Masa GmbH, 56626 Andernach, Germany

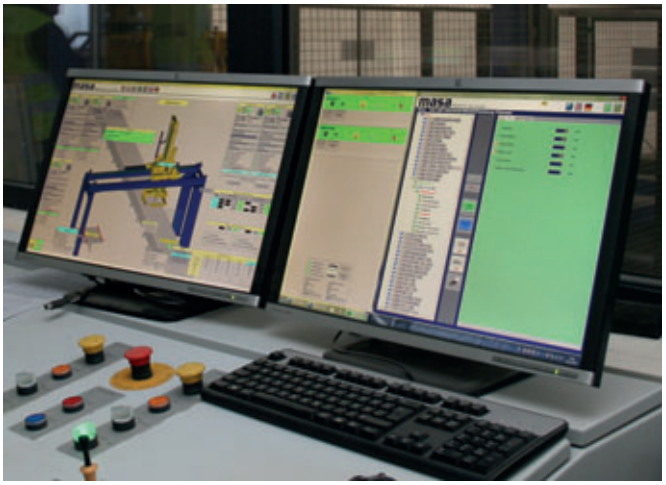
Jasto reacts to capacity limits with new concrete block making machine for pumice concrete block production

When Jakob Stockschläder GmbH & Co. KG, or Jasto for short, reached the limits of its capacity for the production of pumice concrete blocks, despite three-shift operation, the decision was taken in September 2013 to extensively modernise this area of production. Up to that time these products had been produced on two older concrete block making machines in a common hall. Due to the strong increase in demand, Jasto replaced the two old machines by a new plant with a higher performance, which will secure long-term growth for the company. As its partner Jasto selected the locally-based Masa GmbH, which was commissioned to supply the new concrete block making machine as well as further components. Together with Jasto, Masa constructed a high-performance production line which has created the required capacities for the desired long-term growth.

■ Mark Küppers, CPI worldwide, Germany ■

As a family-owned company, Jasto can look back on a 65-year history. The company was established in 1949 by Jakob Stockschläder, who was only 18 years old at the time, and he managed the family business for almost 50 years. In the initial period Jasto was a pure pumice stone company and developed over the course of time into a renowned producer of pumice stone products for the building industry. In the late 1990s his son Ralf took over the company and led it further forward. Today, in addition to

Masa XL 9.1 concrete block making machine



The wet and dry side are completely in view from the control room. The visualisation enables the logical and simple operation of the complete plant.

masa

Milestone to your success.

Our solutions for your success

www.masa-group.com

Masa covers the complete range of machinery and ancillary equipment for the building materials industry: Batching and Mixing, Concrete Blocks/Pavers, Kerbstones, Concrete Slabs, Sand Lime Bricks and Aerated Concrete (AAC).

All technical solutions are individually planned, designed, adapted and realised for each customer, resulting in one supplier and one individual contact person.

Masa GmbH
Masa-Str. 2
56626 Andernach
Germany
Phone +49 2632 9292 0
Service Hotline +49 2632 9292 88

Masa GmbH
Werk Porta Westfalica
Osterkamp 2
32457 Porta Westfalica
Germany
Phone +49 5731 680 0

Masa-USA, LLC
2006 Wery Lane, Green Bay, WI
54313
USA
Phone +1 920 497 0390
sales@masa-usa.com

info@masa-group.com
service@masa-group.com
www.masa-group.com

Masa - made in Germany.

Both the elevator and lowerator as well as the finger car were modernised.

chimney systems, Jasto Baustoffwerke's range of products is mainly supplemented by a large number of products for garden and landscape construction. In order to be able to meet the respective needs of the market, Jasto is countering the changing demands with great entrepreneurial dynamism. In order to ensure this and to create further capacities, Jasto invested in 2011 in the extension and modernisation of the production lines for the garden and landscape construction products and lastly in the rebuilding of the pumice concrete block production with the new concrete block making machine from Masa as its central element.

