ROD EXTENSOMETER

GEOTECHNICAL MONITORING

Applications

Rod Extensometers are used to measure ground movement at specified depths within a borehole.

Common applications include:

- Detecting settlement around tunnels & mines
- Measuring ground movement behind retaining walls & sheet piles
- Concrete piles
- Monitoring of Dam abutments & foundations
- Measuring settlement & heave in soft soil excavations

Specification

Range: 5-500mm
Resolution: <0.025% Full Scale
Accuracy: ±0.1% Full Scale
Temp Rating: -20°C to +125 °C

(Model dependent)

Measurement systems:
Manual
Electrical

Sensors:
Vibrating Wire
Line Potentiometer

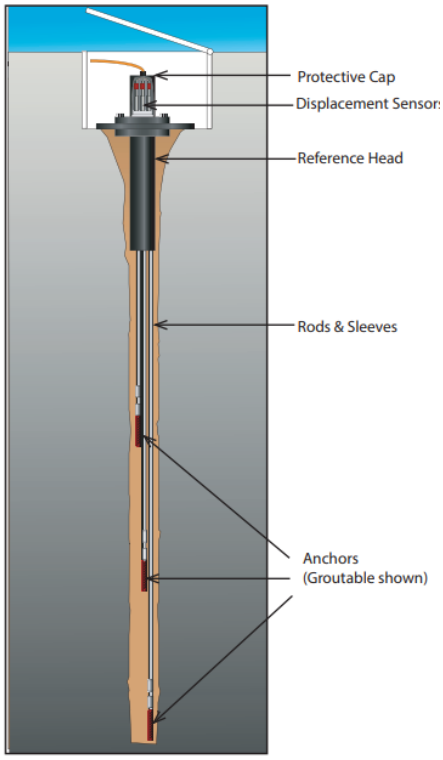
Installation

Prior to installation it is important to confirm various factors to avoid potential issues.
Important considerations include the borehole diameter and depth below ground level, making sure to account for the reference head.

The flexible rods & sleeves are generally pre-assembled, so no on-site assembly is required. The instrument can be coiled for transportation and unpacked on site. It is important to not over-bend the rods (smaller than a radius of 3m) as this may cause permanent damage.

Once unfurled, the whole assembly can be installed into the borehole as one. The rigid rod to connect the anchors to the reference head must be installed separately be installed on site. In many applications the instrument may be installed into a small pit to allow the headworks to sit below ground level and prevent damage.

Depending on site conditions, Groutable or Hydraulic Borros anchors can be used to ensure good connection to the surrounding material.



Operation

Rod Extensometers work by having anchors in set places in the ground connected via rods to instrumentation at the top of the borehole.

Anchor movements are detected by measuring changes in the relative positions of the exposed rod ends in the reference head. This can be done in one of two ways:

Manually using a digital depth gauge.

Electronically using Vibrating Wire or Potentiometric type displacement transducers.

Key Advantages

Versatility:
Rod Extensometers are quick and easy to install, even when being used in up-hole applications.

Compatibility:
There are mechanical and electrical options which allows for different data collection methods based on ease of access.

Low Profile:
The headworks of the Rod Extensometer can be installed below the ground level and easily concealed.