

Schlüsselbauer Technology GmbH & CoKG, 4673 Gaspoltschhofen, Austria

New production plant for the production of manhole rings and cones in Russia

For the first time ever a Magic plant from the company Schlüsselbauer Technology in Austria recently went into production in Russia. The company OOO <<SMK-50>>, situated in Belgorod near to the Ukrainian border, is one of the progressive concrete producers in the Belgorodskaya region. The continuously growing market and the need to improve and develop the already existing products led to the decision from the company OOO <<SMK-50>> to invest in a new production plant for the production of manhole rings and cones. Primarily manhole rings and cones are produced on the Magic production plant. During the first phase of entering the market the town Belgorod and the surrounding areas are being delivered with a wide range of products. The new products are being promoted through various activities such as company tours and practice demonstrations of manhole installation at construction companies and contractors. During the second phase building sites within a radius of 200km will be delivered which will lead to the towns of Kursk, Stary Oskol and Voroneg becoming customers of OOO <<SMK-50>>.

The company OOO <<SMK-50>> was founded in 2007 with the aim of installing a manhole components production line within the OOO <<Pervaja Stroit el' naja Kompnija>> concern. The reason for founding an individual company was the split between the pre-fabricated production and the civil engineering divisions. A bridge building company with a reinforced steel plant for the production of bridge parts also belongs to the concern. The company has also installed its own certified laboratory where the manhole production is also taking place. In the run up to the founding of OOO <<SMK-50>> the shareholder

Nikolay Ryapukhin carried out an investigation into which equipment would be suitable for the development of a modern production plant. Apart from the required product quality another important criteria for the company to consider when making its decision was the necessity to install a plant requiring only minimal personnel for its operation. Due to the flourishing building industry there was already a lack of qualified personnel in the region. The exchange of experiences with numerous companies which already had highly automated machinery in use within Russia and the whole of Europe together with various visits

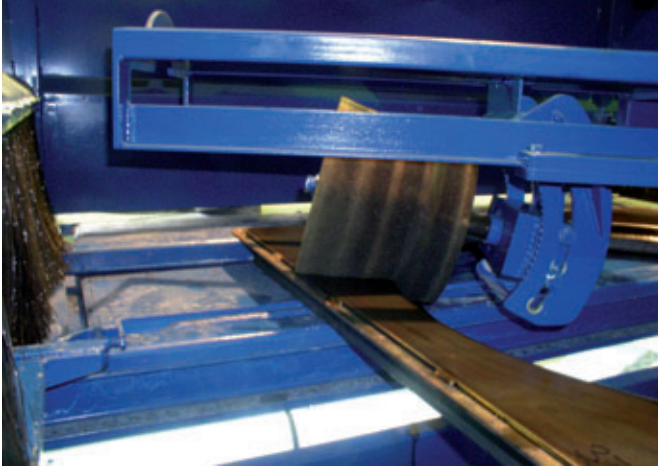


Production of manhole cones at OOO <<SMK-50>> using the new production plant Magic from the company Schlüsselbauer.



Production cycle: Pallet is fed in, mould filled and after compacting the cone is released from the mould and transported out of the machine.

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A clean operation: By using the new oiling method spray fog and contamination are reduced within the working area.

