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**Editor** Autor**:** Franziska Brielbeck

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**Wastewater-free for the environment: First SENNEBOGEN 100-ton telescopic crawler crane in use for sewer construction**

**In Gelsenkirchen, in the middle of the Rhine-Ruhr metropolitan region, a new sewer is to be built in order to make the Schwarzbach river flowing there free of wastewater and the region as a whole more environmentally friendly. The contracted construction company, the Max Bögl Group, is considered an absolute specialist in sewer construction and relies on the brand new 100 t telescopic crawler crane 6103 E from SENNEBOGEN for this project.**

As a part of the "Emscher Reconstruction of the Century" project, which aims to return the Emscher river and its tributaries in the Ruhr region to a near-natural state, a new wastewater sewer is being built near the center of Gelsenkirchen. In the future, the sewer will selectively divert the wastewater that has so far polluted the Schwarzbach and thus also serve to prepare for the subsequent renaturation of the watercourse. This part of the major environmental project, for which the Max Bögl Group is using the trenchless sewer construction method, will take just under three months to complete. The aim is to make the Schwarzbach free of sewage by the end of the year. The 100-ton SENNEBOGEN 6103 E telescopic crawler crane is handling all the important crane work that is required on this tight inner-city construction site.

**Method: trenchless sewer construction**

In densely populated areas, such as here in the Ruhr region, trenchless sewer construction is the most suitable method, as the earth's surface remains undamaged. A roadheader was used to excavate a canal pound between a starting and a target shaft. The soil, which is mechanically loosened at the machine head, is conveyed via a conveyor belt onto a so-called trolley. The trolley is pulled out of the pipe string at regular intervals, recovered from the shaft by crane, emptied and then reintroduced into the pipe string. The trolley requires around 6 to 7 cycles before a new reinforced concrete pipe can be inserted between the already prepressed pipe string and the press cylinders on the guide rail. A decisive factor for the efficient construction process is the simple and very precise control as well as a reliably high performance of the hoisting winch of the lifting device. Perfect that the SENNEBOGEN 6103 E used, with its winch pulling force of 100 kN and a rope speed of up to 125 m/min, proves to be particularly powerful here.

**Frequent, heavy lifting with highest accuracy**

The new 100-ton telescopic crane from SENNEBOGEN is used for the central lifting works during the construction of the sewer. This means that it transports the trolley filled with loose earth, which can easily weigh up to 5 tons, out of the 9.3 m deep excavation pit approximately every twenty minutes and empties it on the surface. The material can then be removed. It also takes care of supplying the underground construction site with the required 8.5 ton reinforced concrete pipes. As soon as a reinforced concrete pipe has been completely prepressed out of the excavation pit, the 6103 E picks up a new pipe, lifts it down into the pit and places it in the correct position on the rail so that it can be coupled to the pipe string already created and this can be further prepressed towards the target pit. If all the work interlocks smoothly, the well-coordinated team can lay up to 9 m of new sewer per day.

**Crane control: Intuitive and precise**

Speaking of the team: the complex work in trenchless sewer construction requires not only the highest precision and a lot of experience, but also perfect interaction between man and machine. It's just as well that the Max Bögl group of companies also employs an experienced crane operator in Jens Thümer: "I have already operated other telescopic cranes from SENNEBOGEN and therefore I already knew the Full Power Boom very well. The changeover to the new telescoping system with Pin Boom, which is installed in the 6103 E, was no problem for me. The boom system is just as intuitive and can be controlled sensitively and precisely even with heavy loads on the hook. I got to grips with it straight away," reports Thümer.

No surprise then that the goal of making the Schwarzbach river free of wastewater by the end of 2021 was easily met and that the wastewater will be able to flow away via the newly built sewer in the future.

**Captions:**

Image 1: *The trolley with the removed soil is emptied approximately every 20 minutes so that the material can be transported away directly.*

Image 2: *The 100-ton telescopic crawler crane from SENNEBOGEN supplies the reinforced concrete pipes to the sewer construction site.*

Image 3: *Crane operator Jens Thümer copes excellently with the new Pin Boom system.*