STRAIN GAUGE LOAD CELLS

GROUND ANCHOR MONITORING

Applications

Anchor Load cells are designed to measure the residual load of the strands within single or multistage anchors.
The sensors provide accurate and repeatable measurements of applied load and give a reliable indication of the performance of ground anchors.

Load Cells can also reduce the need for maintenance over the lifetime of the anchor. Lift-off checks are costly and time consuming, so Load cells are beneficial as another means of verification.

Typical applications include:

- Anchored structures such as diaphragm, secant piled, contiguous piled and sheet piled walls.
- Earth retention systems such as Rock bolts and Soil Nails
- Other configurations of this system can also be used for pile testing

Installation

System components include a load cell, Distribution plates, wedge glands, abutment plate and a datalogger.

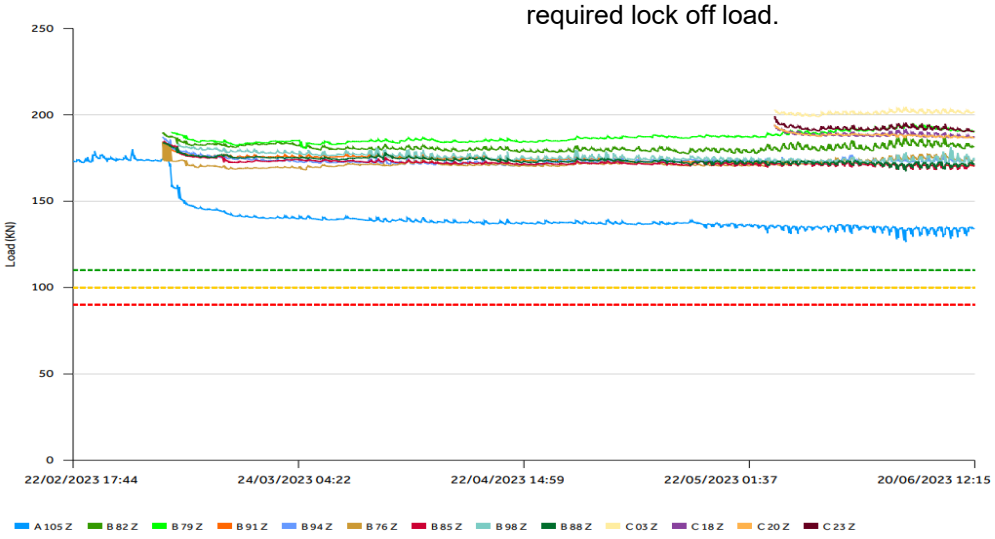
The installation configuration has the load cell installed between the Distribution plates to chieve an even compression on the load cell.
The load cell must be installed perpendicular to the anchor strands.

During the installation phase, testing is carried out on each load cell to ensure the cell is functioning correctly.

Operation

The load cell measures the residual load of the anchor during the stressing stage of installation of the cell.

Stressing is performed using a jacking rig which applies the pressure to the glands. Stressing must be evenly applied to each strand within the anchor. Stress is applied using calibrated pressures, starting at a lower values and increased gradually to the required lock off load.



Specifications

Range - 300 to 2000kN

Over range - 150%

Repeatability - < 0.2% FS

Accuracy - < ±0.5% FS

Operating Temp. - 20ºC to +70ºC

IP Rating - IP68

Dimensions - 70-300mm (diameter)
- 40mm (depth)

Material - Stainless Steel

Key Advantages

High Resolution and Frequency:
The system detects small changes in load and can provide readings every 15 minutes.

Versatile:
Sensors can be custom manufactured to specified load ranges to match project requirements.

Automated and Low Maintenance:
Systems have the potential to run for years, providing high frequency, 24hr data with minimal need for maintenance.