3D MOULD SOLUTIONS

The complete range of products for the production of volumetric precast concrete elements

RATEC

MEET THE BETTER IDEAS

RECONFIGURABLE FOR OTHER ELEMENT GEOMETRIES

3D moulds
Tailor-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, lift shafts or sanitary cells.

For room elements that require maximum surface quality, our upcrete® compatible modular 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!

DURABILITY WITH HIGH QUALITY PROCESSING

100% COST-EFFECTIVENESS FOR YOUR SUCCESS

EXPERIENCE FROM 40+ INSTALLED 3D MOULDS WORLDWIDE

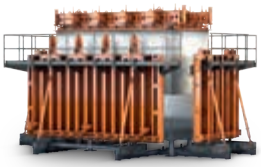
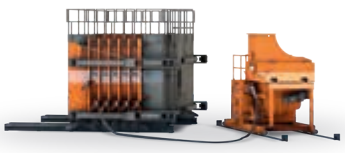
TAILORED TO CUSTOMER REQUIREMENTS

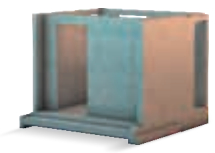
HIGH DIMENSIONAL ACCURACY THROUGH PRECISION WORK

3D technology overview

The right solution for every application

Different mould variants are available for different applications, each differing significantly in the design of the inner core and production process.

	CORE TECHNOLOGY	CONCRETING PROCESS
THE FLEXIBLE 3D MOULD KIT 	**Fixed patented shrinking core**, where shrinking of the core and lifting of the element by the base formwork take place simultaneously	From the top
3D MOULDS FOR TRANSFORMER STATIONS 	**Fixed conical core (non-shrinkable)** Demoulding is by lifting the base formwork by up to 10 cm. The conicity of the inner core ensures that the concrete element is detached from the core and can be lifted off	From the top
upcrete® 3D MODULAR MOULDS 	**"Flying" movable shrinking core (upcrete®),** which is lifted out of the mould for demoulding. The precast concrete element is produced in the final installation position–no turning necessary	From below – pressure filling by pumping station
VERTICAL AND HORIZONTAL ROOF MOULDS 		From the top upcrete® roof moulds also by pressure filling from below
BATTERY SYSTEM (with or without upcrete®) 		Conventionally from the top or pressure filling from below by pumping station

CONVERSION OPTIONS	AREAS OF APPLICATION		
Modular design of the core and exterior panels, made from standardised base elements that can be re-combined as needed	- Room modules for residential construction - Sanitary cells - Elevator shafts - Prison cells - Shelters - Transformer stations		Page 8
Inner core consisting of different sized core elements and attachments can be flexibly combined. If required, a mould can be used to cover a range of lengths in 10 cm increments with up to 4 widths at the same time	- Transformer stations - Cable basements / cable troughs - Equipment rooms		Page 14
None	- Room modules for residential construction		Page 22
Element sizes can be varied using magnetic formwork	- 3D roof elements - Flat roofs - Pitched roofs		Page 26
Extension with additional pockets possible (up to 2 x 10 pockets in total) Element sizes can be varied using magnetic formwork	- Facade elements - Solid and sandwich walls - Architectural walls with matrices on both sides - Noise barriers		Page 30

3D moulds
Areas of application

Volumetric precast concrete elements and room cells are used in a wide range of areas, both in residential and industrial construction. We can offer you a suitable mould solution for the following applications:

ROOM MODULES

Left:
3D mould kit for multi-storey modular construction with complex details

Top:
Modular housing project. The room modules were produced using three modular moulds, roof and stair moulds and a battery.

Bottom: Construction of the multi-storey "Worker's Accommodations" using room cells from the mould kit.

SANITARY CELLS

Sanitary cells or bathroom pods are volumetric precast concrete elements that are frequently used in residential or hotel construction projects.

TRANSFORMER STATIONS

Non-accessible compact transformer stations. Various configurations and interior walls can be achieved with one mould by using different attachments and recesses.

ELEVATOR SHAFTS

The use of prefabricated storey-high concrete elements enables the rapid construction of lift towers

SWITCHGEAR HOUSES

Walk-in switchgear house used for switchgear or transformers

SHELTERS

Prefabricated shelter to HDB standard in Singapore

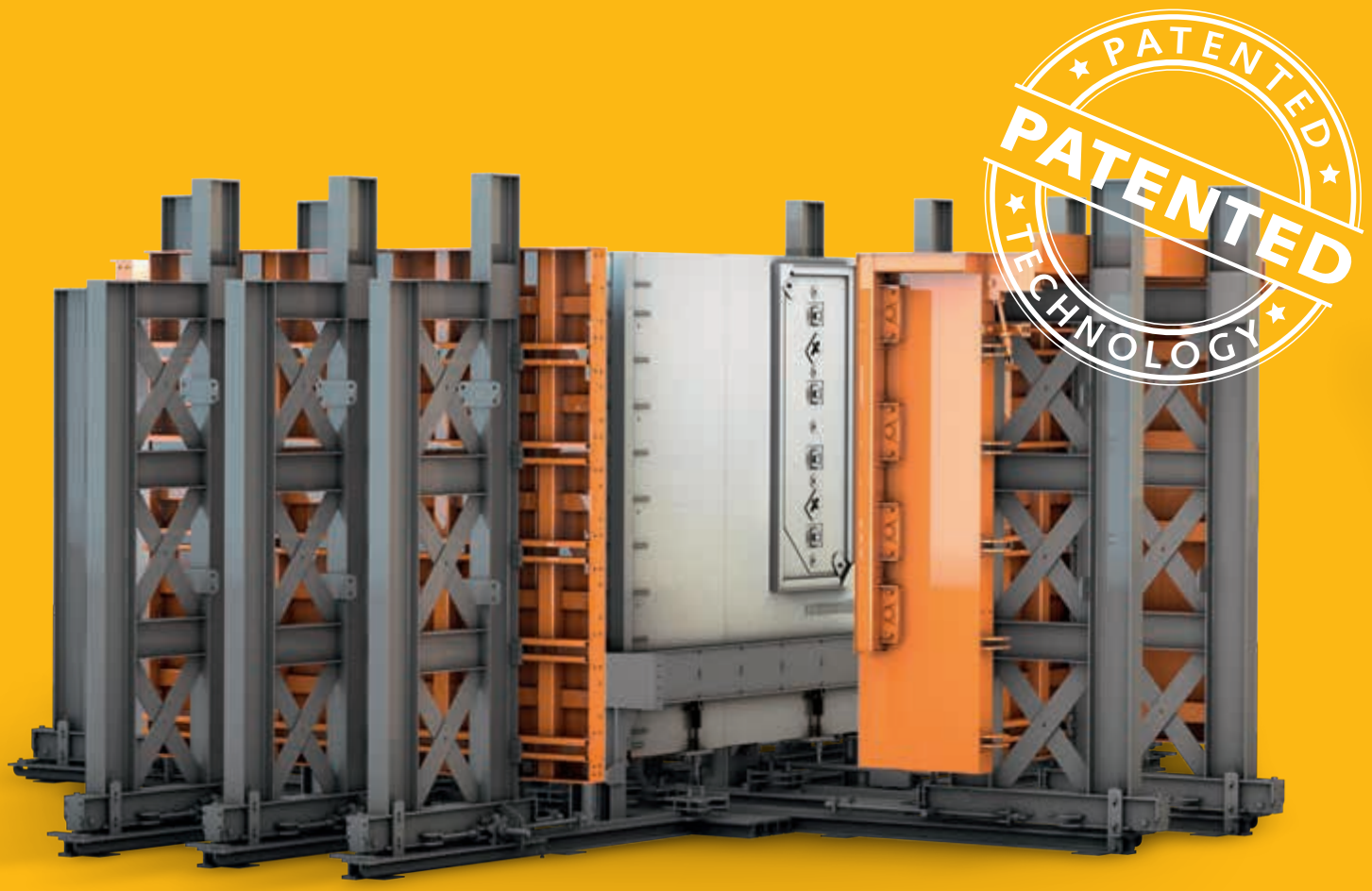
PRISON CELLS

Example of a modern prison cell

The flexible 3D mould kit for room modules High quality also for smaller series

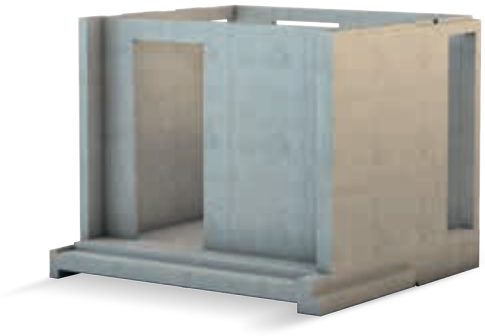
Our newly developed modular mould kit offers an adequate solution also for smaller projects.

