

## Modernization of a sand-lime brick production plant in Russia

To meet the demand for new, modern sand-lime brick products in the Russian building industry, an existing production plant in the Ulyanovsk region is modernized and extended stepwise.

For more than 45 years, the company group ZAO "Prominvest" have run the factory OOO Silikat+ for the manufacture of sand-lime bricks. With this, "Prominvest" are one of the leading manufacturers in this field in Russia.

In 2019 already, a new AAC plant could start operation on the premises of the sand-lime brick production plant, this was the first successful cooperation between Masa and Silikat+. As the demand for new, modern sizes – beside the traditional sand-lime bricks –

*Masa press type HDP 800 in the existing production building*







*Masa block package transfer device and compacting station*

is enormously rising in Russia, too, discussions about an extension of the existing sand-lime range of products started subsequent to the AAC project. The intention was to extend the range of products by medium-size bricks as well as separating wall bricks.

### Modernization in three steps

Early in 2020, Silikat+ and Masa signed a comprehensive contract for the stepwise modernization of

the sand-lime brick production plant. The complete process was sub-divided into three steps. Beside modern hydraulic sand-lime brick presses, it comprised a packaging plant and an optimization of the hardening section.

This complex task required special attention to an optimum continuation of the regular production process while the alteration measures were going on. This had already been considered by Silikat+ and Masa during the planning phase.

*Automatic strapping device with stretch film wrapping device*







*Masa cross saw for determination of the product height*

Step I of the project was successfully implemented in summer 2021. While normal production was running, a first Masa sand-lime brick press type HDP 800 was integrated into the manufacturing process. So, the new products can be manufactured now. In addition, a new Masa packaging plant was installed. To integrate this component into the workflow, the drive-ways of the hardening cars had to be adapted to the new conditions. The planned modification of the hardening section with new autoclaves was already considered here.

At the moment, steps II and III are being prepared. The biggest challenge here is the integration of the new autoclaves: This shall also be carried out with as little interference in the regular production process as possible.

### Perfect combination of sand-lime and AAC products

Already now, after the first step of the modernization process has been completed, Silikat+ can offer a modern building system composed of AAC and sand-lime products to the building materials industry. In particular, the new separating wall bricks can very well be connected to the outside walls built up of AAC blocks. Because of their high density, sand-lime bricks have very good sound-absorbing qualities and are therefore favoured – in Russia and all over Europe – for an effective separation of rooms and housing units. The same product heights of both materials mean many advantages for the use on the building site – fast and economical build-up of the complete brickwork of a building. In Russia as well as in other European countries, larger-sized sand-lime bricks are preferred. With the new Masa sand-lime brick press, Silikat+ can now follow this trend and strengthen their market position.



*Tilting table behind the cutting plant for flat stacking of the products inside the autoclaves*

In the first cooperation of Silikat+ and Masa, some special features had to be considered. When planning the AAC plant, the special raw material situation had to be focussed on for instance. The concept of the new plant was developed based on intensive discussions with the technicians and technologists of the customer and comprises the so-called impact table technology. This manufacturing method reduces the water consumption of the mixture and works without anhydride (see Masa report in AAC Worldwide 04-2021). For the customer, this means reduced raw material costs and more considerate exploitation of available resources.



Since mid-2019, AAC blocks are manufactured with a fully automatic Masa production plant according to the presently required quality standards and successfully merchandised under the trade name "Novoblock". Following the success of the product, the production capacity of the plant was extended by another autoclave in 2020. The factory has now a daily capacity of 1,200 m³.

When steps II and III of the modernization process of the sand-lime brick production plant have been completed – presumably by end-2022 – Silikat+ will be able to supply the industry with high-quality products and to achieve an outstanding market position as one of the most innovative building materials manufacturer in Russia. The long lasting, successful cooperation with Masa as a competent partner for the manufacture of AAC and sand-lime building materials pays off for ZAO "Prominvest". ●



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*Storage area and new AAC production building*

