

Applications

For the measurement of strain in:

- Concrete Piles.
- Diaphragm and slurry walls.
- Mass concrete structures.
- Caissons and cast in concrete piles.

Operating Principle

The Soil Instrument's rebar strain meter, commonly known as "sister bars" are designed for measuring strains in concrete, due to imposed loads, by being embedded in the actual concrete.

Comprising of two lengths of rebar welded to a central configuration that comprises of a vibrating wire strain gauge positioned at the axis of the bar.

The rebar extensions on either side of the central strain gauge configuration are long enough to guarantee excellent contact with the concrete.

The cable is extended out of the structure being investigated and can be read by a number of options from manually read to data loggers.

The "sister bars" are usually installed in pairs on either side of the neutral axis of the structure being monitored.

To prevent bonding to the concrete, the central gauge portion is covered in a plastic coating.

VW Rebar Strainmeter

Advantages and Limitations

- Robust, reliable and easy to use.
- Can be used with long cable lengths with no degradation of signal.
- Each "sister bar" is individually calibrated and tested for weld strength.
- Has in-built thermistor which allows for thermal effects to be automatically compensated.
- Fully waterproof.
- Care must be taken to protect the cable.

Performance

- Measuring Range: 2500 $\mu\epsilon$
- Resolution: 0.5 $\mu\epsilon$
- Accuracy: $\pm 0.1\%$
- Active Gauge Length: 50mm (nominal)
- Operating Temp: -20 to +80°C
- Debonded length : 175mm
- Overall Length : 1390mm



BELL LANE, UCKFIELD, EAST SUSSEX, TN22 1QL, ENGLAND
Telephone:
Nat 01825 765044
Int +44 1825 765044
email: sales@soil.co.uk

Telefax:
Nat 01825 761740
Int +44 1825 761740
Website: www.soil.co.uk

DATA SHEET
ST5

Ordering Information

ST5 Rebar Strainmeter

**ST5-1 Rebar Strainmeter with
thermistor**

ST5-2 Rebar Size #4, 6, 8, 10, 12

ST5-3 Cable



BELL LANE, UCKFIELD, EAST SUSSEX, TN22 1QL, ENGLAND

Telephone:
Nat 01825 765044
Int +44 1825 765044
email: sales@soil.co.uk

Telefax:
Nat 01825 761740
Int +44 1825 761740
Website: www.soil.co.uk

*Issue 1
2003*