One of the unique features of the new concept is the patented 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.



FEATURES

- Modular design of the core and exterior panels, made from various standardised base elements that can be re-combined as needed
- Patented shrinking 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

FLEXIBLE AND ECONOMICAL THANKS TO MODULAR DESIGN

- Flexibly adjustable support system for the inner core combined with a system of panels in standard and special sizes allows easy adaptation of the size of the inner core by adding, removing or moving the inner supports
- The outer panels are supported by a flexibly adjustable support system
- Each shuttering surface is formed by joining panels in standard/special sizes, allowing flexible adjustment of dimensions

ACCESSORIES – TURNING STATION

On request, we offer a suitable turning station for 180° rotation as part of the scope of delivery.

3D mould for elevator shafts

The variable mould for elevator shafts and other 4-sided precast concrete elements can be adjusted in length and width. Our solution is designed so that the outer panels are variable from 1.35 m to 3 m without any need for conversion. The inner core is variable in length and width in 50 mm increments from 1100 mm to 2750 mm.

We adapt all parameters such as dimensions and wall thicknesses to order. Our moulds are equipped with an integrated vibrator unit for the use of normal or washed concrete.

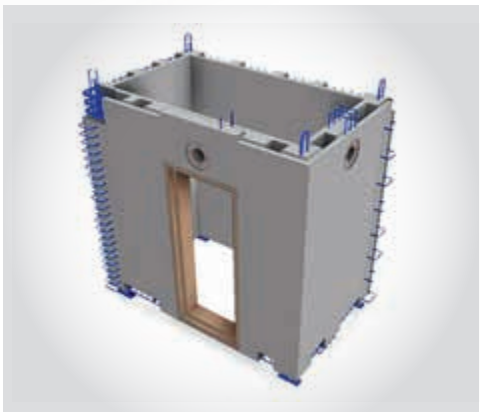
The use of prefabricated storey-high concrete elements enables the rapid construction of lift towers

3D mould for household shelters

Household shelters are 4-sided concrete elements that are installed in residential buildings, for example in Singapore, in accordance with local building standards. The room is used primarily as a shelter for residents in the event of natural disasters such as earthquakes or tsunamis, but also in other emergencies such as fires or terrorist attacks.

These types of room cells are characterised by a heavier weight due to their greater wall thicknesses of between 250 mm and 300 mm.

A special feature of the building standards in Singapore are the vertical hollow bodies that must be formed in the element. This is achieved using recesses that are integrated into the mould. The variability of the mould extends not only to the dimensions of the element, but also to the wall thickness, the position of the door and the arrangement of the conical recess bodies.



3D model of a household shelter, as installed in residential buildings in Singapore, for example, in accordance with local building standards.

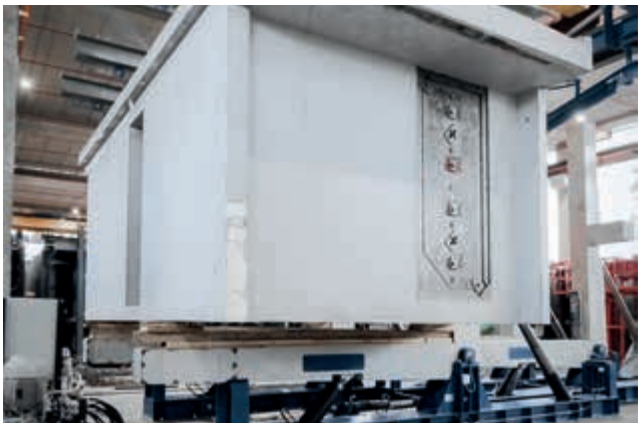
The flexible 3D mould kit
Application examples

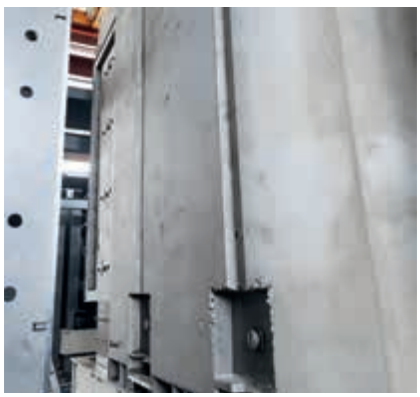
PROJECT SINGAPORE
MULTI-STOREY MODULAR CONSTRUCTION WITH COMPLEX DETAILS TO THE PPVC STANDARD

For the production of room modules for the construction of the multi-storey "Worker's Accomodations", the 3D mould kit was installed. What proved to be particularly challenging were the complex element details and connecting reinforcement based on the construction standards for PPVC (prefabricated prefinished volumetric construction) applicable in Singapore.

Project scope

↗ A total of four modular moulds were installed





Project report
3D mould kit

Press article (PDF)
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PROJECT PHILIPPINES
PRODUCTION OF BATHROOM UNITS

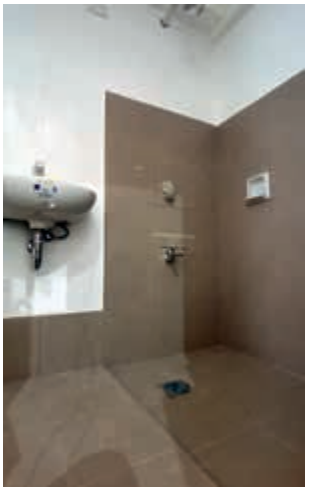
The 3D mould kit was adapted for the production of bathroom unit elements (so-called PBUs – prefabricated bathroom units).

Project scope

- A total of four modular moulds and one turning station were installed
- Production hall: 120 m x 30 m
- By intelligently combining rails and the exterior panels that move on them, the moulds can be varied 450 mm lengthwise and 300 mm in width
- Wall thicknesses between 75 mm and 125 mm can be produced.
- The height of the modules can also be varied from 2.00 m to 2.90 m by adjusting the base formwork
- 63 spaces for completion

Result

- 77% increase in efficiency, measured in man hours
- 64% increase in speed, measured in total time required to complete a bathroom pod



Learn more about the 3D mould kit on our website

3D moulds for transformer stations
Focus on versatility

Different element variants are possible with just one mould – notwithstanding easy handling and short changeover times.

The simplest variant for producing a room cell is to use a fixed inner core with a slope. However, this approach is only suitable for elements in which the formation of a wall slope in the element is possible within the scope of the standards and structural requirements. This is the case, for example, 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 production process in the plant.

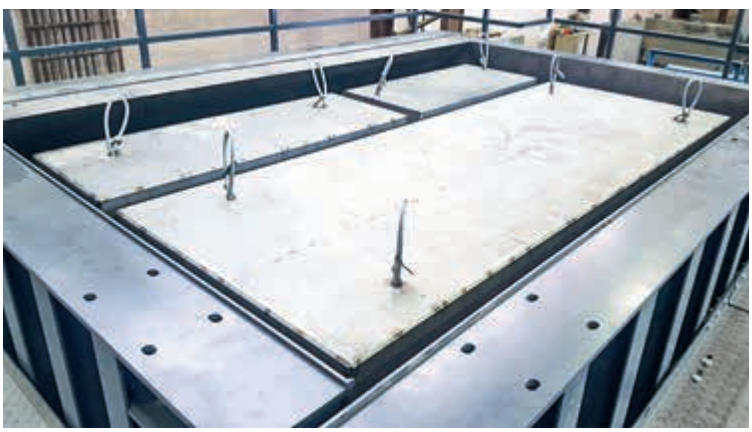
We have been developing this application solution continuously since 2018 and can now offer a wide range of mould variants and accessories. More than 50 installed moulds for the construction of transformer stations, including cable basements and station roofs, speak for themselves.

