



Case Study

Sands a la Carte - Pehofer expand Sand and Gravel Production Capability

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Pehofer GmbH have invested in a new modular gravel washing plant from CDE Global at their premises in Wiener Neustadt (Austria). The plant consists of a mobile washing plant and a semi-mobile logwasher and processes 225 tons per hour of limestone raw material.

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The new gravel washing plant of Pehofer in Wiener Neu-stadt, Austria
(Pictures: ©CDE Global, Pehofer)

Pehofer GmbH is an Austrian family business founded in 1979. The main activity of the company is the supply of ready-mixed concrete, as well as sand, gravel and grit for private, commercial and public construction sites. A partner company, BT3 is responsible for monitoring quality at the Pehofer concrete and gravel works and performs all product testing and concrete/gravel technology services to ensure

the high quality requirements are met. The company follows a vertical integration strategy which has been in place since the year 2000 and has seen the construction of two new concrete plants in Breitenau (2000) and Pinggau (2004) in addition to the purchase of a new gravel site in Wiener Neustadt, approximately 50 km south of Vienna. Pehofer purchased the new site in order to ensure complete independence in the area of sand and gravel for decades. "This is the latest development in our vertical business strategy" explains Mr Helmut Pehofer, a partner in Pehofer GmbH. "Investment in the new washing plant has given us greater control over the quality of the sand and gravel products used in our concrete production. The plant from CDE also includes a degree of flexibility in relation to the sand and aggregate products that will increase the efficiency of our operation and allow us to offer best value and quality to our customers."

A Customer with challenging Requirements

When Pehofer began looking for a supplier for the new gravel washing plant at Wiener Neustadt they had some very specific requirements in order to ensure that the sand and gravel production process at the new site was designed with efficiency in mind. This not only related to the performance of the washing and classification plant but to how its operation would be managed as exploitation of the new resource developed in the years ahead. "We investigated a number of technology options based on previous experience and research into the latest technology available" explains partner Mr Peter Pehofer. "We also required that the plant be sufficiently mobile that we would be able to move it as extraction progresses. We anticipate this will happen every two or three years." The plan to move the plant as extraction progresses is designed to minimise the costs of transport movements at the new site. Over time the processing plant gets further away from the quarry face and the subsequent increase in transport movements adds significant cost to production. "The capability of the CDE equipment to deliver on this requirement was critical to our decision to buy the washing plant from them" says Mr Helmut Pehofer. "They were able to demonstrate a portfolio of previous projects where the requirement for mobility had been similar to ours and a visit to see similar plants in operation confirmed that this could be achieved without compromising on the capability of the plant to maximise production of the highest quality sand and gravel products."

Composition of the Washing Plant



Closeup of the installed machinery:
Evowash and M2500 in the Pehofer
plant in Wiener Neustadt

Raw material is delivered to the feed hopper of the M2500 E3x via a ramp. The plant accepts 0-100mm material with the hopper grid rejecting any oversize. This material is then delivered to the aggregate screening phase which utilises a Prograde P2-75 double deck rinsing screen. The top deck sends the +32 mm material to a stockpile with the 4-32 mm material sent to the AggMax 153 via

another integrated conveyor on the M2500. The 0-4 mm material is sent to the Evowash sand washing plant integrated on the M2500 chassis. The Aggmax is required in this instance to effectively remove raw gravel material from the clay and fine particles which bind the material together. As material enters the Aggmax it is subjected to a high level of attrition from the integrated Rotomax logwasher. In this instance a Rotomax RX153 is employed which has a capacity of 150 tph. The scrubbed 4-32 mm material is then discharged onto a triple deck horizontal sizing screen for classification into the required aggregate grades. The waste water containing the liberated fines and clay is returned to the sand washing phase on the M2500 to maximise sand recovery. As the feed material contains a small proportion of material in the 0-4 mm range this step is critical to ensuring production of a manufactured sand product that meets the required standards for use in concrete. The plant is configured in such a way as to allow three production modes each delivering a different suite of final sand and aggregate products according to the specific requirements of Pehofer at any given time. This is achieved without any requirement to change screen media and is facilitated by the introduction of a number of diverter chutes and the introduction of two radial stockpile conveyors.

Products and Production Path

In the primary production mode the plant produces a 0-4 mm sand as well as 4-8 mm, 8-16 mm and 16-32 mm aggregates and a +32 mm oversize product. In secondary production mode the final products are a 0-8 mm, 8-16 mm and 16-32 mm with the +32mm oversize. This is facilitated by diverting the scrubbed 4-8mm product from the Aggmax and combining it with the 0-4 mm material from the M2500. Tertiary production mode sees the 0-4 mm material from the M2500 combined with the 4-16 mm material from the Aggmax to produce a 0-16 mm and 16-32 mm material and a +32 mm oversize. A diverter chute on the horizontal sizing screen allows this to happen. "The ease with which we can move between the various production modes gives us great comfort that we will be able to meet our specific requirements in relation to final product specifications as dictated by our gravel and concrete clients" says Mr Peter Pehofer. "These changes are achieved very quickly which maximises plant production and minimises the level of operator intervention required."

Ready for Future Requirements

Following installation of the new gravel washing plant Pehofer has started work at the new site in Wiener Neustadt and are confident that this investment will bring

big benefits. “Given our new aggregate production capability, the flexibility of our new CDE system and the continued growth of our concrete and gravel business we are looking forward to enjoying the efficiency gains that this plant will deliver” says Helmut Pehofer. “We are now set up for a period of further expansion in the years ahead.”

A Note from the Editor

For all statements in this article that refer – directly or indirectly – to the time of publication (for example “new”, “now”, “present”, but also expressions such as “patent pending”), please keep in mind that this article was originally published in 2014.

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