Schlüsselbauer Technology GmbH & Co KG, 4673 Gaspoltshofen, Austria

# "Perfect" manhole bases using HABA concrete

In the old days, manhole bases with customised channels were always made out a blank with a base. The channels were formed using a plastic insert or by manually shaping them in dry compressed concrete. Sometimes clinker plates were fitted (also by hand) if improved chemical resistance was required. There was hardly any alternative to these procedures, until at BAUMA

2004 Schlüsselbauer exhibited their customised manhole bases made of self-compacting concrete – a development that attracted much attention. A detailed report was published in CPI 4/2004 describing the production of the new bases. Now the first practical experiences gained with this method are available.

Johann Bartlechner KG became aware of this new system at BAUMA 2004, too. Bartlechner is a well-known manufacturer of products for civil engineering, with several works in Germany and Austria and is best known for their HABA-Beton products. To reach their own conclusions on the properties claimed for this method, regarding the forming of channels in particular, they carried out successful trials with prototypes provided by Schlüsselbauer. It became clear that, in addition to the individual forming of channels and the monolithic construction, this new concept would offer many new opportunities for the manufacturer. An intensive planning phase followed, in which they defined the performance and product characteristics expected from a new efficient manhole base manufacturing system. Bartlechner looked into the business case for the new project, comparing it with existing systems and others available on the market.

By late autumn 2004, an order was placed to supply equipment to the HABA concrete works in Teising. In addition to Schlüsselbauer's "Perfect" manufacturing system for manhole bases, a new Gasus und Haarup mixer was purchased, with the latest control systems provided by Bikotronic.

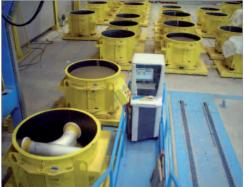
The construction work for the new factory building and mixing tower in Teising was carried out at the beginning of 2005. In July both the new plant from Schlüsselbauer Technology and the new mixer arrived and were installed. It was September 2005 when the first manhole base left the factory. When the start-up phase is completed, regular production of the individually produced manhole bases will commence. The company intends to shut down the two old plants.

HABA-Beton presented the new manhole bases to the public for the first time at IFAT

Munich 2005. They will be sold under the name "Perfect". Representatives from planning offices, local authorities, building material dealers and construction companies were invited to discover for themselves the outstanding quality this new system produces. They thoroughly examined the manhole bases on display, generating an enormous interest and enthusiasm amongst those present. Many simply could not believe that these products were made of concrete - prospective customers, who until then had hardly seen any SCC used in the civil engineering sector, being almost irritated by the immaculate appearance of the self-compacting concrete.

HABA-Beton is also offering a special product - "Perfect-Hochleistung" - "Perfect High Performance" - a red coloured manhole base with superior product properties due to the use of high performance







A view of the production of new "Perfect" manhole bases. Each manhole is manufactured with an individually formed channel using a special CNC controlled and contact-free hot wire cutting technology to precisely configure the required fittings. The precasting plant uses an automatic system for handling, crane transport and storage of the moulds for the manhole bases

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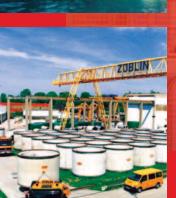
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manhole bases are produced with integrated staggered anchors using selfcompacting concrete in a monolithic construction. This makes it possible to achieve individual, smooth channel runs and flat, precisely dimensioned spigot ends together with very short delivery times

concrete. The Technical University of Munich has carried out a range of tests that proved these manhole bases to have a higher strength and increased resistance to chemical attack. In future, "Perfect-Hochleistung" will be used where until now clinker manhole bases or bases featuring plastic lining were employed.

Getting involved with a completely new production process was a significant step for HABA-Beton. The company carefully assessed the economic implications and tested the product in the field. It is a decision they have not regretted. Quite the opposite, as their courage and commitment have been rewarded. This innovative manhole base offers new opportunities in the marketplace, and above all allows more added value to be created in the precast concrete works itself. A monolithic manhole base gives the company the chance to increase the market share of "pure" precast concrete, as no plastic

parts have to be bought in. In the old days, the bricklayer working on the manhole had a significant influence on the quality of the finished manhole base, and had to work under extremely unpleasant conditions. Today not only is there a high degree of flexibility in forming the channels and the connec-

tions, but it is also possible to produce high quality manhole bases in large numbers with a consistent quality. The same production method can be used for the low cost manufacture of sizes from ND 1,000 mm to ND 1,500 mm, using high performance concrete for improved strength and increased chemical resistance for use in sewers - as proved by the practical experience at HABA-Beton's Teising works.

#### **Further information:**

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"Perfect" and "Perfect-Hochleistung" manhole bases by HABA-Beton

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