FEATURES

- The inner core consists of various basic elements that can be reconfigured or extended as required to cover different lengths, widths and heights
- Swappable, customised attachments for the production of interior walls, recesses etc.
- Core conversion possible in less than 20 minutes
- The base is lifted hydraulically by 10 cm to facilitate stripping
- Integrated vibration unit used with normal or washed concrete
- Optional fire protection extension possible
- Optional insulation for expedited curing possible

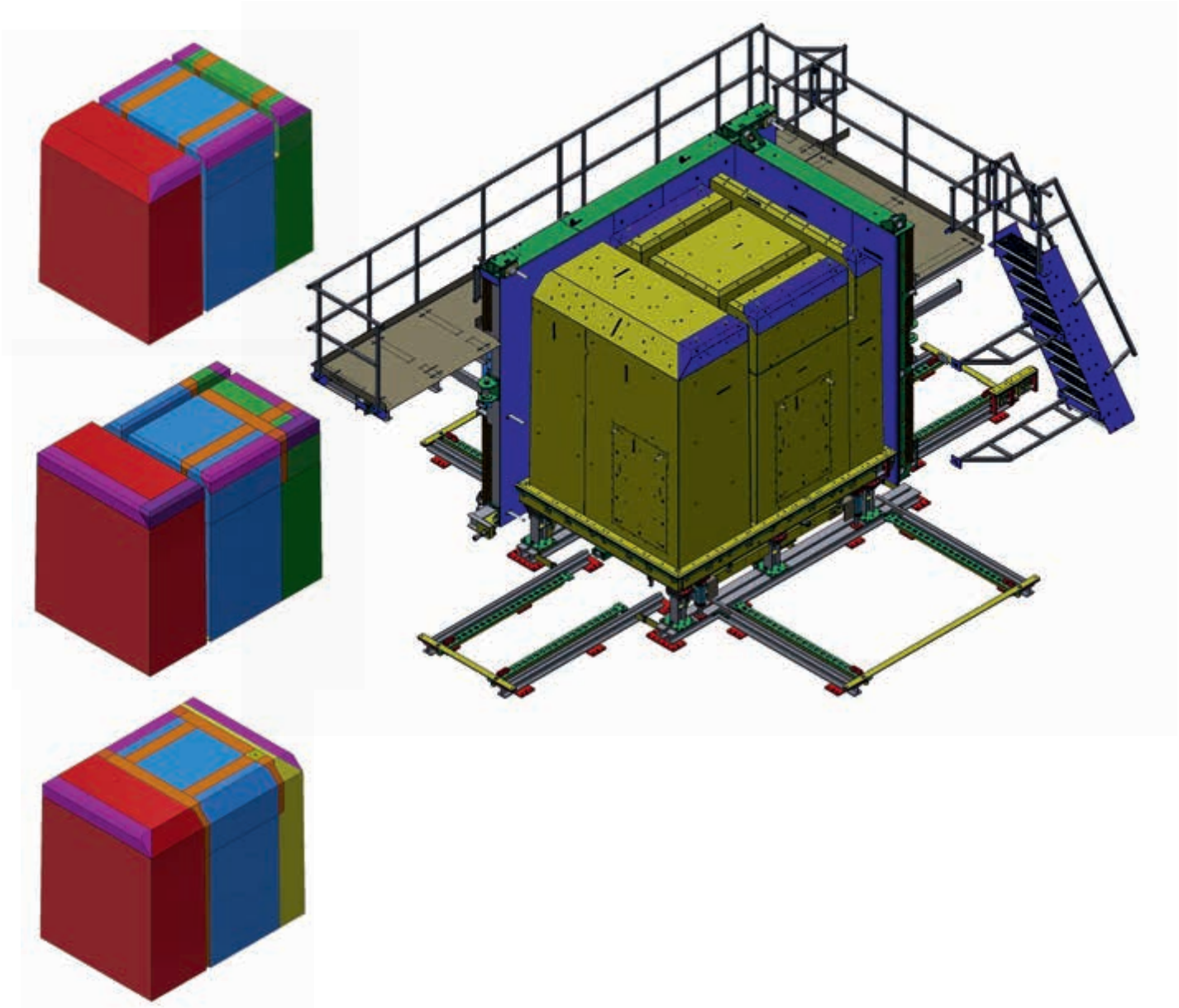
Example:
Two different shapes of the possible concrete elements

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



Based on the element programme (14 different variants in the example), the customer has a total of 23 different attachments at his disposal.

MODULAR DESIGN FOR A WIDE RANGE OF VARIANTS



COMPONENTS INCLUDED AS STANDARD

- Hydraulic equipment (for lifting/lowering the base formwork)
- Hydraulic tensioning for attachments and inserts
- Compaction equipment
- Access steps + walkway with railing and safety door

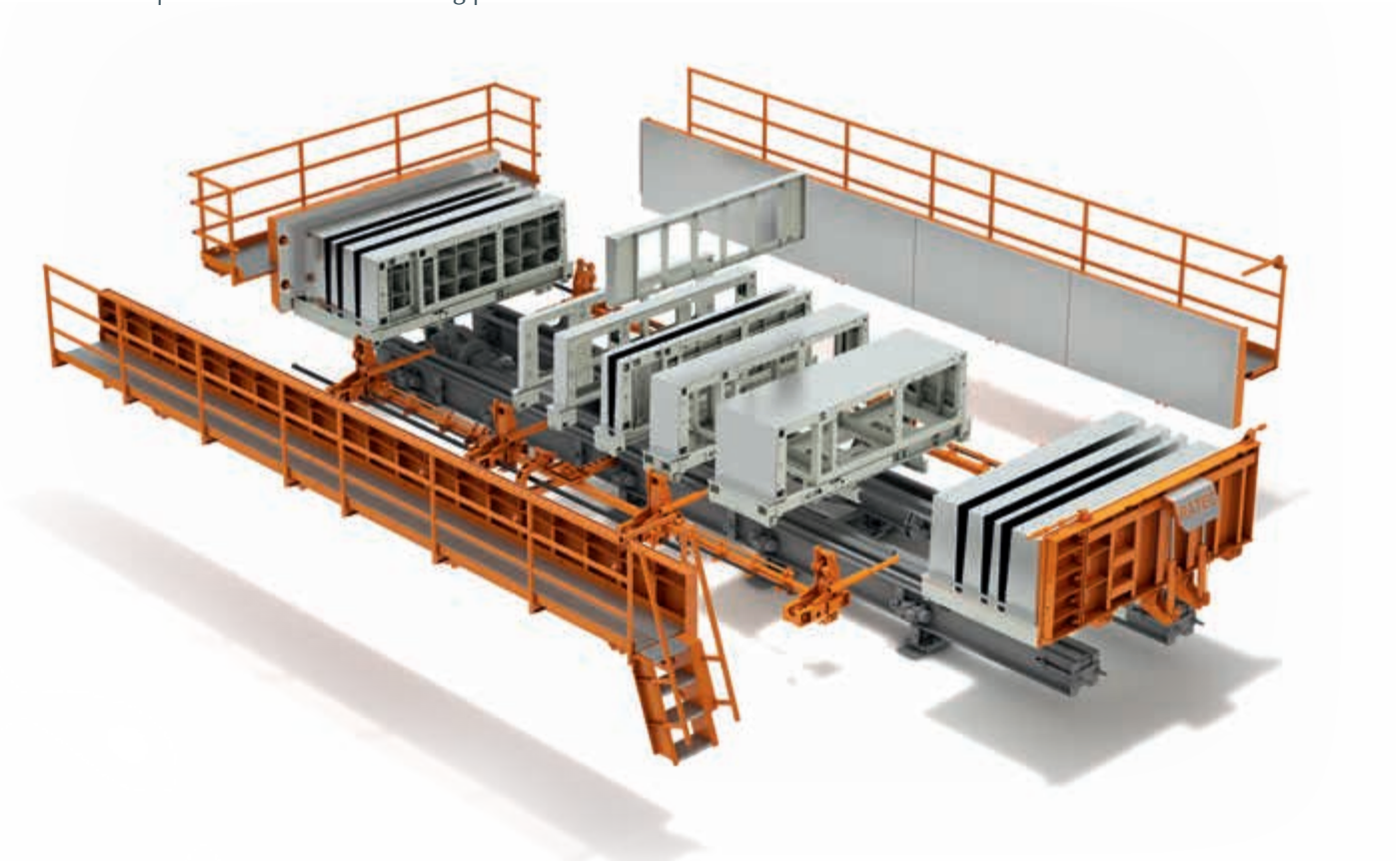
EXTENSIVE RANGE OF ACCESSORIES

- Upper parts and inserts for the inner core
- Locking wedges
- Recesses for doors, windows or cable outlets
- Turning station included in scope of delivery on request