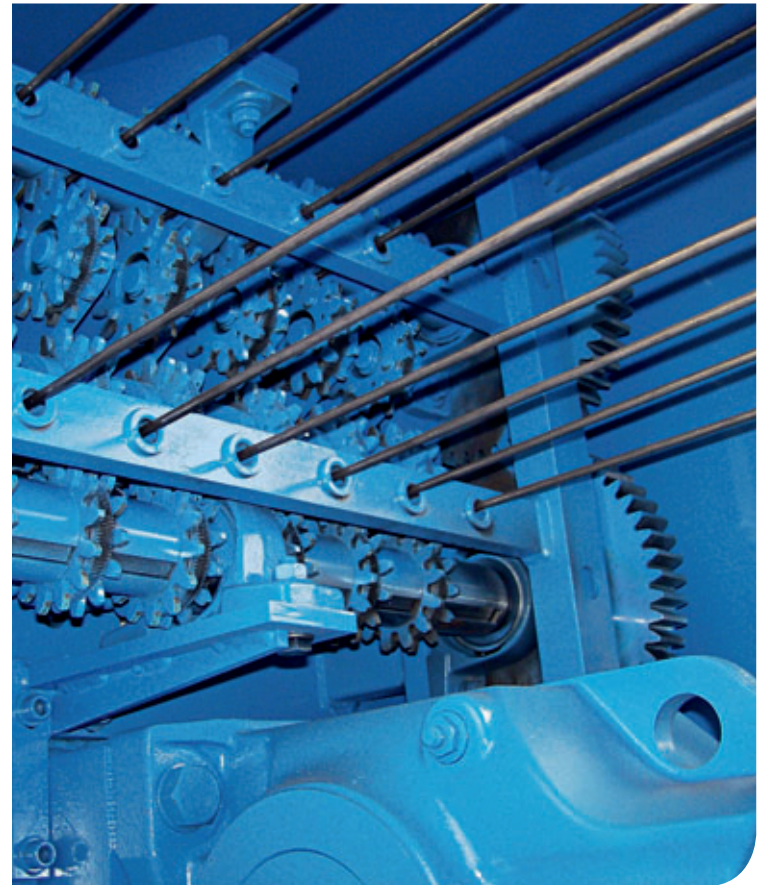


The products are transported using the electric transport cart

to trade fairs and a final analysis all led to Mr. Ryapukhin finally opting for the company Schlüsselbauer as its provider. After a decision regarding the new production machine had been made the question regarding an ideal concrete mixture had to be answered. Gravel-sand mixtures normally used in middle Europe are not available in the Belgorod region. In individual cases it would have been necessary for these substances to be delivered over a distance of more than 1000 km which would not have been economically possible using cheap means of transport. Therefore the company approached the technological academy in Belgorod with this problem. The result was research work with the title "examination of fine grained concrete for manhole and pipe production using local raw materials" and finally an economically suitable concrete mixture was defined. The collaboration with the Schuchove Academy continued even after the successful start of production in order to meet the ever growing need to be competitive due to consequent quality and cost controlling.

Range of Products

The company OOO <<SMK-50>> installed a brand new production plant from the company Schlüsselbauer. In its basic concept the Magic 1501 is laid out for the production of a wide range of products using either a single or multiple production system. The Magic production plant at OOO <<SMK-50>> is being used only for the production of manhole elements however this machine is also laid out for the production of a wide range of special pro-



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ducts including pipes with rebated joints, drip pipes, drainage and roadside channels. Manhole rings and cones with rebated joints and diameters of 1000 and 1500 mm are produced. It is possible to produce cones DN 1000 and building height 600 mm as well as cones DN 1500 and building height 850 mm on this machine. The wall thickness of all these products is 90 mm although it is possible to produce DN 700 products with thinner walls. These products with building heights of 250, 500 and 1000 mm are produced with a wall thickness of 80 mm. The product range is complimented with adjustment rings which can be adjusted for four

different building heights: 60, 80, 100, 150 mm.

Production Technique

The Magic 1501 at OOO <<SMK-50>> operates with an automatic pallet in-feed system and can be operated by one person. This operator places the necessary step rings into position and thereafter they are directly cast in. Support rings are also manually placed on the products. Due to the variety of products produced on this machine it is necessary for the plant to be flexible with quick mould changeover times. It is possible to change the moulds on the

Magic 1501 in a very short space of time. Using the special Magic mould change system a complete mould change can be completed within about 40 minutes thus providing reliable, short and easily planned interruptions of production. Having been extracted from the pallet store the pallets then go through the cleaning and oiling station and are finally automatically fed into the production machine whereby the oiling system used on this machine is a novelty in itself. Instead of using the standardized but old fashioned spraying system to oil the pallets this machine uses sponges instead. This method is dirt resistant, requires less oil and no spray fog is created whereby other parts of the machine close to the oiling area are protected from oil residue contamination. The whole operation process has been improved due to this new method.

Removal

At OOO <<SMK-50>> the Magic plant produces in single production with the manual removal of the products by means of an electric transport cart. The products are set aside within the production building to be cured. This building provides enough space for the curing of the concrete products. After the curing process, which takes one day, the cured products are then further transported using the electric transport cart to the de-pelleting station. The production machine also has its own product conveyor belt and sufficient puffer zone where numerous fresh products can be placed before they are removed by the electric cart. It is not necessary for the transport cart to operate in a 1:1 tact and it can therefore work independently to the production machine. The pallets are delivered to the automatic cleaning system once they have been released from the concrete products. Finally they are oiled using the new oiling method and are delivered to the production machine ready for the next production cycle.

Optimised production technique has convinced the owner

“Every serious building plan is on the one hand based on an analysis of the situation however on the other hand conceived to achieve the human desire to improve the world a little bit more. I am forever asking myself how we can contribute. Therefore it is especially pleasant to find like minded



Manhole elements in the loading area at OOO <<SMK-50>>



Cones in the curing area of the production building at OOO <<SMK-50>>

FURTHER INFORMATION

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Mr. Nikolay Ryapukhin, shareholder from 000 <<SMK-50>> (right in photo), is proud of the new Magic 1501 – here during a plant tour with Mrs. Tatiana Egorova, area sales manager and Mr. Johann Schlüsselbauer, owner of the company Schlüsselbauer Technology.

people who also carry a philosophy such as Schlüsselbauer, who carry our philosophy: Sustainability in new buildings and refurbishment of sewage canal networks is

only possible by using high quality components such as reinforced concrete pipes and corresponding manholes. The production technique used by the Austrian compa-




ny is optimised for the production of these building parts." Mr Nikolay Ryapukhin, shareholder of the company 000 <<SMK-50>> continues " I am proud that our company has improved the Russian building sector by using this production technique and that our company is also the first factory in our country to commission a modern Magic production plant." ■

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