Vibrating Wire Inline Extensometer

Description

The Vibrating Wire Inline Extensometer is used to determine the stability and movement behavior of soil, rock, and concrete structures. The main advantage of the extensometer is that it has no electrical head protruding out of the borehole, contrary to conventional multi-point borehole extensometers (MPBX). The Inline Extensometer is installed flush with the borehole collar or ground surface and measures movement at different depths in the borehole.

By construction, all displacement transducers are located in the borehole in sealed head/anchor assemblies that are inserted in the borehole and separated by extension sections which can be of variable length depending on the required measurement depths. The extension sections consist of rigid 3/8 inch (9.5 mm) stainless steel rods protected by a telescopic outer 21/32 inch (16.8 mm) PVC pipe. The larger diameter of the rigid rod is an additional advantage as compared to the usual 1/4 inch (6.35 mm) of conventional MPBXs, as it provides more accuracy in the measured displacements, both in case of extension and compression movements.

As all displacement transducers are in series in the borehole, the total measurement range of the extensometer is the sum of the individual measurement ranges of each transducers. This allows to measure considerably larger movements than conventional MPBXs while using lower cost standard range transducers.

VIBRATING WIRE INLINE EXTENSOMETER SPECIFICATIONS

ITEM	SPECIFICATION
Sensor Range	25, 50, 100, 150, 200 mm
Accuracy	+/- 0.25 % FSR
Resolution	0.02% FSR
Linearity	0.25% FSR
Thermal Zero Shift	<0.05% FSR/Â°C
Operating Temperature	-20Â°C to 80 Â°C
Extensometer Head max/min Diameter	63.5 mm / 42.5 mm
Signal Cable	Two twisted pair cable with polyurethane jacket (one cable per measurement point).

SPECIFICATIONS