Flexible 3D mould
for cable basements

FEATURES

- Length adjustable in 10 cm or 20 cm increments, depending on requirements
- Inner core consisting of core segments in standardised sizes, offering intelligent cover of the range of lengths and minimising the number of components required
- To reconfigure the core width, the segments are moved apart hydraulically
- Widths and heights can be varied according to customer requirements
- For demoulding, the outer panels are folded down
- The position of the interior walls can be designed flexibly to customer requirements, either with fixed positions or flexibly adjustable in the length grid. Wall positions that are not required are formed with locking parts.



3D moulds for transformer stations
Application examples

GERMANY
PROJECT 1

The installed shuttering is designed for the production of transformer stations with the dimensions 2.4 x 2.1 x 2.3 m (L x W x H) and 2.9 x 2.1 x 2.3 m (L x W x H). In this case, the core can be converted to accommodate the other length. This variability also had to be taken into account in the base frame and the exterior panels. The exterior panels can be moved manually and are firmly locked together using corner braces.

The vastly different interiors of the transformer stations are realised using interchangeable attachments that are held securely on the core with a hydraulic clamping device. The customer can select from 23 different attachments from our product range (14 different attachments in the example). For window recesses in one or more side walls of the elements, Ratec also supplied the corresponding steel frames that are attached to the exterior panels of the shuttering and are held in place by high-performance magnets. Prior to this, retooling from one variant to the next took up to half a working day. Now, changing the attachments is significantly faster with similar station sizes. And it's no longer necessary for a worker to enter the core in order to fix the attachments, as these are clamped with a hydraulic mechanism.

Project report
3D mould for transformer stations

Press article (PDF)
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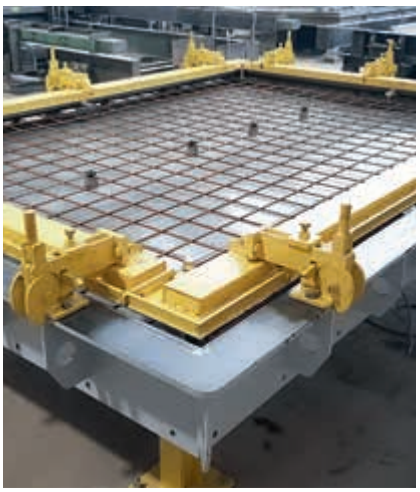
GERMANY
PROJECT 2

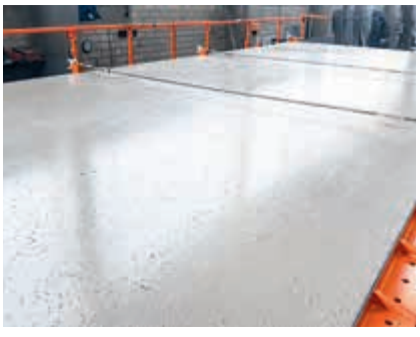
Delivery of a shuttering for the production of a station type with length = 3.1 m, height = 2.67 m, width = 2.2 m. The core is prepared with three attachments, which are permanently fixed in place. The customer did not opt for variability for other station types. The core is accessible thanks to recesses that are screwed to the core from the inside. It also had to be possible to heat the core from the inside. A roof mould was also delivered: The all-round recess for anchoring with the station element is realised through foldable profile attachments. These replace the frame traverse previously used and simplify and speed up the production process.



GERMANY
PROJECT 3 – VARIABLE BASEMENT MOULD

The shuttering solution for basement shaft elements supplied here can be flexibly adjusted lengthwise on the 10 cm grid from 2.96 to 9.96 m. This is achieved through an intelligent combination of sections of different lengths, from which the core can be put together as needed.

At the same time, elements can be manufactured in 3 different widths (2.45 m, 2.76 m and 2.96 m) and in 3 different heights (0.89 m, 1.19 m and 1.34 m).



EUROPE
PROJECT 4

In 2024, several moulds were installed for a new plant in Europe, including modular moulds for compact transformer stations, roof moulds and a cable basement mould.

Modular moulds for transformer stations

- Mould 1: Fixed width of 1300 mm, two length of 2000/3000 mm
- Mould 2: Fixed length of 3000 mm, two widths f 2000/2450 mm
- Mould 3: Length adjustable in 20 cm increments from 3 m to 8 m, fixed width of 2.5 m and fixed height of 2.6 m
- Mould 4: Length adjustable in 20 cm increments from 3 m to 8 m, fixed width of 2.92 m, two heights 2.6 m / 3.0 m

Variable basement mould

The length of the mould can be adjusted in 20 cm increments from 2.95 m to 7.95 m, with two widths of 2.45 m and 2.87 m similar to the elements from mould 3 and 4 and a fixed height of 0.9 m. It consists of a fixed and a movable base end core and various core segments in lengths of 100, 200, 300, 400, 800, 1000 mm, which can be flexibly combined to cover the various lengths.

In addition, widening segments are available for the second width. The core segments are moved hydraulically on a base frame.

Over 1000 different variants can be produced

Moulds 3 and 4 as well as the basement mould can therefore each cover 26 lengths, and the basement mould an additional two widths. Mould 4 can also produce two different element heights. For interior walls, the requirement was for eight possible variants for interior walls, six of them in a fixed position and two that can be freely positioned along the length in 10 cm increments. This required a very compact and well thought-out design solution, which was found. For moulds 3 and 4, this gives more than 1000 different variants of concrete bodies that can be produced in one mould.

Various recesses are also available for doors, which can also be varied and positioned freely. The basement mould is also adapted to the elements produced.

Project report 3D mould for transformer stations

Press article (PDF) Scan QR code

Adjustable mould for elements from 3 m to 8 m in length

View of the factory, here with 2 modular moulds, a vertical roof mould (top left) and variable basement mould (bottom)

Finished room module (top) and roof (bottom)

Roof moulds

The dimensions of the roof mould were planned to match the room module mould:

- One roof mould for 2 lengths with a fixed height (3.2 m / 2.1 m x 1.6 m)
- One roof mould for 2 heights with a fixed length of 3.2 m x 2.55 m / 2.10 m
- Two roof moulds with adjustable length in 20 cm increments from 3.2 to 8.4 m – corresponding to the different variants of the mould 3 and 4 room modules

