

# Two Bell B25ENs are slim under the silo at Strohmaier



In many existing processing plants, silo structures restrict passages making efficient material handling of large external heaps difficult. In the Strohmaier gravel plant in Neuenburg-Grißheim, Germany, two Bell B25EN 'narrow' Articulated Dump Trucks (ADTs) having been hauling from the production silos since May 2020, delivering sized material and building material mixtures to guarantee the smooth operation of the 400t/h processing plant with connected concrete lines.



The Neuenburg-Grißheim gravel works, around 30 kilometres south of Freiburg, is the southernmost gravel works on the Rhine and the headquarters of Karl Strohmaier GmbH, gravel and concrete works. The family company has been mining gravel, which is processed into minerals and aggregates and largely processed directly on site to make ready-mixed concrete or concrete blocks, since 1964. The company delivers the balance within a radius of around 100km to third-party customers and its own ready-mixed concrete and concrete block plants in the Franco-German border region and nationwide via ship loading in Weil am Rhein and Chalampé. With

more than 330 employees, the Strohmaier Group receives raw materials from five international locations, which are processed in four gravel plants, five concrete plants, concrete block plants and a dry building material production facility.

The Neuenburg-Grißheim plant alone produces around 600 000 to 650 000 tons of aggregates, concrete and finished goods per year. The raw material is mined wet down to a depth of about 60m, however, the company also currently obtains around 40% of its raw materials from regional Rhine gravel as part of the Integrated Rhine Programme (IRP), which

improves flood protection on the Upper Rhine in the long term with extensive structural and landscape design measures (retention areas, floodplain rehabilitation). The tested raw materials are transported to the factory by truck, where they are fed directly to the primary crusher via the specially constructed unloading terminal with an underfloor discharge.

#### Bottleneck silo

A maximum of 400 tons of washed or broken sand, gravel and chippings in over 30 quality-certified material sizes and building material mixtures leave the processing unit every hour. Depending on their use, they are



Happy about the successful implementation (from left): Area Sales Manager Siegmund Hegele, Kiesel-Süd NL Freiburg; Strohmaier Managing Director Martin Ruf and Operations Manager Rainer Selz.

transported directly to the connected concrete lines or to the delivery silos with a total capacity of 1 500 tons. Another 60 000 tonnes of material - from 0/2 sands to 100/300 Rhine gravel - are stored as delivery material or production buffers on the external heaps around the plant.

The transport from the 35 production silos and the handling of up to 2 500 tons of dump material per day, regardless of the weather, are carried out by Grißheim's 25 and 30 ton ADTs, which also work in the mining of wall gravel. The narrow silo passages in the plant are the greatest challenge for drivers and machines. "Our foundations are only 3,05 metres wide at axle height," says operations manager Rainer Selz, explaining the constraints of the four fully enclosed passageways which measure up to 60m long. While this severely restricted the available selection of suitable 6x6 ADTs years ago, most of the current 25t trucks were eliminated right from the start with the last renewal of the Strohmaier troughs due in 2018: "With the typical standard widths of just over 2,90m, clearance is a matter of millimetres and swift manoeuvring under the silos is out of the question. When loading, the tyres only have to bulge a certain way and you'd get stuck."

The only suitable solution for payloads above 20 tonnes was the Bell B25EN from the ADT specialist, Bell Equipment, ultimately offered by Kiesel-Süd. With 20.5R25 tyres on shorter axles and a narrower, higher body, the 'Narrow' version of the Bell 25-tonner has a slim 2,60m passage width without any payload (23 200kg) or body volume (heaped 14,0m<sup>3</sup>) sacrifice when compared to the standard model. The 210kW Mercedes-Benz engine and the drive train with the proven, highly efficient 6/1 Allison fully automatic transmission, including an integrated retarder and automatic locking differentials in the transfer case and on all axles, are identical to the standard B25E. The common Bell cabin offers the same extensive standard features and equipment of electronic assistance and diagnostic systems.

#### Successful implementation

The first Bell B25EN was delivered to Strohmaier in June 2019 and immediately met all expectations. The following month the company ordered another Bell B25EN from Kiesel-Süd, now in accordance with the current EU V emissions standard, for haulage from the stockpile, or the material store, to the primary crusher (around 600m/cycle). Both trucks are equipped with an automatic tailgate, which increases the usable volume by a good 0,5m<sup>3</sup> and keeps the

driveway clear, especially with easy-flowing grains. Depending on the material, the vehicles load 20 to 21 tonnes and tip onto the stockpile without leaving any carryback thanks to the bin heating feature. The Bell B25EN uses its full capacity when loaded by the 4,8m<sup>3</sup> wheel loaders in the gravel face and the driver can easily keep an eye on the utilised capacity thanks to the standard on-board weighing feature. The machines also demonstrate the same low fuel consumption that is typical of Bell ADTs, consuming an average of only 12 litres/hour according to the company.

The company management, including Managing Director Martin Ruf and Operations Manager Rainer Selz, is also completely satisfied with the advice and project management provided by the Freiburg branch of Kiesel-Süd. "The Bell trucks are the first machines that we have obtained from Kiesel. So far everything has been perfect and the service is also good. From the handover with driver training, through to regular maintenance and flexible support from our own technicians - Kiesel reacts very quickly and adapts well to our requirements."

Publication courtesy of Kiesel GmbH