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Libaud brings a wide range of wetcast manhole components to the market

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Libaud Le Partenaire TP is a family-run company that has gained a significant foothold in the French market in recent years. In large parts of western France, it is the market leader in road construction, gardening and landscaping, sewage disposal, drinking water supply, and energy infrastructure lines. With a new generation heading up the management team, the company, which was founded 75 years ago, is ready to take things up a notch and is currently experiencing impressive growth and undergoing extensive modernization. Libaud, the go-to partner for civil engineering, has started 2021 on a high note with the unveiling of a completely new plant for manufacturing manhole components in its home region of the Vendée in France.

Instead of pouring money into costly maintenance, complex renovations, or renewing aging production facilities, the management team decided to spring into market action by responding to the steadily growing demand for cast concrete products. The big idea: new, high-quality concrete compo-

nents. The goal: fully leak-tight sewage networks. The entire range of manhole components, as well as the manhole bases with the most common angulations on the French market, are now manufactured by Libaud in a wetcast process. Most importantly, this includes individual manhole bases, which have always been a crucial component for Libaud, a company that puts the needs of its customers first.

This step demonstrates Libaud's willingness to invest, grow, and build up sustainable production activities with high-quality products, all in ways that are appropriate for today's market conditions. Meanwhile, the new production site for manhole components, which was supplied and commissioned by the Austrian company Schlüsselbauer Technology, has brought welcomed improvements to working conditions at the Luçon plant. Now employees can enjoy a bright, well-designed industrial building and highly automated systems with just a few simple manual tasks to take care of.



The external storage area in Luçon



Manhole risers produced in the wetcast process



Industrial manufacturing: no matter what preparation work is needed, every mould on the production line is transported to the filling zone like clockwork.



One mould after another is removed from the high-bay racks.

For more than 20 years, Schlüsselbauer's engineers have pursued ways of implementing production systems that enable increasingly efficient production of precast concrete products using self-compacting concrete (SCC). Right from the very beginning, their focus has been on realizing concrete products of the highest possible quality. When progress in concrete technology is combined with Schlüsselbauer's many years of work and research in this field, the result is a growing number of components made from SCC (wetcast process) in western markets in 2021, with an accompanying departure from conventional drycast production. The use of SCC to produce concrete products has helped the concrete industry transform into a highly innovative sector that is a world away from the staid, old-fashioned trade that many people still imagine it to be. What's more, French industrialists are enthusiastically spearheading these developments.

Mould-hardened concrete manhole bases, such as those produced using the 'Perfect' method developed by Schlüsselbauer Technology, are at the cutting edge of the French market. This was another one of the key factors in Libaud's decision to award the contract to the Austrian manufacturer. Thierry Rochard, Managing Director of Libaud, explains their reasoning: "It wasn't a simple decision to make. We didn't want to just look at the cost aspects. Right from the early stages of preparing for the project, it was Schlüsselbauer's expertise and professionalism that really won us over. Throughout the project planning phase, which was a joint effort between our two companies, they showcased their pioneering spirit at every turn - in particular in their use of top pallets to create a perfect product. We wanted quality, innovation, and experience: nobody met these requirements better than Schlüsselbauer, who delivered all of them at once."



The automatic product manipulator gently removes the products from the moulds.



The demoulded manhole parts leave the building on pallets ready for loading.



The pallets are fed into the system in stacks

Libaud has been actively following market developments in recent years and now sees an opportunity to advance them even further. The company's dynamic growth is underpinned by its pride in its family background (the third generation of the family is now at the helm) and its 300 employees, who together achieve a annual turnover of 80 million euros. 2020 was a pivotal year for the company, with the acquisition of two former competitors in Toulouse and Le Mans. Adding these to its original production plants (Luçon and Ste Florence in the Vendée, Chenon in Charente) gives Libaud excellent coverage of western France, with five production sites and 24 branches spread across the Pays de la Loire, Nouvelle Aquitaine and Occitanie regions. Making this move in a challenging and dynamic market required new, cutting-edge

products manufactured at modern production facilities. With its tried-and-tested solutions and its solid expertise in high-value industrial concepts, Schlüsselbauer Technology was the right partner at the right time. One result of this partnership was Libaud's decision to have all manhole components manufactured using an innovative process. In addition to manhole bases with an integrated channel, which can be purchased in standard dimensions or made to measure, the production plant also turns out manhole risers, concrete cones, and adjustment rings.

