

Topwerk Hess Group GmbH, 57299 Burbach-Wahlbach, Germany

Viastein starts up new plant in eastern Hungary

Viastein Kft. belongs to the Bayer Construct Group in Hungary, a 100% Hungarian-owned group that was established in 2002. In addition to industrial building shell construction, the group is involved in underground construction and hydraulic engineering projects. The first concrete paving stone plant was opened under the name Viastein as early as 2007 in Kökös near Brasov. A complete system of the type RH1500 from the Hess Group stands in the plant. The Viarock company is now also located there. This company operates its own quarry for raw materials for the building materials industry.

Since the economy in Hungary has developed very positively in recent years, the owner and CEO of the group Attila Balázs and his brother László Balázs took the decision in 2016 to open a new plant in eastern Hungary for the production of concrete products. A complete new concrete plant was then built on a greenfield site in a new industrial estate near Biharkeresztes in eastern Hungary.

As Viastein is very satisfied with the first concrete block making machine, the decision was quickly taken to purchase the new system once again from the Hess Group, a Topwerk Group company. This project gave rise in 2017 to one of the most modern concrete plants in Europe.

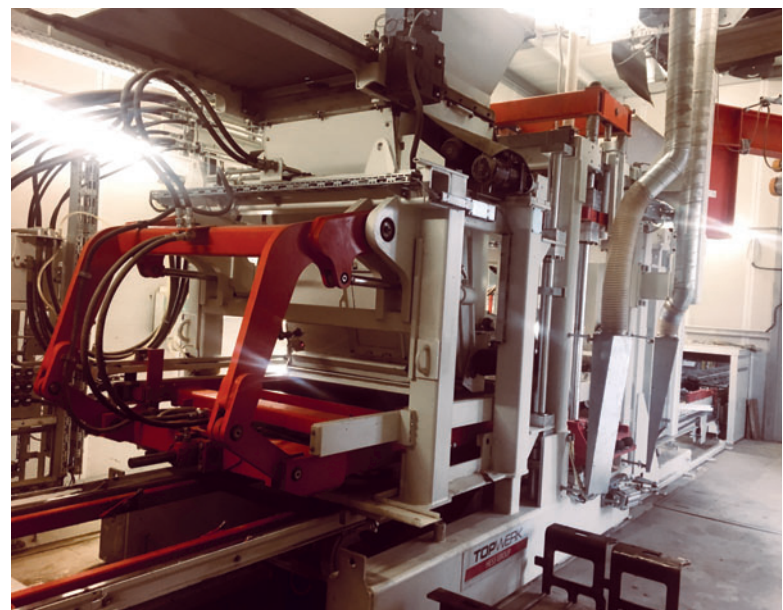
For the manufacture of concrete a Hess SM 2250 concrete mixer was installed for the core concrete and a Hess SM 400 concrete mixer for the facing concrete. The mixers are supplied with raw materials from two separate in-line silos via weigh belts and inclined elevators.

The special features of the SM mixer series are:

- Separate drive systems for each mixing star and tool disc
- Special water metering, thus less soiling
- Cement addition via screw in lower mixer area
- Very high mixing intensity



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The core of the plant is the proven RH 1500 MVA high-performance machine



