

Masa GmbH, 56626 Andernach, Germany

Betonwerk Ramböck: Synonymous with Quality for Decades

The Betonwerk Ramböck GmbH, based in St. Georgen, Austria, has evolved from a small company producing terrazzo and roof tiles to a leading manufacturer of building materials and landscape products. The founder of the company, Johann Ramböck, was characterised by his zeal and enterprising visions. He passed his passion for sourcing the best raw materials and transforming them into high quality concrete products to his sons and grandchildren, who run the family business today. With a focus on efficiency and quality, Ramböck continuously expanded its market share, with an important milestone being the partnership with Masa GmbH, which began over 35 years ago. Both Masa locations, Andernach and Porta Westfalica, are supporting Ramböck with technical know-how and first-rate equipment to produce building materials that have end users trusting the company more and more with every product that comes out the door.

For the production of slabs, paving stones and landscaping products, Ramböck only uses select natural materials, which mainly come from Austria, Germany, and Italy. The pursuit of

perfection goes far beyond this with each product being manufactured on a specially designed plant. The enormous investment into creating individualised and high-quality products is a testament to the owners entrepreneurial thinking, which was engrained in the company's culture from its inception.

A landmark moment in Ramböcks history was the modernisation of the existing concrete slab plant with the purchase of a turntable press from Porta Westfalica in 1982. This marked the beginning of the successful partnership with the German mechanical engineering company, which continues today. The Ramböck concrete plant benefited from the newly developed process of the hermetic press production lines by being able to expand their product portfolio to include structural slabs such as sandstones and small paving slabs. With the second turntable press it was possible to include washed concrete products with a thickness of 3.7 cm to the portfolio.

After about 30 years of block production with an egg layer, Ramböck GmbH decided to make another major investment into a stationary block making machine in 1996. The decision



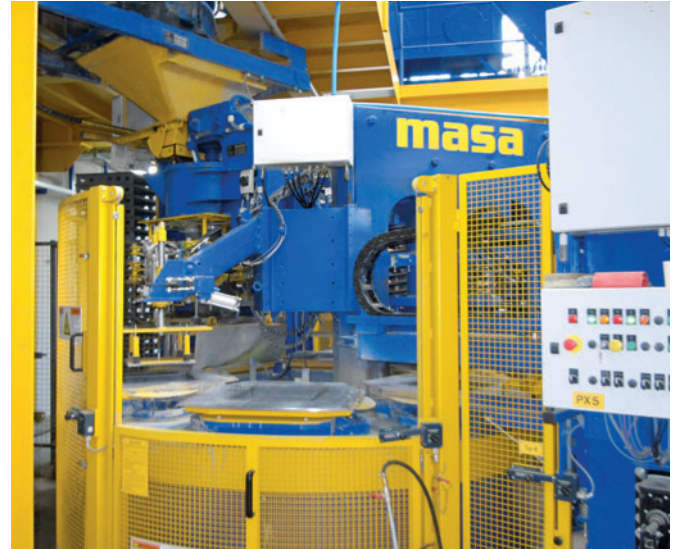
The Ramböck GmbH has been synonymous with quality for decades.

to choose Masa for this project was based off the trust built with the traditional German company through previous successful projects with Masa's other product lines. The accuracy of the blocks, which could be achieved by the new plant was one of the decisive reasons for the investment. With dimensional tolerances of less than 1 mm, Ramböck took another important step towards the future. In the following years, Ramböck built upon the competencies of a block making manufacturer to transform into a producer of stones with various formats, which established an even wider variety of possibilities through value adding processes. In addition to the product development, the company always keeps a close eye on potential modernisation projects and investments, which is one of the major reasons for the ongoing success.

State-of-the-art concrete slab production

In 2010 Masa delivered a UNI 2000/500/6 slab press for an advanced concrete slab production plant to St. Georgen. This UNI-model, which like its predecessor is well respected throughout the concrete industry, stands for the highest productivity and availability. The machine, a portal construction design, is equipped with six working stations and was especially designed to produce high-quality slabs in a single format. The typical format range of this press is 40 cm x 40 cm, 50 cm x 50 cm, 40 cm x 60 cm. Next to these standard formats, Ramböck can produce individual formats within these parameters.

