

Job Report

Liebherr Piling and Drilling Rig **LRB 355 with DBA 300**

„With the LRB 355 from Liebherr we have a modern, top-line machine at our disposal. Thanks to its multifunctionality the quality of foundation work is improved and, at the same time, we are more flexible and can work more efficiently.“

Markus Maehr,
Project Manager from Hilti & Jehle GmbH



LIEBHERR

St. Gallen
Switzerland



Situation

The soil conditions on the jobsite for a multi-storey office and apartment building in the Swiss town of St. Gallen are challenging. Down to a depth of 10 m the subsoil consists of loam and

mud, followed by a 5 m layer of moraine as well as approximately 7 m of sand and mud. In order to avoid any subsidence, piles had to be inserted in the course of the foundation works.

Task

The special deep foundation tasks, executed by Hilti & Jehle, included the installation of 316 piles for a secant pile wall. The piles, each with a diameter of 900 mm, had to be inserted down to depths between 18 and 22 m. A LRB 355 equipped with

a double rotary drive type DBA 300 carried out this task. The piling and drilling rig was used in combination with a Liebherr concrete pump type THS 80 D-K.

Solution

Despite challenging soil conditions and remarkable drilling depths for this particular type of application, the LRB 355 required a mere 1.5 hours to complete one pile. Hence, eight piles could be completed every day, each pile requiring 14 m³ concrete. The average fuel consumption of the LRB 355 was 45 litres per hour.

Double rotary drilling combines continuous flight auger drilling with a continuous casing. The casing and auger are simultaneously installed and subsequently extracted. After the final depth has been reached, concrete is pumped through the auger's hollow stem. During the extraction process the concrete exits at the lower end of the auger.

Technical Data: LRB 355 - Double Rotary Drilling

Operating weight:	95,3 t
Max. torque:	300 kNm
Max. pull force:	900 kN

Engine power:	750 kW
Max. drilling depth:	26,0 m
Max. drilling diameter:	900 mm