Manufacturing Excellence

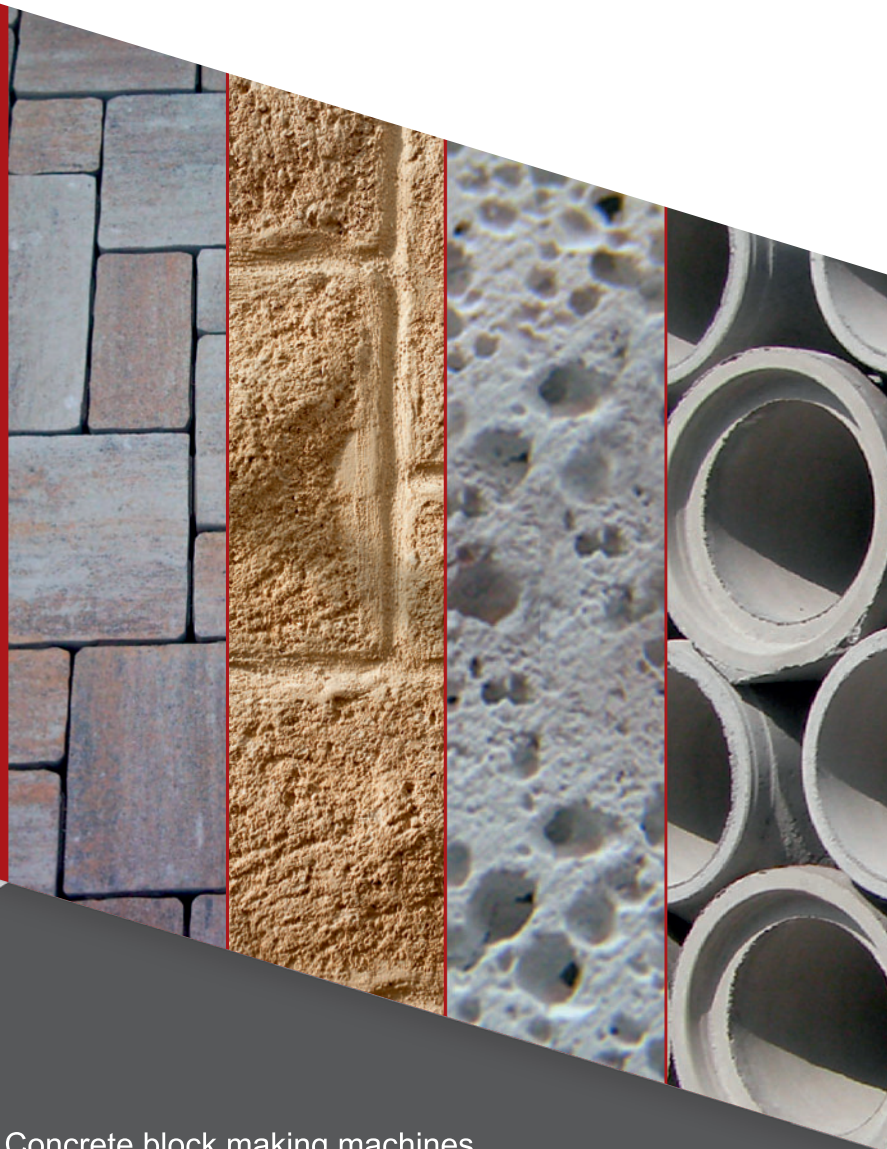
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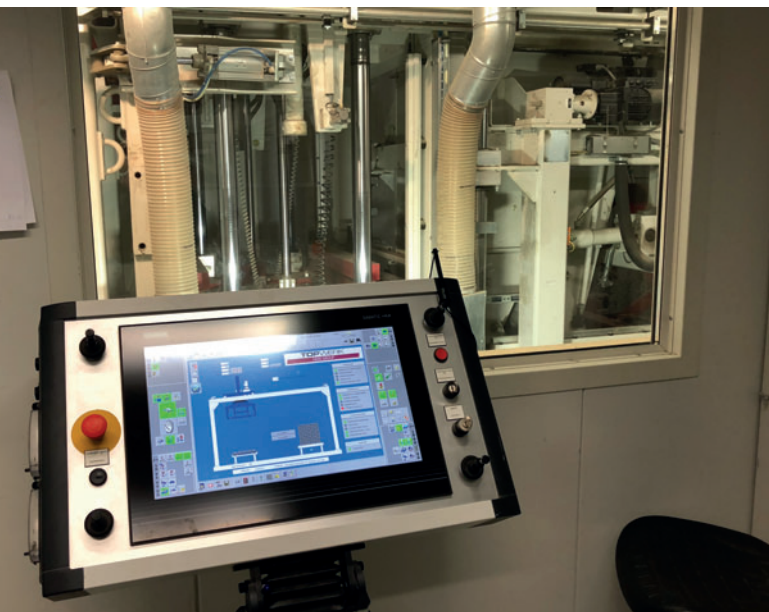
Concrete block making machines