Additional equipment

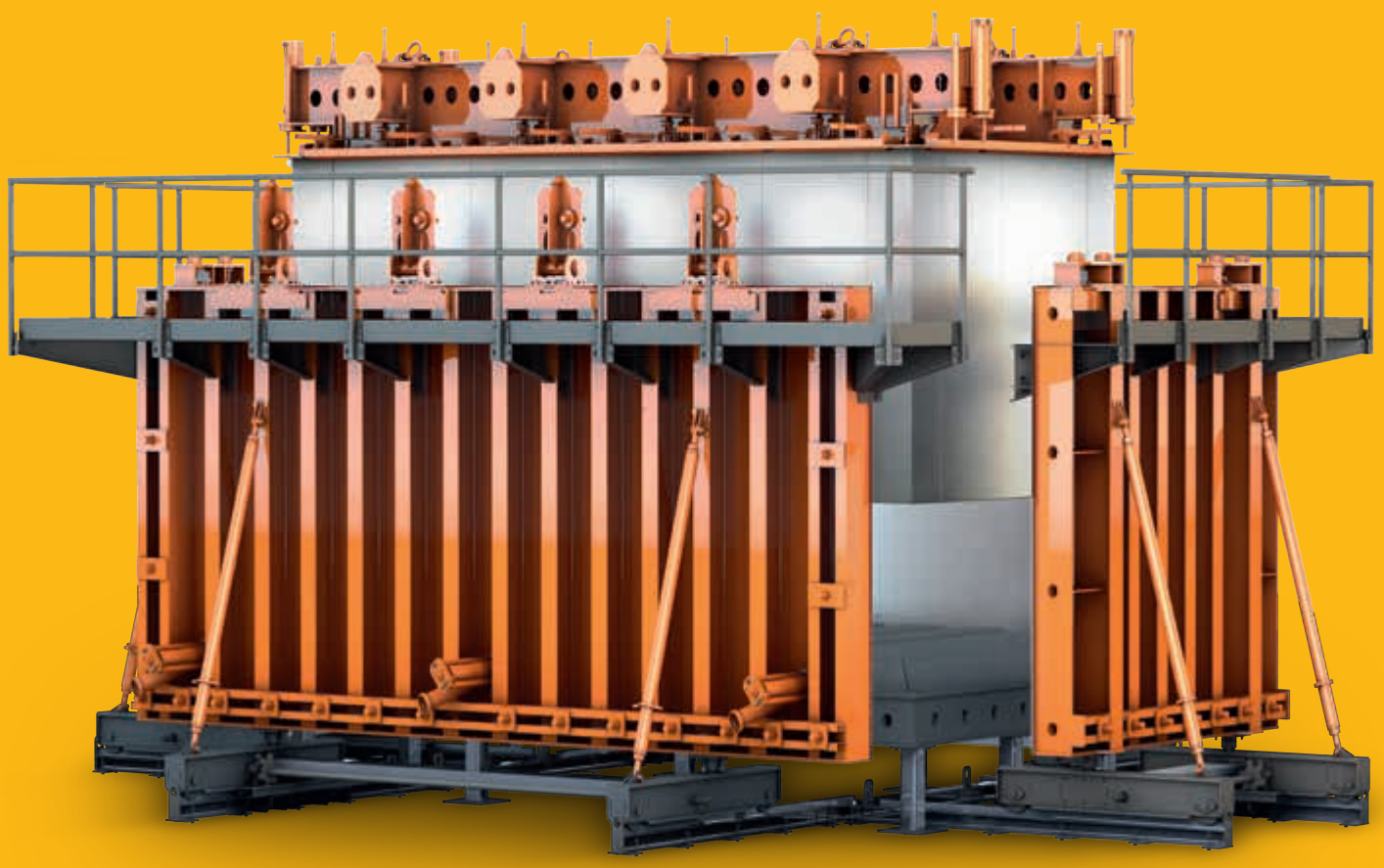
The moulds are supplemented by additional equipment:

- A turning station with a capacity of 30 tonnes, suitable for all elements and cellars
- A hydraulic tilting table
- A high-frequency vibrator for concrete compaction for all moulds

upcrete® modular moulds
Production in the final installation position

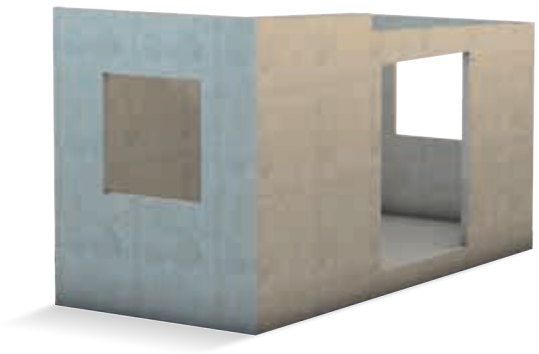
Visionary concepts come true with upcrete® modular moulds – even complex concrete bodies can be produced in this way with smooth surfaces on all sides.

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. The process allows an optimal spread of the concrete within the mould and smooth surfaces on all sides as well as the exact formation of 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.



FEATURES

- Maximum dimensional accuracy on the concrete element
- Complete filling of the most difficult geometries
- Production of complex concrete bodies in final installation position
- All-around smooth surfaces
- Minimal concrete residue
- Quiet, material-friendly, efficient and employee-friendly precast concrete element production
- High utilisation of the mould



Example:
finished room module

upcrete® modular mould
Application examples

PROJECT PERU 1
FROM VISION TO REALITY: MODULAR HOUSING WITH UPCRETE®

The objective here was to build 3,600 houses, each with three rooms, 70 m² of living space on two floors, a private patio and garden, on an area of 1,000,000 m² in just 60 months. The houses had to be both earthquake and storm-proof and offer a pleasant indoor climate. Some other requirements were excellent surface quality, thin-walled cross-sections and minimal use of materials.

Reymann Technik planned and implemented the necessary upcrete® production plant, while RATEC provided the upcrete® moulds and pumps. Two complete houses are produced in Ica every day.

Scope of delivery
- 3 room modules 3 x 6 x 3 m (W x L x H)
- 1 battery mould with 6 pockets 8 x 3 m
- 2 stair moulds
- 2 balcony moulds
- 2 pump cars based on UPP 100

In the meantime, beyond the first residential area, other development projects have emerged within a radius of up to 50 km, for which the room modules and concrete elements are manufactured in Ica.

Project report
Modular housing, Peru I

Press article (PDF)
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PROJECT PERU 2
SECOND MODULAR HOUSING PROJECT IN NORTHERN PERU

At the beginning of 2021, the second modular housing factory went into operation in northern Peru, in the Piura region. The housing concept for the new settlement "Los Altos de Castilla" was tailored to the region and its needs. A house consists of one module each with a total area of 25 m², divided into a living room/kitchen, bedroom and bathroom. What is sold is a complete package, consisting of the house with a plot of 70 m², electricity, water and drainage. The houses are subsidised up to 80% by government interest-free loans made available by the Department of Housing to low-income families. The house can later be expanded on the associated property according to the needs of the residents. This project is also ambitious: more than 20,000 apartments are to be built here with the aim of offering residents a better quality of life.

Due to the larger module dimensions of 7.15 x 3.54 m and a height of 2.60 m, the modular mould had to be designed with extra stability in mind in order to withstand the concrete pressure without any major deflection. During filling, the inner core, which weighs 35 tonnes, is pushed upwards with about 150 tonnes. This is counteracted by the resilient upper bracing of the core and exterior panels.

Project report
Modular housing, Peru II

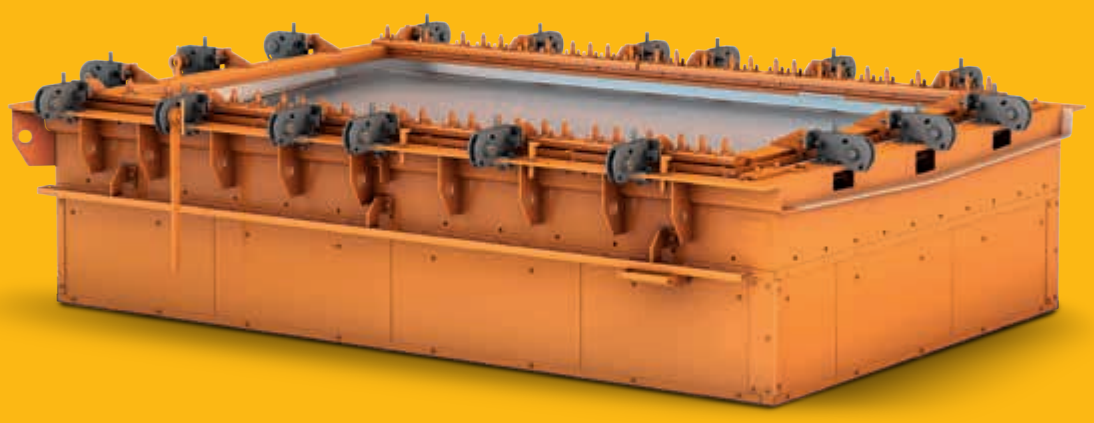
Press article (PDF)
Scan QR code

3D mould solutions for roof modules
The right solution for every application

Whether flat roof, pitched roof or more complex roof shapes – with our user-friendly roof moulds, you literally always have the right "roof over your head".