Once this first decision had been made, and since Libaud wanted to build a completely new hall in order to optimize the working conditions, the next step was to plan out the



The operator monitors the filling process and the storage and retrieval of moulds in the high-bay racks from a central operating panel.



An efficient way of storing the mould-hardened product and making use of the energy released by the concrete during hardening.

hardening area and determine the size of the industrial building that needed to be constructed.

Thierry Rochard explains that his goal was “a clean, low-noise factory with comfortable working conditions for our employees and a large production capacity at the same time.” However, he didn’t want the building to be too large. When it came to wet cast production, there were two major questions to answer: What mould equipment should be used, and how would it be handled while performing all the setup and changeover procedures before and during pouring and when drying and demoulding the concrete components? Should priority be given to greater flexibility in production, or a more compact floor space? Using a type of moving floor to move moulds has the advantage of enabling comfortable and systematic working space. However, it is highly dependent on keeping to strict cycle times dictated by the first-in/first-out rule. An alternative solution made possible by the relatively small size of Libaud’s products would be to store the moulds on the floor and handle them with a forklift or pipe transporter. However, this would also reduce flexibility as well as the need for more floor space. A third possible solution would be to use the floor for storage and to handle the moulds with a hall crane. This requires less floor space while also offering flexibility in selecting the priority for demoulding concrete components. The drawback, however, is the lack of access for special manual setup and changeover processes. Moreover, this concept is only truly efficient if all the moulds are roughly the same height. Of course it is possible to stack shorter moulds, but this comes at the expense of flexibility because some moulds end up being blocked by others. In summary, every conventional solution has advantages and disadvantages. In the end, a solution was found that better suited Libaud’s needs. This was based on high-bay racks so as to optimize the drying of the precast concrete products and storage of the moulds, while also saving considerable amounts of space.

The industrial process that ended up being chosen involves a new, fully self-contained factory building with an area of 1800 m² and an integrated mixing system for SCC. It also contains high-bay racks that serve as hardening chambers for some 140 moulds, an equipment preparation line, and an automated circuit with a filling, demoulding, and palletizing station. This warehousing strategy is a smart combination of several different advantages and also makes it possible to optimize certain fixed parameters. For instance, levels of different heights accommodate the various mould sizes while keeping the building’s height and footprint to a minimum. But the clever details don’t stop there. Cost savings were made by integrating the hardening chambers into the building – on two sides of the high-bay racks it is possible to make use of the outer walls, while the other two sides are provided with cladding. Not only does this cladding elevate the building’s visual appearance, it also gives it an efficiency boost by trapping the heat that is released from the concrete during hardening and keeping it inside the warehouse. It won’t be long before this investment pays off. High-bay storage also provides direct, immediate access to all the mould equipment needed for quick demoulding, for instance in order to finalize an ongoing order. Thanks to this flexibility, the production plan can always be adapted to actual demand.

Another deciding factor for Libaud was efficiency. Among the products it selected were a wide range of Perfect manholes with the most popular diameter of 1000 mm, along with manhole bases and a variety of pipe connections with dimensions ranging from 160 to 600 mm. Libaud is delighted that alongside its core range of standard products, it can now also offer custom Perfect manhole bases to the French market. These custom products are manufactured individually without any subsequent drilling of inlets. The company wanted to be able to react to its customers’ needs, no matter what specific channel configuration they may require, and provide ideal solutions on an industrial scale. Anything is possible when



A key element of the Perfect production system is the hot wire saw system for creating precisely tailored channels.



Precisely manufactured and highly functional casting moulds for high-quality components.



Top pallets are automatically transported to an ergonomically optimized workplace for cleaning.

it comes to the quantity and diameter of pipe connections, angulations, inclination of the inlets and outlets, pipe branching, and much more. And of course, this all comes with the additional benefit of consistent product quality with regard to the flow characteristics and surface finish of the concrete.

Now after just a few months of production, Libaud is already considering switching to two-shift operation in order to double its production capacity as planned. Libaud is off to a successful start and is optimistic about the future with its new, high-quality manhole components.



Managing Director Thierry Rochard is proud of his new factory - and with good reason.



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