

# Custom-Made Monolithic Manhole Bases – From Planning to Delivery in Just a Few Steps Thanks to a Highly Efficient Procedure

■ Christian Weinberger, Schlüsselbauer Technology GmbH & Co KG, Austria

Leko Precast, founded in 1975, has a well-deserved reputation in Western Canada for high-quality precast concrete products. In addition to a wide range of manhole components, it produces box culverts, retaining wall systems and electrical bases. Its product range is supplemented by precast septic tanks and even toilet buildings. All of the components manufactured by Leko Precast have two things in common: they are designed to meet individual customer and project needs, and they meet the most stringent of requirements in the precast industry. Leko Precast is also a member in good standing of the National Precast Concrete Association (NPCA). And so it came as no surprise when the company decided to take a closer look at Schlüsselbauer Technology's Perfect production system two years

ago. Custom-fit manhole bases are designed to each site requirement using a computerized layout program which also supplies process data for later production stages. Employees at the concrete factory are guided through the individual production stages and the necessary data are available throughout the entire process, right through to the affixing of large labels on the finished product.

Colin Black, president of Leko Precast, has summed up his expectations of a new manhole production system in a single sentence, "Simple and accurate production processes, and the ability to meet individual customer demands without needing to procure services from third parties." In the Canadian province of British Columbia, the quality of precast has risen continuously over recent decades thanks to the efforts of innovative manufacturers such as Leko Precast. Due to co-operation with strong industrial partners, developments in concrete technology have been just as beneficial. The impetus offered by long-term successful relationships was also part of the motivation to look into a new manufacturing procedure for prebenched manhole bases.

The development of an efficient procedure for manufacturing custom monolithic manhole bases has been an ongoing project at Schlüsselbauer Technology for over 15 years. There are more than 40 Perfect systems in Europe and North America, each of which have been a proven success. This prompted Leko Precast to analyze the reasons for this success. After thoroughly evaluating the system's potential in technical and commercial terms (a process which took a remarkably short amount of time), the investment was given the green light and the Perfect system was scheduled for installation as soon as possible—in spring 2018—at the Vernon site, north-east of Vancouver. Colin was very aware that, "every day of delay in commencing production with this system means a loss of potential projects and profits."

The product range of Perfect manhole bases initially included those with 42" and 48" diameters (the demand is greatest for these nominal widths), and has already expanded into 60" and 72" diameter manholes. The province of British Columbia



*Efficient procedure for the production of custom-made concrete manhole bases: negative channel from composite EPS moulded parts.*



Even complex components with a monolithic construction can be ready for delivery within a single day.



The position and incline of the pipe connections and the height and junction of the main channel are freely selectable.

imposes substantial regulations in terms of pipe grades, manhole composition and ideal hydraulic design within manholes. It is not unusual to find two, three or more inlet junctions within one wastewater manhole, each with differing elevations, pipe grades and inlet locations. Within a very short amount of time, employees at Leko Precast were able to plan even the most complex of manhole geometries indepen-



Perfect casting moulds for mould-hardened products are a user-friendly solution for all the necessary work steps, ranging from set-up and filling through to demoulding and cleaning.



An adhesive label is affixed to each component which contains all the necessary data relating to the product and its installation.





*Project-specific picking and delivery of all components, from manhole bases through to superstructures.*

dently. The program-controlled hot wire saws cut the EPS moulded parts to shape and workers then join them into the required channel geometries in just a few steps. In addition to the highly economic use of EPS moulded parts for the channels, the use of moulded parts to produce pipe connections is also taken into account at the planning stage, ensuring that complete channel negatives can be used in the Perfect moulds. The manholes bases are poured monolithically with self-compacting concrete (SCC). Once they are demoulded and labeled, they are ready for shipment.

Even though the Perfect system has only been in use for a short period of time at Leko Precast, employees and customers alike have been very impressed with the capabilities of the new system. "Sales of Perfect manholes will contribute significantly to Leko Precast's growth over the next few years. It was relatively easy for us to give the green light to this investment, and it proved to be absolutely the right decision within a matter of weeks. We look forward to a long-lasting and fruitful relationship with Schlüsselbauer Technology as another strong technology partner for Leko." ■



*View of the Leko Precast factory in Vernon, British Columbia, Canada*



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### FURTHER INFORMATION



Leko Precast Ltd.  
1 - 9538 Highway 97  
Vernon BC, V1H 1T5, Canada  
T+1 250-549-3010  
F+ 1 250-549-3011  
[info@lekoprecast.com](mailto:info@lekoprecast.com)  
[www.lekoprecast.com](http://www.lekoprecast.com)



SCHLÜSSELBAUER Technology GmbH & Co KG  
Hörbach 4  
4673 Gaspoltshofen, Austria  
T+43 7735 71440  
F+43 7735 714456  
[sbm@sbm.at](mailto:sbm@sbm.at)  
[www.sbm.at](http://www.sbm.at)  
[www.perfectsystem.eu](http://www.perfectsystem.eu)