With RATEC's innovative roof mould solutions, you benefit from our many years of experience and proven technology from numerous completed projects. Our moulds can be used flexibly – either as horizontal mould tables or space-saving vertical moulds.

Similar to the 3D mould for room modules, our roof mould is also adjustable in length in order to adequately cover the range of element dimensions. This adaptability is achieved with intelligent magnetic formwork solution designs, which can be used to switch to other element geometries as required.



VERTICAL ROOF MOULD

- Developed from expertise in the area of battery moulds
- Designed as a battery mould with a pocket, consisting of a fixed panel for the top of the roof and a sliding panel for the bottom of the roof
- The panels can be preformed according to customer requirements
- Base formwork, magnetic side shuttering and swivelling side shuttering form the boundaries of the shuttering surface
- For different element sizes (roof lengths), shuttering kits are available in different versions (according to the element length)
- Element length adjustable thanks to the combination of fixed screw-on lateral shuttering and movable magnetic shuttering, which is positioned to the required length
- Also available as a double battery or with more pockets – design based on customer requirements

HORIZONTAL ROOF MOULD

- Foldable profile attachments for the formation of an allround recess for the connection between the roof and room module
- Reduced crane times thanks to rotating swivel arms that replace the frame crossbeam otherwise required, which would have to be inserted and removed by crane
- Integrated vibrators and feet with vibration isolators
- Dimensions and other accessories adapted to customer needs
- Adjustable version also available on request

upcrete® ROOF MOULDS

- The mould is designed for complex 3D shapes
- Pressure filling from below with upcrete® pump technology
- Very high surface quality and dimensional accuracy

Additional solutions
for volumetric elements

↗ STAIRCASE MOULDS

Special solution for staircase moulds. Three of these stair forms were fitted into a circulating pallet and introduced to regular production process 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”.

H-SUPPORTS

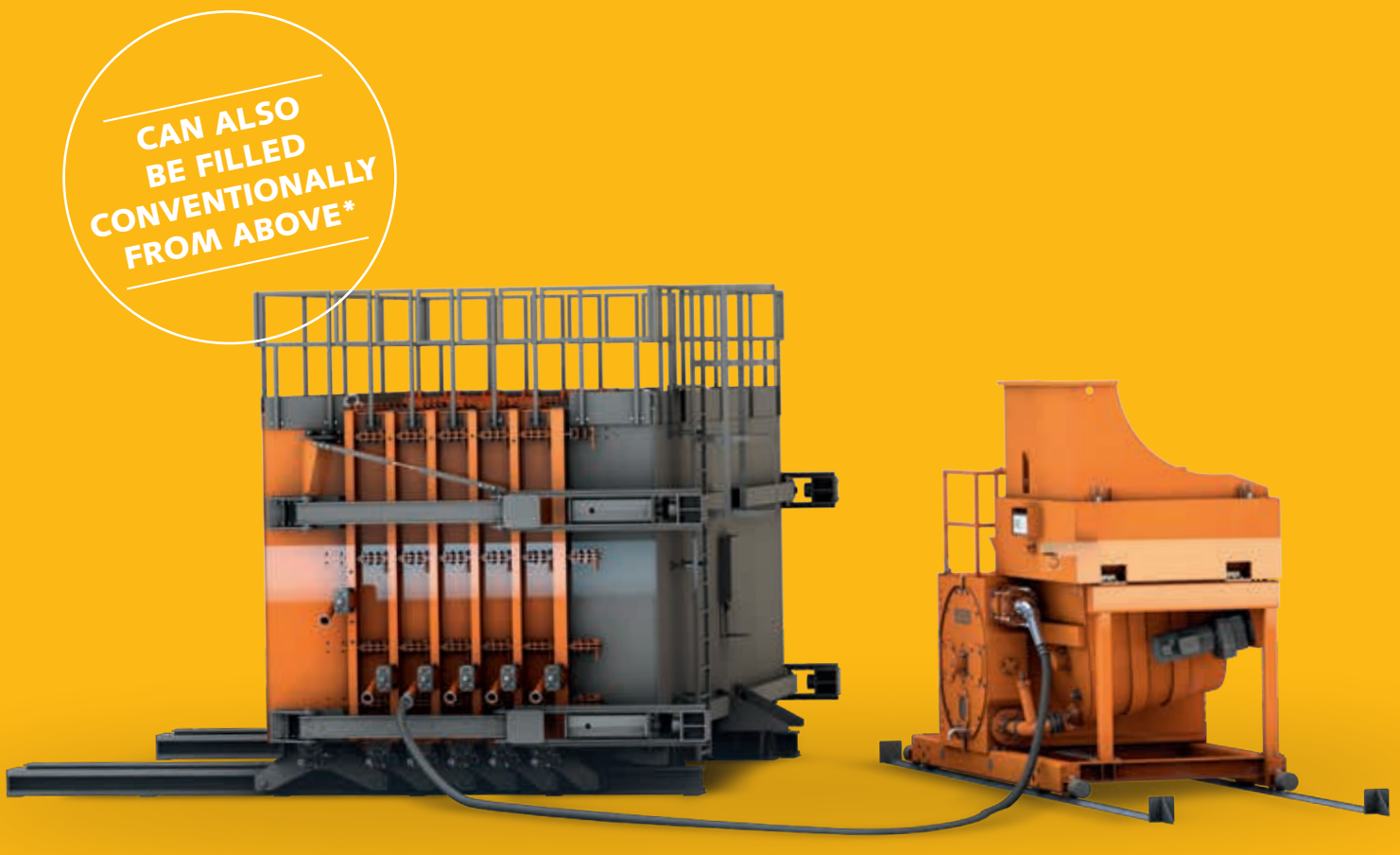
RATEC AMERICA

Special mould, 2.90 m wide and 4.90 m long, for the production of six H-supports for noise barrier walls. A second mould is adapted for the length of 5.60 m. The profiling of the longitudinal shuttering is adapted to the asymmetrical H-profile of the supports.

upcrete® battery system
For the highest surface quality and complex element geometries

Cost-effective production of complex, smooth and extremely high-quality precast concrete elements.

The pocket battery moulds from RATEC incorporate all the creativity and engineering know-how of more than 40 years of experience in the development and rationalisation of precast concrete plants. Together with the proven upcrete® technology, our pocket battery moulds prove their high quality and cost-effectiveness day after day across three continents. The end product is characterised by smooth surface concrete on all sides as well as by the smallest geometric tolerances. The moulds also impress with their ease-of-use and sturdiness.



*However, we recommend combining with upcrete® pump technology.

FEATURES

- Space-saving and efficient
- Stable pressure-resistant construction – each pocket can be completely filled separately
- Can be filled from above with a concrete spreader or by means of the UPP 100 (upcrete® process) from below or from the side
- UCI filling connections for filling from below
- Walls can be tensioned hydraulically or mechanically
- Available as single or twin battery, expandable to 2 x 10 pockets on request
- Can be implemented with a vibrator unit on request

APPLICATIONS

Hydraulic battery mould with pump car

Modular side formwork

Highest quality of concrete elements

With UCI Square

upcrete® battery system
Application examples

The range of previous projects showcases the wide variety of application possibilities and performance of our battery systems. RATEC battery systems have been particularly successful where absolute dimensional accuracy and surface quality are required or where the complexity of an element did not allow any other production option.

The application examples also show that RATEC battery systems can be used in a space-saving and effective manner, both as a stand-alone solution and to supplement an existing production unit.

PROJECT GERMANY
ALL-ROUNDER BATTERY SYSTEM FOR VARIABLE PURPOSES

The battery system is primarily filled with lightweight concrete. What was important here is that concreting could take place both via a pump station and from above using buckets. The integrated vibrator unit makes this battery mould one of the most versatile moulds used.