Rebuilding according to plan kept production losses low

The complete rebuilding of the pumice stone production took 2.5 months. Jasto did not stop the entire production though. First of all, one machine was dismantled while the other continued to run for as long as possible. This production was only stopped when the second plant of the new complete plant was 'in the way'.

Masa XL 9.1 concrete block making machines

The core component of the new block production line is the XL 9.1 concrete block making machine from Masa. With modern and matured technology, the XL version represents the top model in Masa's range of block-making machines. Decades of experience and continuous further development flow into the technology of this model series. The XL 9.1 impresses, for example, with the production of concrete blocks of all kinds with particularly high height accuracy, short cycle times and very high product quality.

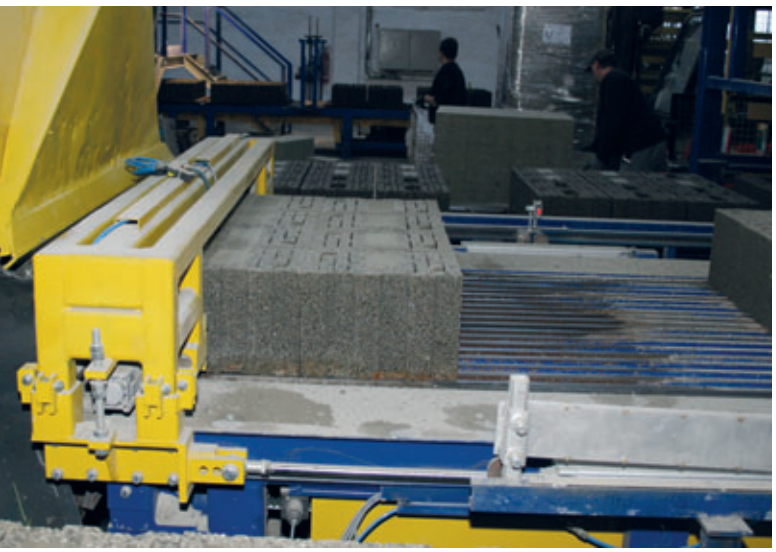
The standard scope of supply includes continuous silo level measurement in the core and facing silos with weighing cells, an oil temperature controller with oil heating and air/oil cooler, frequency-controlled vibration, visualisation of the functions with PC control and monitor, online operator assistance and proportional pressure control for the hydraulics.

The concrete block making machine is fitted with a complete acoustic enclosure. Directly adjacent to this enclosure is the control room, which is almost fully glazed and thus allows a very good view of the wet and dry side. The complete line, from the concrete production to the packaging, can be controlled and monitored from the control room. In order to simplify the control, Masa employs a logical visualisation with digital 3D animations and a clearly arranged control panel. All production parameters can be read on the large flat-

View of the dry side

An employee inserts suitably pre-cut insulating material into the hollow chambers of the Jasto Plan Therm blocks.

The gripper takes the blocks in layers from the steel sheets and sets them down in front of the grinding unit.



Jasto Plan Stones are milled to a height of 24.9 cm. Jasto Klassik Stones in contrast are manufactured with a height of 23.8 cm

screen monitors; changes can easily be made by the machine operator.

Production takes place at Jasto on steel sheets. 4,000 additional sheets were recently supplied by BEB Stahlhandel and integrated into the production circulation. At present the plant is mainly used to manufacture Jasto's fine pumice products for building construction. Jasto distinguishes between two product groups here: the Plan Stones and the Klassik Stones.

Jasto Plan Stones are milled during production to a height of 24.9 cm and later laid with thin bed mortar. The mortar joint, which is just 1 mm thick thanks to the use of thin-bed mortar, produces a significantly lower thermal conductivity in the masonry and also increases the load-bearing capacity of the wall. Over and above that, the low quantity of mortar means that there is much less moisture in the joint and thus in the entire masonry. Not only that, the application of the thin-bed mortar requires less time than bricklaying with classic

After milling, the blocks are placed on the slat conveyor, which takes them to the packaging area.

