

■ Schlüsselbauer Technology GmbH & CoKG, 4673 Gaspoltshofen, Austria

State-of-the-art manhole plant established in France at company Plattard in Villefranche

In the beginning of October the most modern manhole plant of France has been established at company Plattard in Villefranche and was celebrated with a big event with more than 1.000 visitors. The company Plattard, which was founded in 1880, has been one of the most faithful

customers of the Austrian plant constructor Schlüsselbauer for more than the past 20 years which has delivered an Exact 2500 plant for the production of manhole components as well as a Perfect system for the production of manhole bases in 2006.

Beside the new plants from Schlüsselbauer the family-owned company, which is now successfully managed by Jaques Plattard in the 5th generation, also produces pipes in several diameters and lengths on a further pipe plant and risers and further concrete parts for the civil engineering on two Magic plants in high precision. In total the whole factory premises cover 27 hectares. A required resource of 600.000 tons flint/year is in large parts covered by own gravel-pits. Every year 400.000 tons concrete components are produced for the civil engineering as well as 10 millions of bricks, which are recently, having passed the new production machine Quadra, also grinded absolutely plane by a state-of-the-art grinding machine (cp. BWI 04/2007).

Plattard gained sales of more than 100 millions of EUR in 2006 at a constant growth. Principally the products are sold via their own building material trade which consists of 27 subsidiaries as well as to the construction industry. The trading area contains the South and the East of France. As one of the last family-owned companies in the building industry the Plattard Group ranks with 400 employees not only in their own region among the biggest producers of concrete components.

When they decided to significantly increase the production capacity of the manhole production plants in 2005, they chose the unique complete system offered by company Schlüsselbauer of Gaspoltshofen, Austria.

With a combination of Exact manhole risers with integrated taper and Perfect manhole bases with integrated channel made of concrete the time of installation on the construction site is decreased by simultaneously increasing the added value of the concrete factory. It wasn't difficult for Jacques Plattard to make this decision as he attaches great importance to the quality of his products: "High quality is worth its price. The investment in the machines and plants is high but from the beginning we were convinced that this investment will be worthwhile for all participants. Besides it is the enormous advance of innovation which we have due to the investment in this plant. We are proud of being one of the leaders in technology here in France."



At Plattard in Villefranche, France, a brand-new Exact manhole production plant has been started up recently.



Before the production of the manhole risers starts, the pallets, the hoops, the lifting anchors and step rungs are automatically positioned.



The concrete is transferred to the production plant via a conveyor.



In order to be self-sustaining each hall at Plattard disposes of an own mixer for concrete.

Exact manhole production

For the new Exact 2500 manhole production plant a complete new hall has been built, which has a floor of 100 x 35 m and a height of 12m. Beside the new Exact production plant also an existing Magic production plant has been built up in this hall. Especially for the production facilities in this hall a new mixer of company EDM, which has recently been taken over by company

Quadra, has been purchased. Generally it is part of the philosophy of Plattard that every hall is supplied by its own mixer. The resource for the production of manholes is stored in a roofed outdoor stock and is transferred via a conveyor to silos which are placed above the mixer. A Bikotronik humidity measuring system regulates the water demand and the dosing of additives of Fosroc and therefore takes care that the 1.5 m² mixer produces stable quality of concrete.



The manhole components are dismantled immediately after the production



An electrical transporter transfers the manhole components to the curing area.



....and later on back to the plant

Plattard receives its cement CEM II in the resistance category 42,5 and 52,5 from the French cement supplier Vicat. The maximum grain of the additives for the manhole production is 14 mm. The ready mixed, earth-moist concrete is finally transferred via conveyors to the production plants.

It is possible to produce manhole constructions with 300 to 2.400 mm length

on the Exact plant - if necessary also including taper. The manholes at Plattard usually have a diameter of 800 or 1.000 mm. If required the step rungs can be directly vibrated into the products and on the spigot end of the manhole components a hoop is incorporated. The step rungs are positioned with the Stepmaster, a robot which was created by Schlüsselbauer especially for this intended use. The lifting anchors of the manhole components are also automatically integrated. Hereby the anchors are hold in the specified position by an electro powered magnet and only released when the product is dismantled.