Mixers | Transport and handling systems

Slab presses | Pipe and manhole making machines

Machines for concrete infrastructure products

AAC plants | Value adding lines
and systems

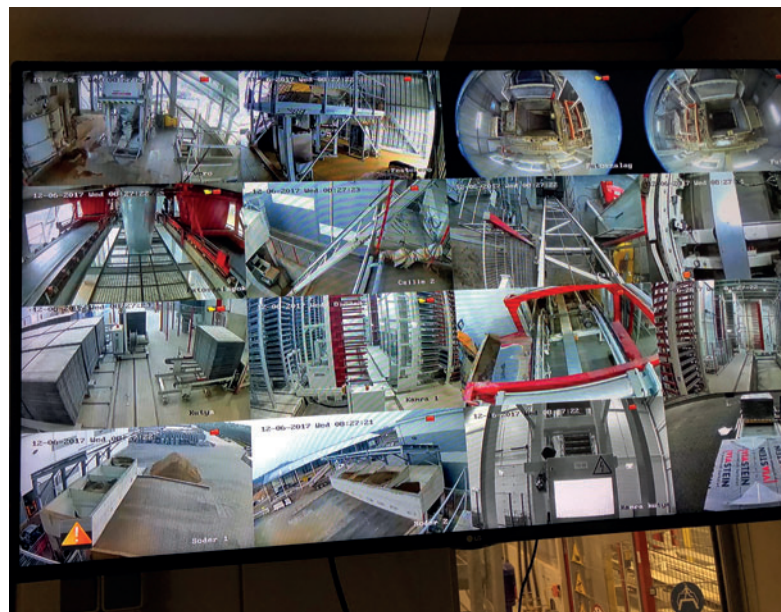


The controller of the RH 1500 MVA is equipped with a large touch screen.

The dye metering system was supplied by Würschum, while the mixing plant controller came from Sauter. The material is transported into the machine silos of the concrete block making machine via wide, flat belts. The belts are horizontally movable and frequency controlled for the optimum filling of the machine silos.

RH 1500 MVA high-performance machine

The core of the plant is the proven RH 1500 MVA high-performance machine. The latest technological developments



The entire production can be monitored centrally by numerous cameras.

from Hess are reflected in this machine. The special features include the high-performance hydraulics in the M version; position controllers take care here of the positioning of tamper head, feed box and mould. This makes harmonious, overlapping movement sequences possible.

The Hess Variotronic with oil-bath vibrators patented in the 1990s ensures very good, energy-saving compaction of the products. The built-in planing roller on the feed box allows very wet facing mixtures to be used even with large-sized products, because "excavation" is prevented. Due to this de-



The products can be refined while still on the wet side with a newly developed washing unit from the Hess Group.



The quality of the products manufactured can be determined directly with the concrete testing device from Qavertec.

CONCRETE PRODUCTS & CAST STONE

vice the oscillation of the feed box is no longer necessary in most cases, since the concrete is poured evenly into the mould.

Colormix devices are installed for the core and facing concrete so that colour-nuanced products can be manufactured. The machine stands in a sound-insulating cabin with dust extraction, alongside which the operator cabin is located and above that the cabin for the control cabinets. The hydraulic unit is also housed in a cabin. The complete cabins and extraction system were supplied by Rotho.

The machine board size is 1400x1100 mm and products with heights from 25 to 500 mm can be manufactured. The high-class Wasa Uniplast Ultra is employed as the production board. The moulds were supplied by Rampf.

