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Starting 2012 with new one-man operation large manhole ring manufacture

The renowned precast component manufacturer Eurobeton which is located in the Czech city of Chvaletice has started the new year with a noteworthy boost to its production technology. A plant for the manufacture of large format rings and cones was commissioned at the beginning of the year in the company which belongs to the MABA group. This created the basis for the manufacture of products with reduced wall thickness and generally took into account the special significance of this important product segment for Eurobeton customers. With the Magic2500 supplied by Schlüsselbauer, manhole rings, cones and 3 chamber rings to DN2500 can from now on be produced more economically and to higher quality standards than previously. The reduction of costs is due, on the one hand, to reduced concrete consumption, and on the other hand to the one-man operation during manufacture which has now been accomplished. In addition to these basic requirements of a new manufacturing plant, it was predominantly flexibility and the ability to change production over to other products with minimum time expenditure which were crucial for the investment decision at Eurobeton.



The MAGIC2500 products on stock at Eurobeton Chvaletice: manhole rings, seepage rings, cones



The Magic2500 production plant for the manufacture of precast components with an external diameter of up to 2700 mm

The company which specialises in the manufacture of concrete components for sewerage technology, drainage technology and separation technology has belonged to the MABA group since 2004. At the Chvaletice site, 47 employees recently developed a total turnover of 4,000,000 Euro (2011). With a manufacturing volume of more than 8,000 cbm of concrete annually, Eurobeton is one of the lead-

ing manufacturers in the Czech Republic. The specification of drastically reducing the wall thickness of 120 mm which was customary for large-format components on the Czech market whilst simultaneously increasing production quality was crucial for the company in the decision for investment in new manufacturing technology. The aim was to attain a roughly 20 % reduction in the concrete volume



The entire concrete supply of the Magic2500 was newly constructed with a view to rapidly inserting concrete into the machine



Running the rings out of the machine in short cycle times



An electrical truck with a retaining ring manipulator used for removal of the products



The support ring manipulator permits the operator to effortlessly place the support rings on the new product without being assisted by a second worker



The automatic pallet feeding device is a crucial element in the one-man operation of this plant.

used. In the decision-making phase, the Magic2500 was ascertained as the plant which would be able to implement the specifications. The Magic2500 is a production plant which enables predominantly large-format precast components to be manufactured economically with the flexibility of the Magic. For DN2500 manhole rings the envisaged over 20 % reduction in the concrete used was achieved, for DN1500 and DN2000 manhole rings the reduction was even more than 25 %.

Thanks to intensive cooperation with Schlüsselbauer, the decision was finally made to manufacture the entire product group consisting of manhole rings and cones in the nominal widths DN1500, DN2000 and DN2500 with a wall thickness of 90 or 95 mm. All manhole rings are also now equipped with three transport loops respectively. The rings can optionally be equipped with percolating holes. Three-chamber rings

are also manufactured in the nominal widths DN 2000 and DN2500. Cones of all nominal widths are executed with three stacking notches each in order to be able to store the products safely on top of one another, thus saving space. The stacking notches have been executed in such a way that inflows and outflows can be integrated at a later date. The component height of the cones is 600 or 850 mm, dependent on diameter. The manhole rings are respectively produced in the construction heights of 500, 750 or 1000 mm.

Immediately demoulded products are removed by an electrical truck at Eurobeton. The support rings used to protect the construction are automatically placed on the product by the electrical truck. Thus, a working step which in the past always required a second worker for a short cycle time due to the large dimensions of the components is now unnecessary. The entire manufacturing pro-

cess can now be accomplished by a single worker as the production plant has been additionally equipped with an automatic pallet feeding device. It is therefore not only the cost-effectiveness of the production of large components which has improved at Eurobeton with the operation of the new Magic2500. Product quality is also assured at the high level demanded by manufacturers and customers despite the reduced wall thickness.

A new concrete supply has also been installed for the feeding of the Magic2500 production plant. The two planetary mixers have a capacity of 1.5 m³ each. The concrete is transported to the machine using a new conveyor with two buckets of identical volume. The machine has a manufacturing capacity at an external diameter of 2.700 mm and a product weight of 3.000 kg. In order to be able to change the daily production programme quickly over



An innovation in the manipulation of support rings – a manipulator undertakes the work-intensive process of fitting support rings

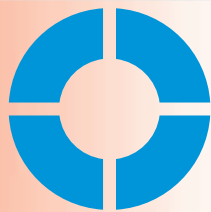


One-man operation of the entire production plant by automated processes, only the insertion of the reinforcement ring is manual.



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DN1500 manhole rings in the setting area



Drainage rings on stock

to other nominal widths or products, the Magic2500 has a quick-change system for moulds. The plant is converted in less than one hour, consequently a relevant output is guaranteed even in the event of changes to the production schedule at short notice. This great flexibility is a deciding factor in the selection of technology to be used in the long term for the plant manager at Eurobeton Chvaletice, Mr. Bures. The company has thus optimally equipped itself for current market requirements.

FURTHER INFORMATION

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