

■ Prinzing GmbH, 89143 Blaubeuren, Germany

One plant for two different manufacturing methods

Prinzing GmbH developed the 'Zelus' plant series for the automatic production of precast concrete parts made from self-compacting concrete (SCC) and delivered the first plant from this series to Ireland in 2004 (BWI 01/2004). Development of the product range has continued to the present

day. The 'Zelus plant' can now be used for two fundamentally different production methods, the automatic pouring method with SCC and the automatic vibrating roller method with immediate demoulding.



System mould for SCC



Mould store with portal robot

The Zelus plant series is an automatic system for the production of small-format concrete goods to large-format precast concrete parts. Outstanding facing surfaces can be achieved using the pouring

method with SCC. Using the vibrating roller method, conventional concrete can be processed with a minimum of mould expenditure.

Automatic pouring method with SCC

System moulds with the same external dimensions, for example 1400 x 4200 x



Automatic filling of system moulds with SCC



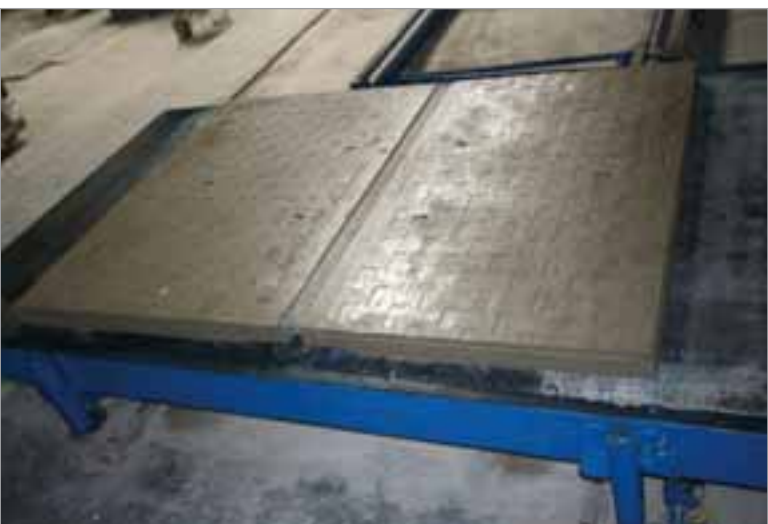
System mould for 6 light wells for SCC



Feeding unit for the vibrating roller method for normal concrete



Concrete is highly compacted and flush with the mould



Freshly demoulded precast concrete parts, compacted using the vibrating roller method

340 mm (w x l x h) are used. Different product forms are in turn integrated in these moulds (e.g. for 8 panels, 27 slabs, 20 garden posts or 40 kerbstones per system mould).

Up to 130 system moulds may be found in the mould store for one day's production. This allows the manufacture of between 500 and 1000 products, depending on the size.

Before the shift starts, information is input into the controller as to which system moulds will be used for production on this day. The further manufacturing procedure takes place for the most part auto-matically. During each work cycle, a mould is fetched from the mould store and the hardened products are demoulded. A further system mould is simultaneously filled and subsequently placed in the mould store.

In an additional Zelus plant, which is designed for U-channels and light wells made from SCC, the system moulds have external dimensions of 1500 x 6500 x 800 mm (w x l x h). In these system moulds, the side walls are opened automatically for demoulding and the U-channels are removed in an upwards direction by the portal robot. One such system mould contains, for example, 6 light wells with a dimensional height of 1000 mm or 3 U-channels with a dimensional length of 2000 mm. Installation parts (e.g. reinforcements, transport anchors, fixing elements) can be inserted in the mould before the pouring process.

Automatic vibrating roller method with immediate demoulding

This method allows the immediate demoulding of the precast concrete parts on large pallets with dimensions of, for example, 4200 x 1400 mm or 6000 x 2750 mm. The newly-developed feeding unit fills the mould as it drives forwards whilst at the same time vibrating. As the feeding unit drives back-wards, additional compaction takes place using a rotating smoothing roller. The mould device is always filled evenly and flush and is smoothed. The subsequent turning procedure and demoulding of the concrete parts on large pallets is carried out automatically by the portal robot, which also manages the pallet store.

Further information:



Prinzing GmbH
 Anlagentechnik und Formenbau
 Bruckfelsstraße 9
 89143 Blaubeuren, GERMANY
 T +49 7344 1720
 F +49 7344 17280
info@prinzing-gmbh.de
www.prinzing-gmbh.de
www.top-werk.com