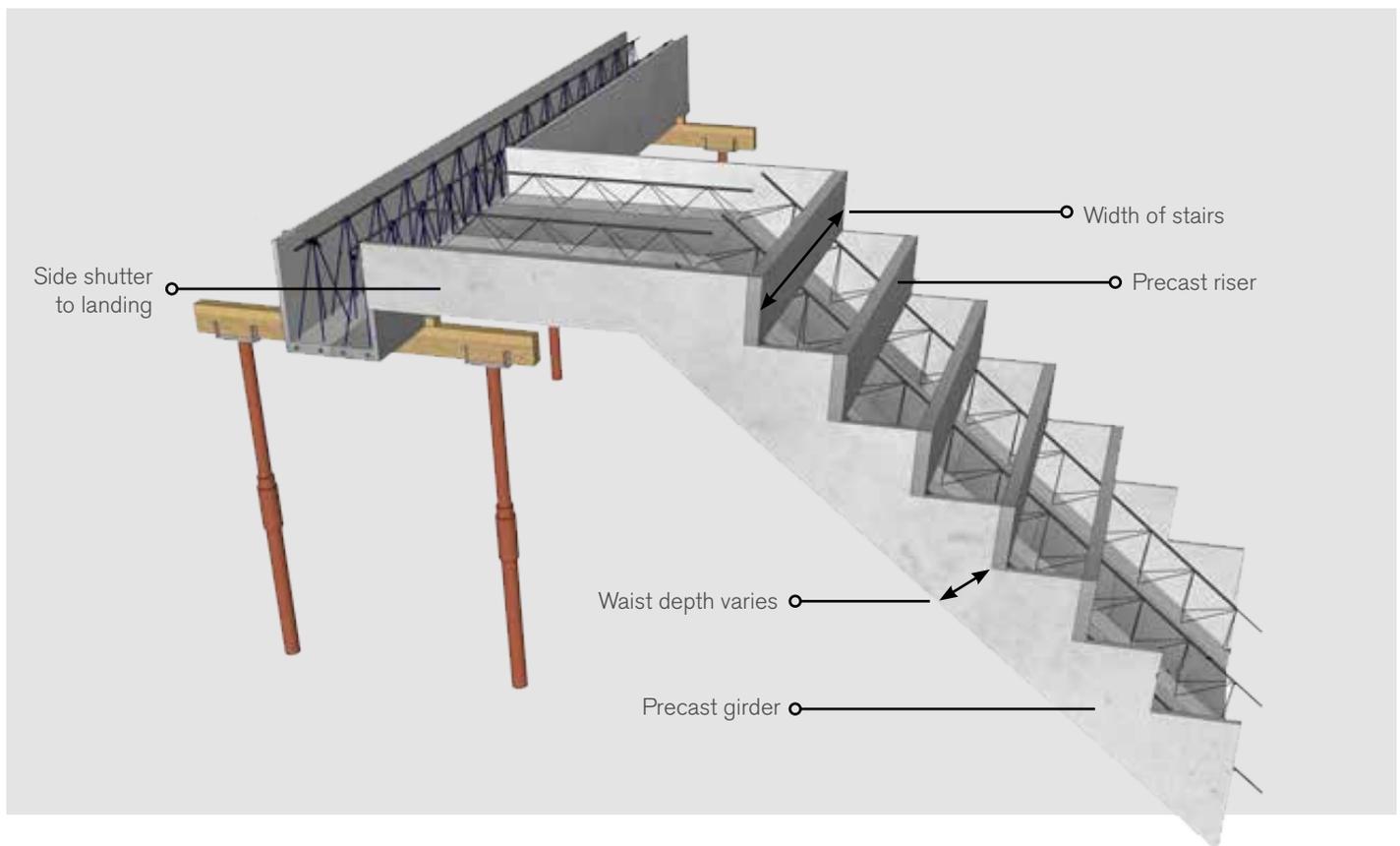
It simply consists of lifting and putting into place the two L-shaped elements, then tie them together with the binding wire.

A 6m long beam can be installed and ready for casting in approximately 30 minutes by a group of 6 construction workers, with a reduced number of props (up to 2m centres approximately).

The beam complements the Cobute precast decking, staircase and column systems, allowing to cast the whole project with only one pour.