Project scope

- 2 x 7 pocket battery system
- max. element size 6.1 m x 2.9 m
- Hydraulic tensioning
- UPP100 pump station
- Filling is possible from below (upcrete®) and from above
- Integrated vibrator unit for compaction

Find out more about the RATEC battery system on our website

PROJECT USA
UPCRETE® BATTERY SYSTEM FOR FENCE ELEMENTS

The mould with 2 x 10 pockets was installed at one of the largest project developers in the USA to produce elements for their new fencing system based on H-supports and wall elements.

The mould is designed for filling from below with the upcrete® process using a concrete pump and enables the production of walls with a structured surface created by formliners.

The pumping equipment consists of a UPP100 pumping station and a circular distributor for the pump tube with a radius of twelve metres. With 20 pockets in all, it is the largest battery mould that RATEC has ever installed. The system produces elements with lengths of 6 m, heights of 1.20 to 2.43 m and a wall thickness of 150 mm. The pockets for concreting are tensioned with 60 tonnes per side.

Find out more about the RATEC battery system on our website

upcrete® battery system
Application examples

PROJECT PHILIPPINES
BATTERY SYSTEM FOR SANDWICH WALLS

In 2023, our customer in the Philippines received a new battery mould with ten pockets for the efficient production of sandwich elements, which is used to produce interior walls with a length of 2.70 m and a height of 60 cm for use in skeleton construction.

The sandwich elements have integrated insulation, which is filled with 3 cm of lightweight concrete on both sides. This design makes the elements light enough to be carried by two people on the construction site without the need for any tools.

The walls have either a tongue and groove or, in the case of the edge elements, a groove and smooth finish for assembly on site.

This profiling is created in the mould by the base formwork, which can be rotated by 180° as required, and by the cover, which closes the battery pocket from above after concreting. Concrete filling is carried out conventionally from the top.

Battery system for sandwich walls (news article)

PROJECT IN ITALY
ITALY'S PAVILION AT EXPO 2015 IN MILAN

A majority of the facade elements were manufactured in a RATEC battery mould using upcrete® technology. Filling from top was not logical due to the element geometry.

Project scope
- 9000 m² large façade
- 2200 t cement
- Made from 80% recycled material
- Battery moulds with 6 pockets of 6 x 4 m each
- UPP 100 pump station
- UCI filling connections

Unique challenges
- Very complex elements, each with an individual design
- Reliable shaping of the filigree "branches"

Country pavilion at the 2015 Expo

Press article (PDF)
Scan QR code

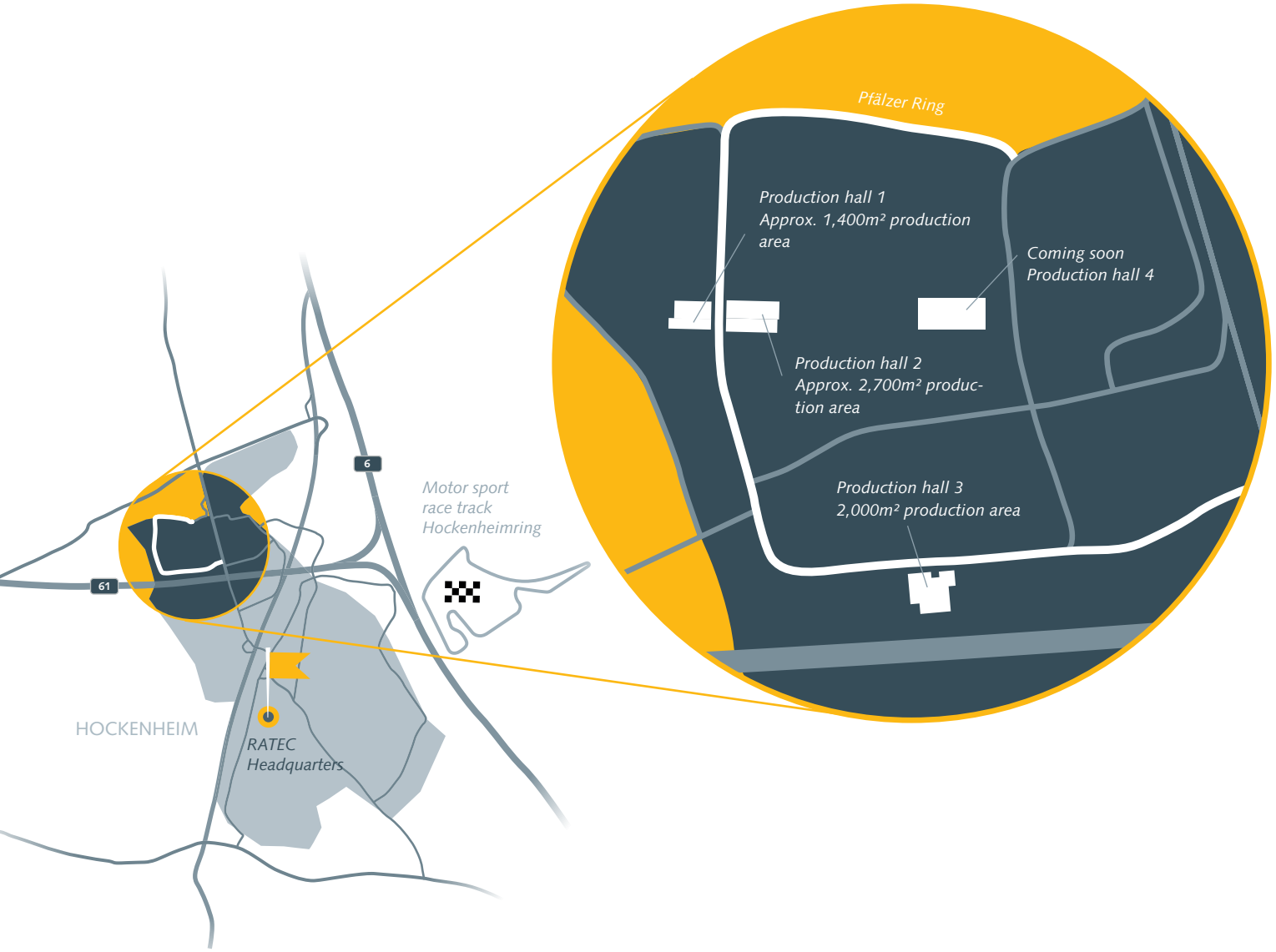
Sophisticated solutions from proven experts

The advantages of working with us

Extensive expertise in any shuttering situation. This helps us think outside the box and find integrated solutions.

The best of all worlds: you benefit from intelligent production concepts and shuttering supplements using magnetic formwork technology or upcrete®. This is where our extensive experience from horizontal "2D" production and other vertical production solutions comes into play.

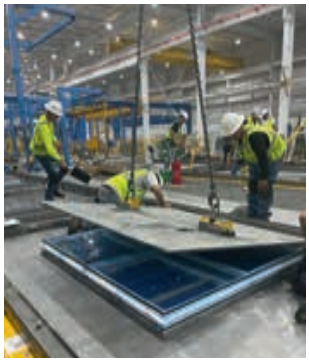
Machine technology and specialised production team for in-house production
Our production capacity at the Hockenheim location covers over 6,000 square metres of production space. Two laser cutting machines can process sheet thicknesses of up to 25 mm. All further processing is done by our qualified welders, painters, metalworkers and fitters.



RELIABLE SUPPORT, EVERY STEP OF THE WAY

Assembly, implementation, training

- All large and 3D moulds are fully assembled and tested in our production facility.
- For transport, the moulds are broken down into smaller components and assemblies. These are then installed and implemented by our installation team at their place of use.
- Your production team receives comprehensive training in the use of your mould(s).
- After implementation, you also benefit from our guarantee and support from our design and installation team.