Following compaction and stripping, the products are transported via the standard servo board discharge onto the downstream v-belt conveyors. These frequency-controlled, multi-section v-belt conveyors ensure very gentle transport of the products to the drying rack.

The products can be refined while still on the wet side with a newly developed washing unit from the Hess Group. The device processes two product layers simultaneously in order to be able to wash within the machine's cycle time. For the rinsing of the products a special flood box is placed behind the oscillating washing nozzles; this ensures very good cleaning of the product surface.

The quality of the products manufactured can be determined directly with the concrete testing device from Qavertec. The data are forwarded online to a higher-level system.



Finger car and curing racks

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Dry-side transport with 4-sided pusher

Residual concrete and damaged products can be disposed of into a trough by a tipper integrated into the transport section.

An elevator with 22 levels collects the finished products. These are then taken up by the rotary finger car and taken to the curing rack.

The curing rack with air recirculation system was also supplied by Rotho and has a capacity of approx. 6000 production boards. The air recirculation system with controlled temperatures and humidity ensures rapid, homogeneous curing.

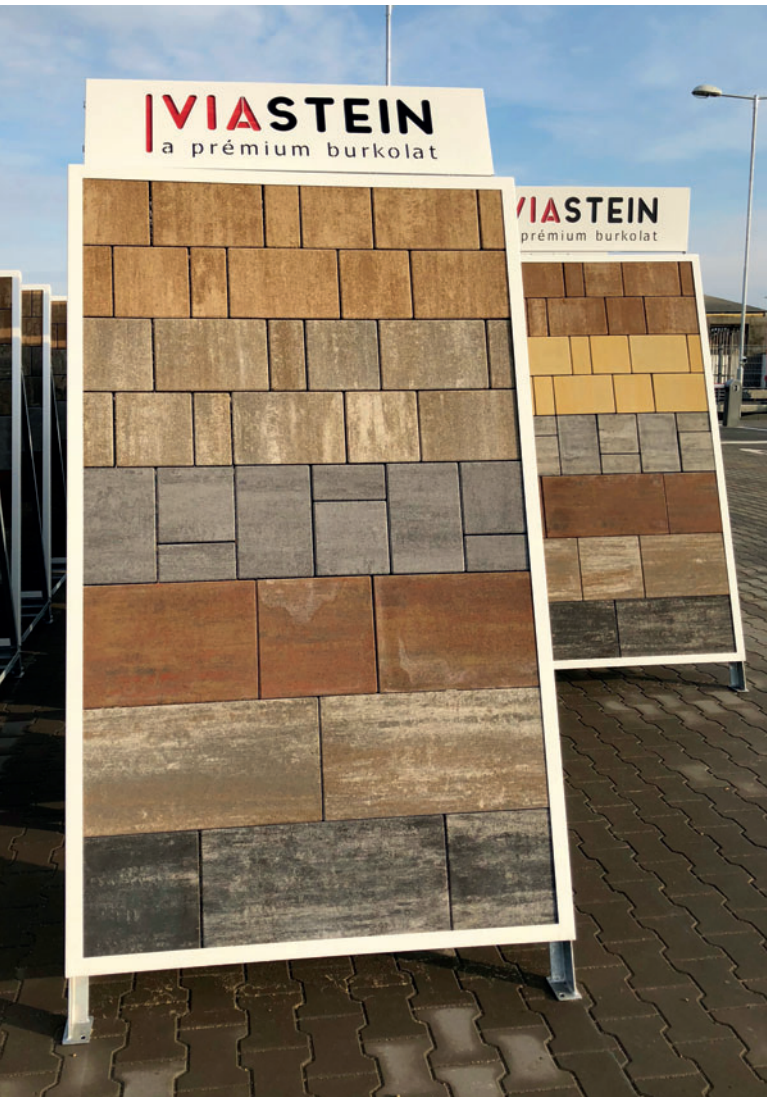
The cured products are transferred from the finger car to a mobile buffer frame, which ensures that there are no waiting times during operation.