Final brushing of the surface for the removal of any milling residues

Before packaging, the block layers are slightly separated so that the subsequent stone packages can be better aired.

Packaging the pumice concrete blocks on wooden pallets

mortar and thick mortar joints. Jasto Classic Stones in contrast are manufactured with a height of 23.8 cm and are laid with 'normal mortar' (e.g. MGII). The joint width here is about 1.2 cm.

It is planned to supplement the production line by a dye dosing unit and to use it to produce dry stone walls for garden construction in order to meet the increasing demand in this area.

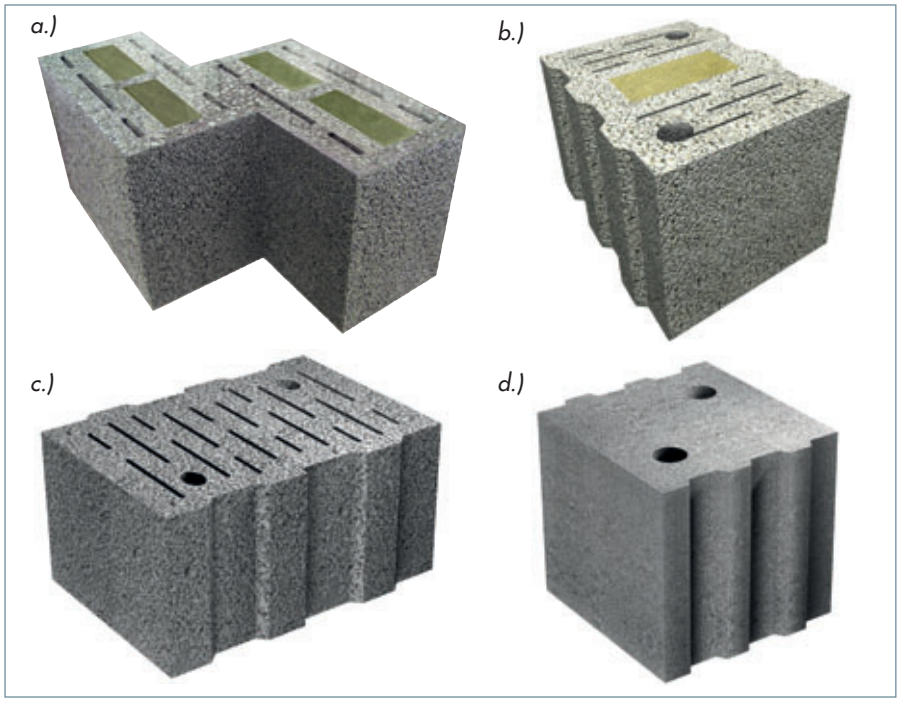
The fresh products are transferred cyclically from the XL 9.1 to the wet side transport. On the way to the elevator the surfaces of the blocks are automatically brushed off. The elevator can accept a total of 20 steel sheets in a double-pile arrangement. The finger car takes up the fresh products and takes them to the drying chamber for hardening. These parts of the line, from the wet side transport to the finger car, were retained from the old production line, modernised and integrated into the new line.

The hardened products are transferred by the finger car to the similarly modernised lowerator and transferred onwards from there to the first of three conveyors running in parallel. If the products concerned are from the Jasto Plan Therm product range with integrated insulation, the hollow chambers are also filled with insulating bodies. This produces blocks with very low thermal conductivities. The employees insert pre-cut insulating bodies into the hollow chambers provided for this.

Jasto Z-Stone

The flagship of the Jasto Plan Therm product range is the patent-protected Jasto Z-Stone introduced in 2009, which represents an answer to the thermal bridge problem of butt joints when laying conventional masonry blocks. The new block geometry prevents the direct transfer of heat. The joint is halved and then arranged with an offset. Masonry made of Z-Stones achieves a thermal conductivity of λ_R = 0.07 W/mK. With a wall thickness of 36.5 cm, a U-value of 0.18 W/m²K is achieved.