Due to the infinitely adjustable main pressing power, the UNI 2000/500/6 no longer requires a pre-pressing station. The water exchange between the face and back mix concrete is initiated during the main pressing process by slowly increasing the pressure.



Face mix distributor, back mix concrete feeding, mould changing station, in conjunction with a safety concept with lowerable safety grids.



Main pressing station



Ejection station with removal device (with a hose type batcher in the background)



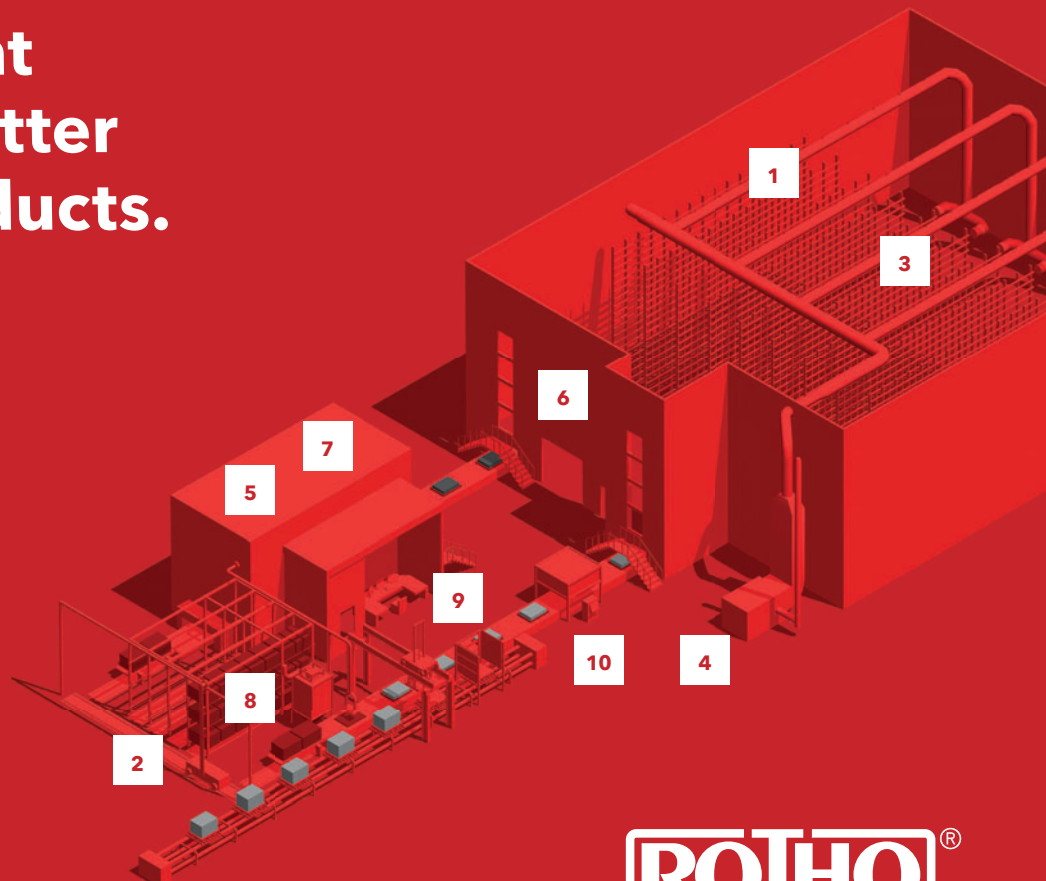
Pallet storage grab for maximum utilisation of the storage area (before and after the later housing and installation of the curing system).

For this project, Ramböck selected a face mix filling with a four-fold hoses style batcher, which is especially suitable for the distribution and dosing of finely crushed face mixes.

The company is known for high-quality slabs. To create these specialty products, Ramböck uses many different coloured aggregates, which are sourced locally or imported. In addition to the coloured surface, Ramböck gives the slabs a natural look by shot blasting or fine washing.

Our intelligent system for better concrete products.

- 01 Curing Rack Systems
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Site visit in St. Georgen to measure the available space.



