3D MOULD SOLUTIONS

RATEC
MEET THE BETTER IDEAS
3D Moulds
Custom-made Precision

Products for the production of high-quality volumetric precast concrete elements

We have significantly expanded our mould portfolio for the production of volumetric precast concrete elements. In addition to room module moulds for residential construction, we also offer various mould solutions for transformer stations, elevator shafts or sanitary cells.

For room elements that require top-notch surface quality, our upcrete® compatible module mould for pressure filling from below offers the perfect solution. More information about the different solutions is provided on the next few pages.

Benefit from experience and flexibility – MEET THE BETTER IDEAS!
STURDY CONSTRUCTION
TAILORED TO CUSTOMER REQUIREMENTS

100% ECONOMICALLY VIABLE FOR YOUR SUCCESS
EASY TO USE

STURDY CONSTRUCTION
TAILORED TO CUSTOMER REQUIREMENTS
Room Modules
The Flexible Mould Kit

High quality also for smaller series – our newly developed modular mould kit offers the perfect solution also for smaller projects.

One of the unique features of the new concept is the patent-pending shrinking mechanism, whereby the module is lifted while the inner core is shrunk at the same time. The mould was also deliberately designed to be modular. The core and exterior panels consist of various standardised components that can be easily swapped out and adapted to other room dimensions. This means the mould can be used efficiently even if the production volume of a room is small.
**PROPERTIES**

- Modular design of the core and outer panels, made from various standardised base elements that can be re-combined as needed.
- Patented shrink mechanism of the inner core: simultaneous shrinking and lifting of the element
- Also adaptable to complex details of the element
- Suitable for filling from above and below
- Easy to integrate into existing production system

Example: Finished room module

Scan the QR code to find out more about the flexible mould kit!
Transformer Stations
Versatility is Key

Many different shapes are possible with just one mould – notwithstanding easy handling and short changeover times.

The easiest way to produce a 3D room element is to use a fixed inner core with a slope. However, this approach is only suitable to elements in which the formation of a wall slope in the element is possible within the scope of the standards and static requirements. Such is the case for the design of garages or the production of transformer stations. For the production of substation elements in particular, we developed a solution that covers common types of stations, is flexible to use, and which can speed up the process in the plant.
**PROPERTIES**

- The mould is designed for two different lengths, i.e. the core and outer panels can be converted to another length.
- Swappable, customised attachments for the production of interior walls, recesses etc.
- Changing attachments for other station types generally takes less than 20 minutes
- The floor is hydraulically lifted by 10cm to facilitate stripping
- Integrated vibrator unit used with normal or washed concrete

Example: Mould for the production of transformer stations measuring 2.4 x 2.1 x 2.3 m and 2.9 x 2.1 x 2.3 m

Customers can select from 23 different attachments available from our product range (14 different attachments in the example).

Example: Two different shapes of the possible concrete elements.
upcrete® Room Modules
In-situ production of complex elements

Visionary concepts come true with upcrete® modular moulds – even complex concrete structures can be produced with smooth surfaces on all sides

The room module mould with “flying” shrinking core was the first room cell mould developed in Hockenheim and was used for a modular housing project for a Peruvian customer. This mould variant is based on the upcrete® technology, in which self-compacting concrete is pumped from below into a closed mould. This process allows the concrete to optimally distribute within the mould and yields smooth surfaces on all sides, as well as precise edges and recesses. Another advantage is that the structure can be produced in its final installation position, which means that subsequent turning is no longer required.
PROPERTIES

- Maximum dimensional accuracy on the component
- Complete filling of the most difficult geometries
- Production of complex concrete bodies in installation position
- All-around smooth surfaces
- Minimal concrete residue
- Quiet, material-friendly, efficient and employee-friendly concrete elements production
- High utilisation of the mould
Additional Solutions for Volumetric Elements

**ROOF MOULDS**

Example: Roof moulds for upcrete®, for filling from below

Moulds for a flat roof with contouring at the bottom, for filling from above

**STAIRCASE MOULDS**

Special solution for staircase moulds. Three of these stair forms were fitted into a circulating pallet and introduced to regular rotation in the plant.

**ROADBED ELEMENTS**

The concrete elements for a cable railway were to be produced with protruding reinforcements.

The mould was designed so that the tables can still be used for the production of other elements after this “special mission”.
Our references worldwide

We deliver our products in more than 70 countries worldwide

At RATEC we combine and execute the outstanding ideas generated by the Reymann Group. In our inter-knitted environment we develop and optimise a wide range of customer related projects. We provide special attention to perfectionise the relationship between production processes and the corresponding precast concrete plants to guarantee a production set up that will generate a smooth workflow for each individual client. By combining our skills, expertise and experience we are proud to offer successful solutions to very specific challenges that have proven their place in the world marked with a variety of our system components. This specific approach to custom adaptations combined with our variety of high quality standard products are tailored to satisfy the individual needs of our customers in an extremely economical and reliable manner.

Benefit from our extensive experience and comprehensive advice.
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