The mould exchange with the Schlüsselbauer system is made by special boxes in which the moulds are positioned. This step is made completely over-ground. When the box including the new mould has been prepared it is inserted into the machine and let down into the production pit. This system maintains the advantage of underground production without degrading the working conditions of the employees when changing a mould.

After the production of the manhole components they are immediately dismantled and transferred to the curing area via an electrical transporter, where they are cured for one day. Afterwards the electrical transporter brings the cured manhole



At a mould exchange the moulds are prepared in special boxes over-ground.

components back to the fully-automatic circulation line.

There the bottom pallets are removed and afterwards cleaned, oiled and stacked in an own circulation. Later they will be used for production again.



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The plant disposes of a fully automatic pallet handling system.

The manhole components are tested on density by means of vacuum before they are transferred to the outdoor stock on a conveyor.

The cured manhole components are automatically tested on density by means of vacuum before they are marked and labeled and afterwards transferred to the outdoor stock on a conveyor.

Currently Plattard produces 150 manholes with a height of 1,50 m per shift in 7 hours. This conforms to a cycle time of 3 minutes which of course decreases when producing smaller manhole components.

Perfect manhole base production

The production system for manhole bases – Perfect – was presented for the first time at the Bauma 2004. The fact that 10 complete systems have been put into operation in different international plants in the meantime is the proof that the interest in the monolithic solution for custom-made manhole bases is very big. At Plattard – a new Perfect precursor – it was from the very first clear that this system brings several advantages.



Production plants for pipes, manhole components and special parts



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Jaques Plattard (right) and Johann Schlüsselbauer of the homonymous company of Austria agree that they have set a new milestone with this new plant in their long-time cooperation.

When using the production system Perfect individual channel inclines, inlets and outlets in different positions and sizes are prepared by polystyrene pieces in special manhole base moulds and afterwards poured out with self-compacting concrete. As every manhole base is produced according to individual customer requirements it is possible to deliver within short time – at request even within 24 hours – monolithic manhole bases made of con-



The finished mould parts are placed into the prepared moulds for the manhole bases.

crete with integrated lifting anchors. At a wall thickness of 100 to 260 mm the manhole bases have a height of 700 to 1150 mm. The gaskets for the connection pipes can – if required – be cast in or inserted afterwards. For small plastic connection pipes up to a diameter of 160 mm as well as for concrete connection pipes up to a diameter of 600 mm Plattard uses only integrated gaskets of Trelleborg/Forshe-da. If cast iron pipes are used as connection pipes the gaskets are usually placed afterwards.

The use of self-compacting concrete was at first a challenge for Plattard as they use

for their other products a very earth-moist concrete mixture. The self-compacting concrete for the production system Perfect is produced in and own mixer – the whole system is in an own production hall. The concrete is transferred by a conveyor from the mixer to the crane bucket which is responsible for pouring out the prepared moulds.

The solution to transfer the concrete via a conveyor within the plant is really uncommon – but it works very well due to the short distances and the high velocity of the conveyor.



Via a conveyor the self-compacting concrete is transferred into the crane bucket which pours out the moulds.



When preparing the production of the manhole bases, mould pieces are cut out of polystyrene by a hot wire so that all curves fit perfectly together when the individual parts are put together.



After one day the manhole bases which were produced the day before are dismantled.



Any individual mould can be realized with the manhole base production system Perfect

Currently Plattard produces with the new production system Perfect appr. 45 custom-made components a day which can be dismantled and delivered after a curing period of one day. The polystyrene leavings which remain after the final dismantling of the manhole bases have a very special value for Plattard. The polystyrene material is processed and packed into big bags so that it can be of further use in several fields of the building material industry – mainly for insulating mortar and other insulating material.

Prospects

Both plants were already put into operation for the first time in 2006 so that now – after one year – it is possible to report on really positive experiences. The whole investment in the new hall of the Exact manhole production, in the according mixer as well as in the both production plants Exact and Perfect added up to 7 million Euro. The company Plattard is very satisfied with the constant growth of their company to which Schlüsselbauer has been contributing with their production plants now for more than 20 years.

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