The compaction unit of the new Masa XL 9.1 is installed.



In order to most efficiently utilise the available space in the building, the connected slab flat storage system is extended with an automatic grab to store rows of filled pallets. In addition to the investment in a new slab press, Ramböck also invested in a curing plant to ensure fast and uniform curing of the slabs and simultaneously improving their visual and physical properties.

Tailor-made solutions

With decades of successful collaboration between the two companies, it was never a question of who Ramböck would partner with for the challenging retrofit projects that were planned. With the replacement of the old "Henke-Variant", an outdated production machine for landscaping products, and additional new components for the wet side and a modern plant control system, Masa supplied individual solutions that were precisely suited to the local circumstances. The new XL 9.1 is producing on 1.250 mm x 1.100 mm fibre-reinforced



The machine is characterised by detailed technical solutions.

CONCRETE PRODUCTS & CAST STONE

Uniplast® Wasa production pallets. To be able to work continuously with the mould inventory of the old machine, the new machine was equipped with appropriate adapters, which saved costs and resources.

The Masa XL 9.1 block making machine, which is extensively equipped in its standard version, has additional optional components, which were added for this project to produce a greater variety of landscape products repeatedly and assuredly. Gardens and the outdoors are areas where people retreat to relax and unwind and the stones produced for these private recreation areas must have the right aesthetics, feel and appearance to create a calming oasis.

In addition to amplitude-controlled vibration, automatic mould change, colour-mix equipment in the face mix concrete silo and an appropriate dosing belt for filling the face mix filling box, Ramböck has equipped the machine with several other technical components.

Masa installed a new servo-controlled walking beam conveyor for particularly gentle handling of the fresh products. Integrated in this handling solution is a weighing device for quality assurance, which uses electronic load cells to weigh the full production pallet with products. The loaded production pallet is conveyed into the elevator, which represents the direct connection to the curing process. After going through



Everything in its place: The Masa Combiteiner solution for hydraulic systems and control cabinets.

Highest precision for the superior products



WÜRSCHUM

The Experts for Colour Dosing Systems



a consistently uniformed curing process in the big chamber plant, the landscaping products pass through a surface treatment line, which fully accentuates the shine and colour play of the pavers. The final products can be significantly enhanced by this process. The stylish and expressive designs, surfaces, colours, and shapes leave nothing to be desired when looking to design lively gardens.

Occupational and plant safety are major topics for Ramböck, which Masa takes into careful consideration when designing every plant concept. At Ramböck, it includes the successful and well thought out container concept, which sits next to the electrical and mechanical safety devices. The Combaitiner, which houses the hydraulic station of the concrete block making machine is next to the control cabinet and enables a centralised dust and noise protection zone.

Staying in tune with customer's needs

As an experienced machine manufacturer, Masa has a keen sense of customer expectations and a high aptitude for creating quality solutions. This combination makes Masa a consultative partner for Ramböck, as both traditional companies pursue the same goals. In order to continue supplying the product category "wall and masonry blocks" in the usual Ramböck quality with the appropriate strength and dimensional accuracy, the Austrian company decided in 2018 to implement an additional modernisation project, which was successfully executed by Masa. The stationary machine of the production line for blocks - again an old "Henke-Variant" - was disassembled and replaced by a Masa XL 9.1 main mix concrete machine with amplitude-controlled vibration. During the planning and design phase, the Masa construction team was constantly faced with new challenges due to the limited space availability. Despite this obstacle, the team was able to follow through with the previously agreed upon time frame for installation, commissioning, and the initial test runs as expected.

The new centre of the production line, the Masa XL 9.1, has been producing high-quality blocks since spring 2019.

The company Ramböck chose a machine configuration which is characterised by a small production pallet, manufactured on WASA plastic production pallets, size of 1300 mm x 620 mm. The products fully meet the specific requirements for dimensional accuracy and compliance with height tolerances. As a result of the very high manufacturing accuracy, the products require minimal calibration. This leads to a significant reduction in wear on the calibration tools, which reduces operating costs and time required to maintain the wear parts.

