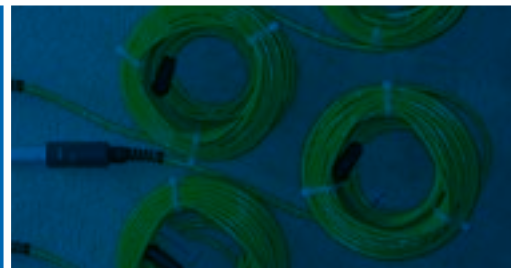


## RESISTANCE WIRE EXTENSOMETER



### OVERVIEW

A Resistance Wire Extensometer (RWE) is an accurate displacement monitoring instrument for use in rock, soil or filled ground. It is cost effective and simple to use.

The instrument comprises a highly sensitive electrical resistance wire element contained inside a hollow PVC tube. The wire is attached to either end of the tube under mild tension.

For measurement in rock, an RWE is installed by grouting into a percussive or diamond drilled borehole. Multiple instruments, of different lengths if required, can be installed end to end to measure segments of a borehole.

RWEs can be read manually by handheld readout or connected to a data logger for more detailed monitoring of strain versus time.

Typical applications for the measurement of strain change and displacement include:

- Underground hard rock mine pillars, drive and stope walls and backs
- Underground coal roof and pillars
- Embankments
- Surface cracks
- Retaining wall bridge piers and abutments

# RESISTANCE WIRE EXTENSOMETER

## FEATURES

- High resolution
- Large tensile range (~4%–18% strain, dependent on length)
- Remote readout capability (handheld or data logger)
- Tolerant of cross borehole deformations
- Full strain bridge circuit with voltage regulation in the instrument
- Configurable as  $\frac{1}{4}$ ,  $\frac{1}{2}$  or full bridge without voltage regulation

## SPECIFICATIONS

- Length: 1m and 2m usual, but any length between  $\frac{1}{2}$  m and 4m
- Diameter: 25 mm
- Range (%): Up to 18% tensile strain, 0.5% compression
- Range (mm): 180mm tensile range, 5mm compression
- Wire resistance: ~120  $\Omega$
- Output: Differential voltage, microvolt resolution
- Sensitivity/Resolution: 0.05mm
- Cable:  $\text{Ø}4.7$  mm polyurethane covered

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