On the downstream lowerator the product layers are separated again and transferred to the accumulation pawl conveyor, which is driven by a servo motor. This conveyor transports the products via a sorting station with a 4-sided pusher and a cover sheet layer from Cyclop to the Topwerk cuber. The cuber drives for moving, lifting and turning are servo-controlled, thus allowing optimum lifting and movement travel. The clamps are moved by electric servo cylinders. This device guarantees the clamping of every product.

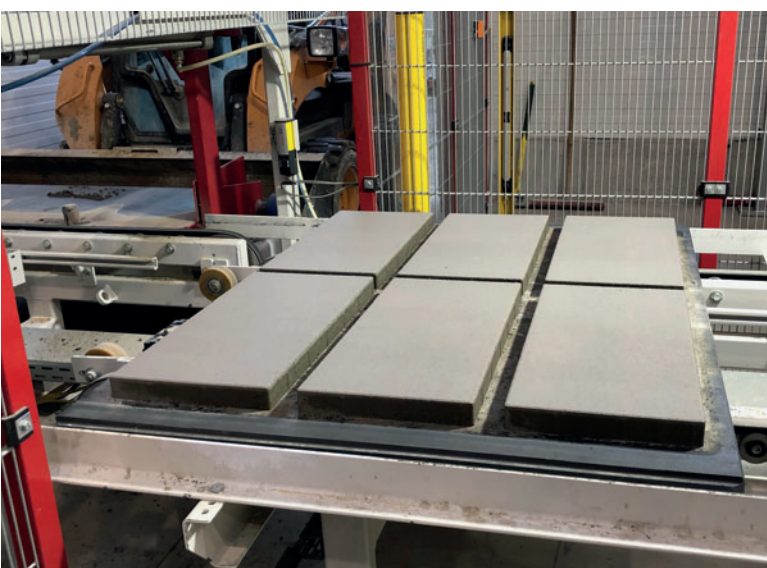
The empty production boards are cleaned, turned over and stacked into stacks of 30 boards in a board stacker. These stacks are put into storage in a board buffer by a two-part board stack trolley, or the stacks are transferred directly to the machine's board silo.



Outdoor storage yard and production hall



Viastein produces an extensive range of high-quality concrete products



Slabs 300x600x40 mm

TURN THE HEATING UP.



RAMPF TAMPER SHOE HEATER

Specially developed for the production of high-quality paving stones and concrete slabs with a sophisticated surface, the RAMPF tamper shoe heater reduces the adhesion of face-mix concrete to the tamper shoe surfaces. This avoids imperfections on the concrete product and the reject rate is significantly reduced.

THE RESULT:

A high block quality with a perfect surface.



FURTHER INFORMATION



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Slab 1000x1000x100 mm

The transport pallets are pushed onto a roller track under the cuber via a transport pallet silo. The stone packages are formed by the cuber and then transported into a stretchhood machine from Lachenmeier, which covers the entire package with a plastic film.

A label is automatically affixed to the package at the following station. This label contains the most important product data such as manufacturer, product name, date of manufacture, DIN, etc. A barcode is also printed on this label. This barcode contains further information. The fork lift trucks, for example, are equipped with scanners that read the barcodes. The fork-lift truck driver thus receives information about the storage location on the site.

The label with the barcode on the stone package also provides Viastein at all times with all the essential production parameters, such as mixture composition, w/c value, product data such as block heights and strengths, curing times, etc. Siemens S7 and Siemens WinCC are used for control and visualisation. With the integrated control and production statistics, all important data from the metering system, mixing plant, washout device, concrete testing device, drying chamber and packaging are transferred online to the higher-level Navision ERP system from Siemens. Continuous quality checking is thus ensured at all times. ■



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