In addition to an amplitude-controlled vibration, the main mix concrete machine is equipped with a hydraulically driven mould closing table and material push back device. Masa integrated the existing styrofoam inserting device in the new electrical concept and adapted the design to the new requirements. This was implemented in an identical way to the previous "Variant" machine. In addition to these features, Masa also installed a driven transport system for moulds to optimise machine set-up time.

To clean the tamper head shoes (upper part of the mould) during the production of certain products, a hydraulically driven cleaning device is installed across to the filling direction. In addition to this device, the vibrating grate of the main mix filling box was delivered in a special design with 25 mm hard chrome-plated shafts. A notable device in the machine is the multi-colour dosing device, which is integrated into the main mix concrete silo.

The filling belt of the main mix filling box, a self-development by the customer, was integrated by Masa into the machine. The belt initiates the concrete filling in the front area of the filling box. The dosing belt is equipped with a manual operation, a belt-stop and the possibility of manual re-dosing in



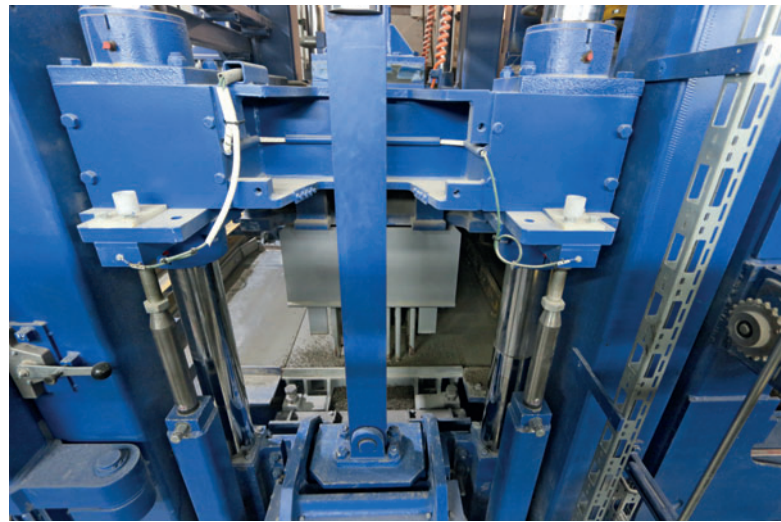
Belt feeding of the main mix concrete silo.



*Integrated in the concrete silo:
The proven Masa multi-colour device.*



A new wall block is created: Filling and compacting.



Quality and dimensional accuracy:
No problem for the new Masa XL 9.1.

automatic mode. The filling level in the filling box can be adjusted via a belt switch-off controlled by time or a laser.

In addition to the block making machine, Masa also reinstalled the wet side transport and the complete "cross transport/production pallet buffer" area. The conception of this area of the plant took place on the individual wishes of Ramböck. In principle, two of the production pallets are coming from the return transport are collected and turned in one operation. This process is performed by a shifter with conveyor, a lifting/lowering unit and a clamping basket with a vertical turning gear. Due to the spraying device for a release agent at the return transport included in the production line in St. Georgen, it was essential for Ramböck to be able to control the turning process depending on the products. This was the only way to ensure that special wall construction products were always manufactured on a sprayed production pallet. Masa was able to meet this requirement without problems.



Security is a major priority at St. Georgen.





Systematic, gentle wet side transport.

The other new components for cross transport (liftable conveyor, roller conveyor with controlled latches for buffering up to 160 production pallets and access for forklift trucks as well as production pallet destacker) could also be implemented and integrated into the production line without issues.

Decades of Success

Quality pays off. Both Masa and Ramböck have always remained true to this principle and are persistently successful. Masa was able to celebrate a major company anniversary in 2015, and Ramböck can look back to 70 years of company history in 2020.

"We would like to congratulate Ramböck on its anniversary, thank them for decades of trustful cooperation and wish them continued success," said Rudi Buyna, Masa Area Sales Manager, who is in close contact with Ramböck.

Masa is poised to be a reliable partner who meets challenges with individualised solutions for building material manufacturers. ■



*With and without vertical turning:
The shifter is individually adaptable.*

FURTHER INFORMATION



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