Press Release

Digitalization in deep foundation work

The positioning system LIPOS ® supports continuous flight auger drilling

Every building stands on a solid foundation that bears the whole weight. However, when the ground below is too soft or unstable, qualified deep foundation specialists come into play in order to provide the required ground bearing capacity. With the LIPOS system, Liebherr equips the deep foundation specialists with a tool that simplifies the task in various ways.

Nenzing (Austria), 18th January 2021 – The Burgenland Hospital Association, KRAGES, is building a general hospital in Oberwart, Austria. The new building, in direct vicinity to the existing hospital, shall guarantee excellent medical, nursing and therapeutic care in the region. In order to avoid subsequent settlement and damage to the new building, the available land requires substantial foundation work before it can support a whole hospital.

Züblin Spezialtiefbau Ges.m.b.H. equips its first Liebherr drilling rig for the digital age

The company Züblin Spezialtiefbau Ges.m.b.H. was contracted to install 1,310 piles in an area of 23.000 m² for the foundation of the complete new building. All piles have a diameter of 630 mm and are being installed using the CFA (continuous flight auger) method. The maximum depth of the foundation piles is 16 m. Initially, it was assumed that a construction period of approximately 4 months would be required to complete more than 1000 piles. To complete the task, Züblin Spezialtiefbau is using a Liebherr drilling rig type LB 28, which has been equipped with the positioning

system LIPOS for the first time. The LB 28 is supported on site by a Liebherr concrete pump type THS 110, which ensures that the delivered concrete is immediately pumped to the required location.

All drilling points can be quickly selected and the machine positioned

Once the complete building ground was exactly measured and the precise position of each single pile was identified, the gathered data could be transferred as a digital drilling plan to the LIPOS positioning system in the Liebherr machine in no time. Jobsite data and pile lists for work to be carried out are transferred to the machine when the drilling list is uploaded. The operator sees his position with centimetre precision at all times thanks to an additional monitor in the cabin. The LB 28 can be manoeuvred with ease to each of the 1,310 drilling points without the need of any iron stakes or colour markings for orientation. The operator no longer has to watch out for ground markings or the concrete hose. He can concentrate on important things, is more flexible and independent, and therefore, quicker in handling the drilling rig. Furthermore, the system simplifies the positioning of jobsite equipment. The concrete pump, the reinforcements, as well as other tools and material can be optimally positioned around the drilling rig.

Productivity results from the combination of high performance machine technology and sophisticated assistance systems

An above-average daily drilling performance is achieved using the LB 28 and the construction work could be completed earlier than planned, actually after only 3 months. One reason, in addition to the reliable Liebherr construction machine, is the extremely productive working method. The LIPOS positioning system plays a decisive role here. Without this system the drilling points would have to be newly measured, drawn and marked at least three times a day. An enormous additional effort which is completely eliminated with the help of LIPOS. All jobsite personnel has a clear overview at all times of exactly where the piles are, which piles are already completed and which still have to be done. One thing is clear for the site manager Harald Fugger following his experience on the jobsite in Oberwart, “The LIPOS

positioning system is ideally suited for completing jobsites, especially using the CFA method. It has proven itself well on the jobsite and makes working processes easier allowing continuous real time control and monitoring. Quality management is considerably improved through the automatic recording of the processes. The LIPOS system is basically self-explanatory for the operator and convinces through easy handling.”

Pictures

liebherr-LIPOS-LB-28-oberwart-zueblin-01.jpg

A perfect symbiosis: From the concrete mixer, to the concrete pump and up to the drilling rig - all equipment is made by Liebherr.

liebherr-LIPOS-LB-28-oberwart-zueblin-02.jpg

The LIPOS antennae are mounted directly on the leader and allow for centimetre precision in positioning.

liebherr-LIPOS-LB-28-oberwart-zueblin-03.jpg

Test measurements can be carried out quickly and easily using the Rover Rod.

liebherr-LIPOS-LB-28-oberwart-zueblin-04.jpg

The exact position of the Liebherr machine is constantly displayed on the additional LIPOS monitor in the cab.

liebherr-LIPOS-LB-28-oberwart-zueblin-05.jpg

The LB 28 and the Liebherr concrete pump type THS 110 from Züblin Spezialtiefbau Ges.m.b.H. on the jobsite in Oberwart.

liebherr-QR-code-LIPOS-animation.jpg

The animation shows how the LIPOS system works.

Contact

Johannes Rauch
Strategic Marketing and Communications
Email: johannes.rauch@liebherr.com

Wolfgang Pfister
Head of Strategic Marketing & Communications
Tel.: +43 50809 41444
Email: wolfgang.pfister@liebherr.com

Published by:
Liebherr-Werk Nenzing GmbH
Nenzing/ Austria
www.liebherr.com