The advantages are plentiful:

- Unique patented system to replace conventional timber formwork
- More cost effective than conventional cast in-situ
- Easy-to-manoeuvre and quick to erect
- Minimal propping, quick stripping
- Easily staggered along length for spans over 7m
- Minimal steel fixing
- One cast for the whole floor, when combined with Cobute deck, stairs and columns



Additional bottom tensile steel, if needed, might be **factory-fixed**

Top and bottom reinforcements as per Engineer's design

Side panel varies up to 600mm

Width varies from 90mm onwards

Timber kicker

Timber bearer

Binding wire

Precast beam with step

Mesh

Polystyrene block

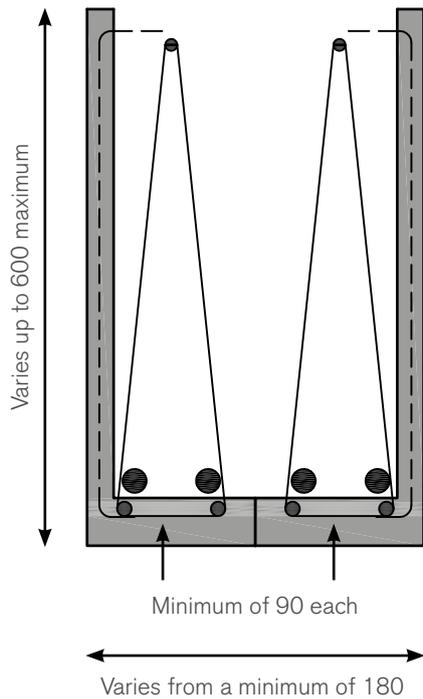
Precast panel

Precast rib height of lattice varies

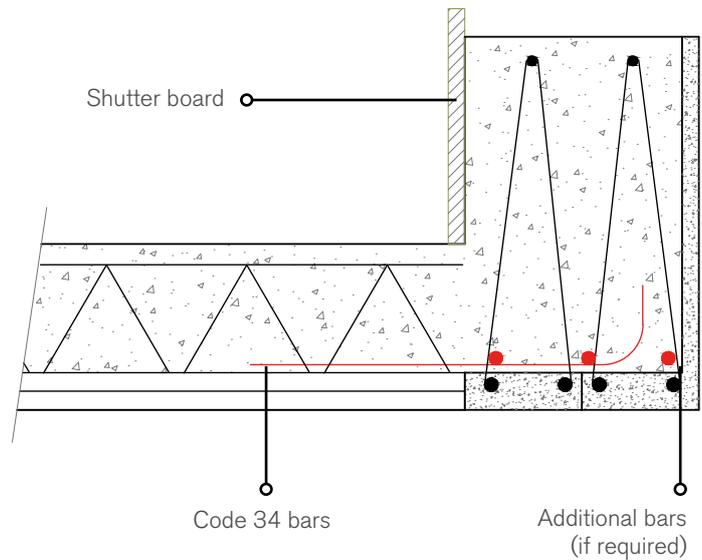
PROPPING REQUIREMENTS

Propping is at 1,5 / 2m centre to centre . The user must ensure that the beam cannot push open during casting, as shown in the installation layout delivered to site along the beams.

Section of Shuttercrete Beam

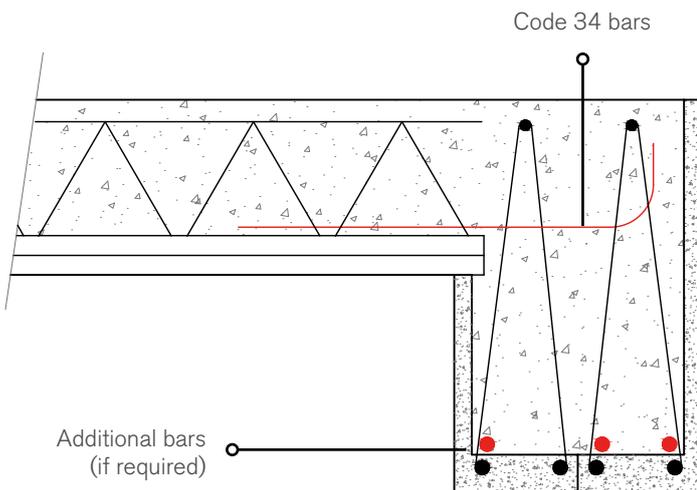


Typical upstand Beam section



For upstand beams integrated with decking, only the outer element of the beam bears the side panel, while the inner side of the beam will have to be shuttered in timber. The slab will butt up against the beam member at 90 degrees; 1 code 34 bars, or more, will then connect the ribs to the beam, as specified by the Engineer.

Typical downstand Beam section



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“Thank you for your help and your product. I am very happy with the way it is working and the ease of it all. Your products are great and forward thinking!”
– Jason Hayes (Customer)

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