

Field Tests - StrainTesting

Lublin

Stress tests under the tracks of a working Liebherr LRB 125XL machine.



The project

Verification of Liebherr's system to help read ground pressure and visualize the center of gravity of a working machine. The system was invented in order to minimize the risk of overturning large construction machines. The project carried out in Lublin was one of the field tests of the new system installed on a machine equipped with a DSM triple pad.

The challenge

Measurement of the stress in the subsoil beneath the Liebherr LRB 125XL crawler tracks during extension and rotation of the machine's upper carriage as well as during normal operation of the machine, i.e. soil mixing for five different carriage settings. Tension recording with two types of sensors.

The solution

In addition to the sensors from the Liebherr system, GEO-Instruments installed 6 pieces of Geosense TPC-4000 string sensors with an active measuring diameter of 305 mm and a measuring range up to 690 kPa. The sensors were placed at a depth of 30 cm on replaced and compacted soil. Soil stresses were recorded during testing, which will be used for further analysis of the new system.

Project facts

Owner(s)

Keller Polska
Liebherr

Keller business unit(s)

GEO-Instruments Polska

Main contractor(s)

Keller Polska

Engineer(s)

Jerzy Pieronkiewicz - Technical Director
Tadeusz Brzozowski - Senior Specialist

Services

Deformation monitoring

Markets

Buildings
Infrastructure
Industrial

Technologies

Wireless sensors