Apart from the offset joint, the use of particularly light Rhenish pumice and the insulating material integrated into the hollow



Some of the products produced on the new Masa XL 9.1 concrete block making machine:
a.) Jasto Plan Therm Z-Stone
b.) Jasto Plan Therm Stone with insulation
c.) Jasto Plan Therm Stone without insulation
d.) Jasto Plan Phon Stone

chambers are responsible for these excellent thermal insulation values. The Z-Stone is one of Jasto's success story and sells very well even beyond the region and abroad.

Milling unit for optimum height accuracy of the blocks

At the end of the first transport section the new transfer device from Masa takes up the complete block layers from the steel sheets and sets them down on the second lift and carry conveyor, which runs in the opposite direction. The empty steel sheets travel further along the first transport section. They are cleaned, turned over and transported transversely back to the buffer of the block making machine. They are then available to production again for the next cycle.
The concrete blocks are moved in layers through the automatic milling machine on the conveyor belt. Here the stones are not only given smooth surfaces, but are milled to the aforementioned uniform height of 24.9 cm. The milled stones are taken up at the end of the 2nd track by a further transport device and set down on the third transport line, a new Masa slat conveyor. This

Since 2011 Jasto has also always been present as an exhibitor with a broad range of products at the joint booth of the Federal Lightweight Concrete Association from Neuwied at the Bau trade fair, which takes place every two years in Munich.

slat conveyor transports the blocks to the packaging area. Here there is a possibility to inspect the blocks again and if necessary to insert missing insulating bodies in the hollow chambers of the Plan Therm blocks. The packaging area has been completely rebuilt and integrated into the new line. The blocks are stacked on reusable pallets, covered from above with a film to protect against moisture and strapped. The finished pallets are then moved by a conveyor belt into the outdoor area. A fork-lift truck with double fork takes up the new products and sets them down in the outdoor storage area.

Plant running to customer's complete satisfaction

The new block making machine has so far done nothing but impress at Jasto. "Complaints are almost zero and we have no more scrap", says Ralf Stockschläder, chief executive of Jasto, who is satisfied with the quality of the products. "The unit didn't have to be run in – even the very first blocks produced came out of the plant in excellent quality", he continues, referring to the smooth commissioning with Masa. And so that the quality is not just visually okay, all production areas at Jasto are strictly supervised. This takes place both in the company's own concrete laboratory and also through the company's own monitoring as well as external monitoring by the Neuwied Institute of Materials Testing (MPVA).

Stock levels normalised

Jasto is catering to current developments with this investment. Since the company's own capacities were insufficient, products frequently had to be bought in from external sources in the past. It is unsatisfactory for any concrete plant that loves what it does to have to function in such a situation as a dealer and no longer as a producer.

Since more can now be produced, stocks have reached their target levels again

Ralf Stockschläder also sees a need for prompt action for a very different product segment from his company, the split blocks. Despite rebuilding and optimisation of his splitting lines, increasing demand has brought him to the limits of his capacity here, too. Therefore he is already thinking out loud about a second splitting line so that the customers' needs for quarry-stone walls can always be met.

Masa sponsored the free download possibility of the pdf of this article for all readers of CPI. Please check the website *www.cpi-worldwide.com/channels/masa* or scan the QR code with your smartphone to get direct access to this website.

FURTHER INFORMATION

Jakob Stockschläder GmbH & Co.KG
Koblenzer Straße 58
56299 Ochtendung, Germany
T +49 2625 963660
F +49 2625 963670
info@jasto.de
www.jasto.de

Masa GmbH
Masa-Straße 2
56626 Andernach, Germany
T +49 2632 92920
F +49 2632 929211
info@masa-group.com
www.masa-group.com