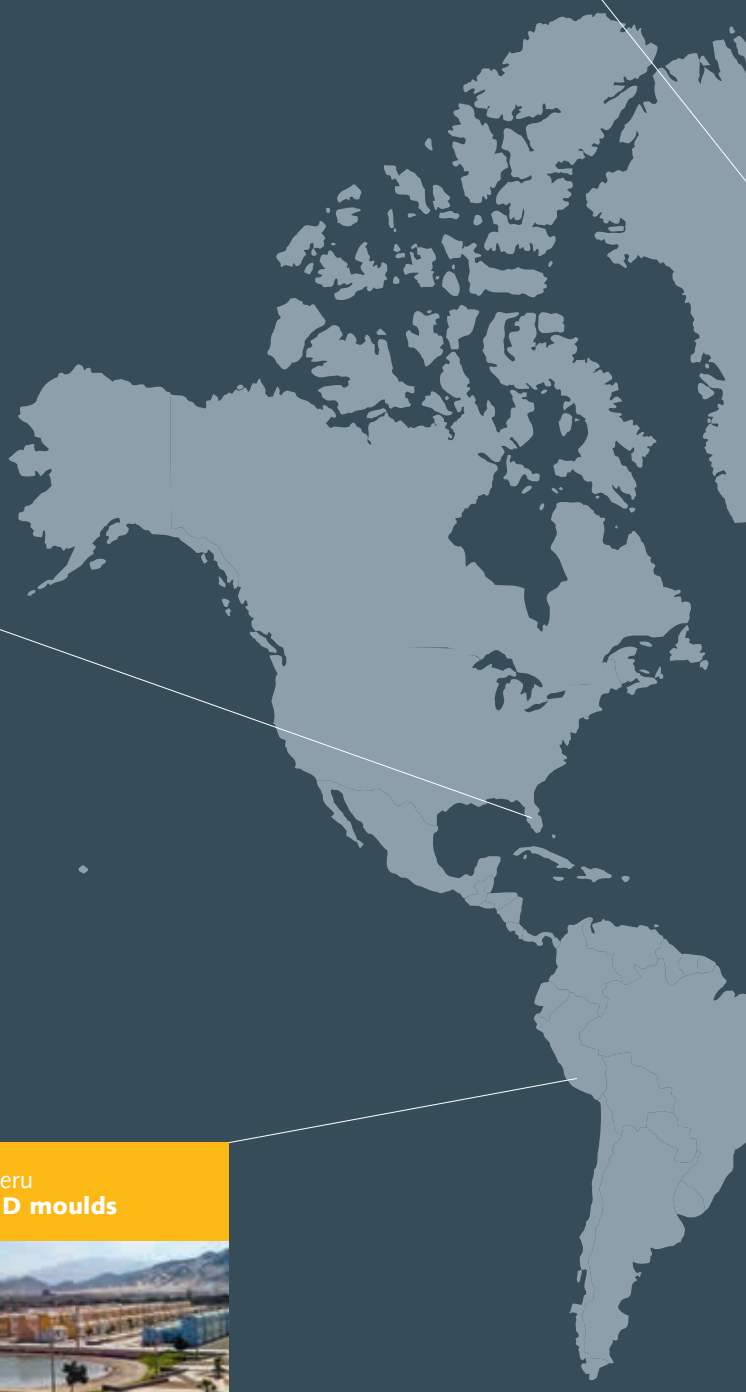
RATEC references
Worldwide

We deliver our products to more than 72 countries worldwide.

At RATEC we combine and execute the outstanding ideas generated by the Reymann Group. Many of our tailor-made designs for the optimisation of production processes in pre-cast concrete plants are perfected here in cooperation with the respective clients and brought to series maturity. This is how effective problem solutions – individually designed and proven in practise – are introduced to the world market as tried-and-tested system components.

But that's not all: By customising standard products to the individual requirements of our customers, we can implement needs-based rationalisation projects in an extremely economical and reliable manner. Benefit from our extensive experience and comprehensive advice.

Germany
3D moulds, basement moulds, roof moulds for transformer stations



USA
upcrete® UPP 100 battery system

Peru
3D moulds

Central Europe
3D mould Transformer stations

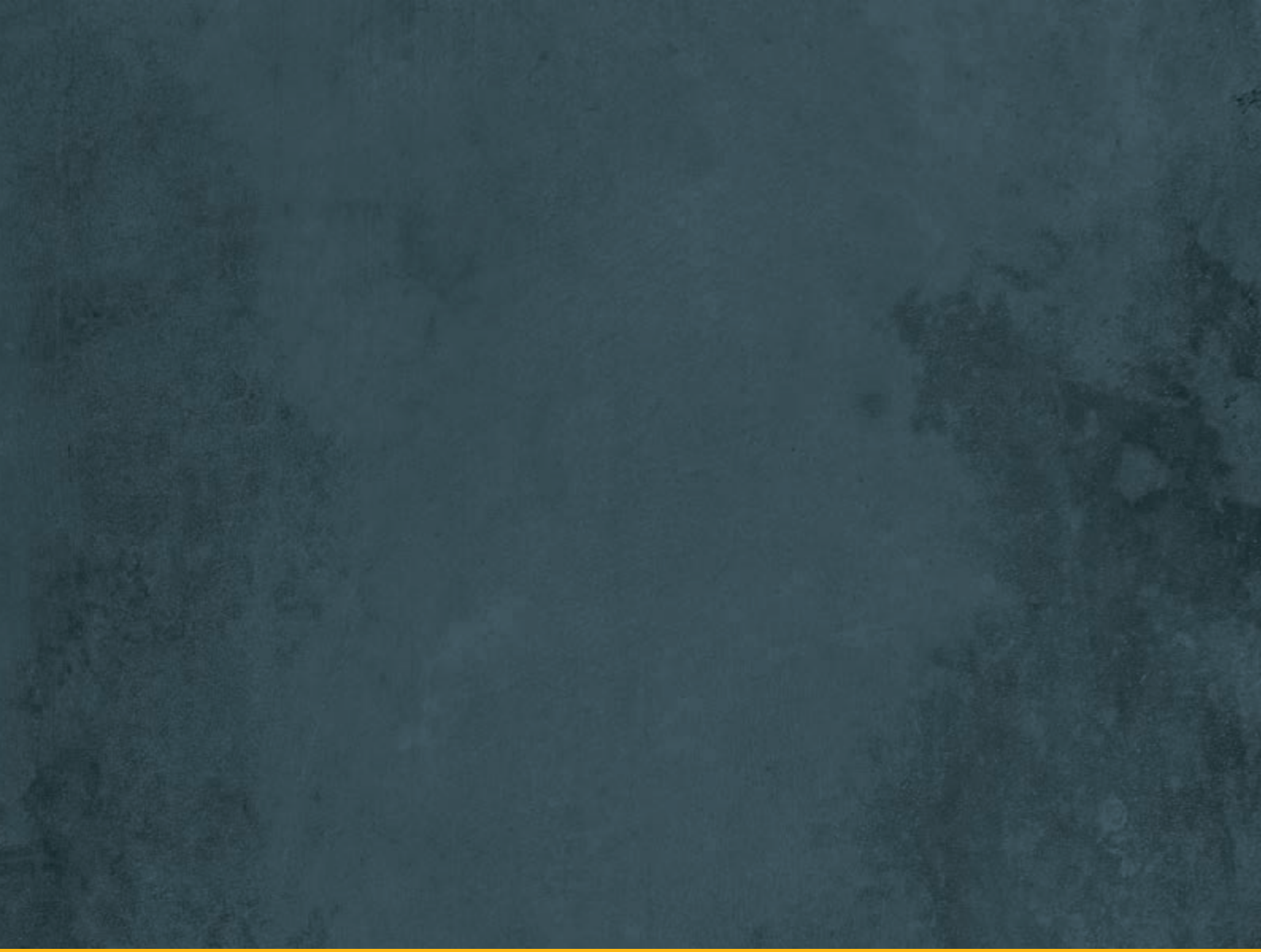
Israel
upcrete® UPP

Philippines
3D moulds Sanitary cell production

Singapore
3D mould for room modules for multistorey residential buildings

Italy
upcrete® battery system for Expo Pavilion Milan

Indonesia
upcrete® battery system



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