

Multipoint Borehole Extensometer

The borehole extensometer helps measuring longitudinal displacements in rock or soil. This system could have a single or multiple anchor points. It is used to analyze the performance in the areas of excavations, foundations, embankments and tunnels. The system consists of an anchor(s) connected to the head of the instrument by extension rods placed within a protective PVC cover. The PVC cover ensures that the rods can move freely and do not hamper any movement of the anchor. The movement of the rock or soil mass is measured relative to the head and can be calculated by measuring the displacement of the tip of the extension rod in reference to a plate (v.i.z. Reference Plate) located in the head of the extensometer. Installation is done by assembling required components and placing in a predrilled borehole. Mostly, the complete assembly is grouted.

SI-EX-000



SPECIFICATIONS (Material)

ROD	Stainless Steel/Mild Steel/Fiber Glass
Reference Plate	PVC/Aluminium
Casing	PVC/Aluminium
COVER	PVC/Aluminium

SPECIFICATION				
Diameter of BH.	38 mm.		48 mm.	76 mm.
Number of Anchors	1		2-3	4-5
Instruments	Dial Gauge	Depth Gauge	LVDT	Vibrating Wire
Measuring Range	0-50	0-150	25,50 & 75	25,50,75 & 100
Linearity	0.05%	0.05%	1%	<1%
Resolution	0.02%	0.02%	1% FS	0.5 FS%
Operating Temp.	0-60 ⁰ C	0-60 ⁰ C	0-60 ⁰ C	0-60 ⁰ C
Cable			4-core shielded	4-core shielded
Thermistor 3K Ω			Available	Available
EXTENSOMETER ANCHOR TYPE - Groutable Anchor: The preferred anchor for use in downward-directed boreholes. - Snap-Ring Anchor : For use in hard or competent rock			READOUT INSTRUMENTS AND SENSORS - Digital Depth Micrometer - Dial Indicator - Linear Potentiometer - VW Displacement Transducer	

ANCHORS

Groutable Rebar Anchor

This type of anchor is preferred for downward boreholes. A good contact between the borehole wall and grout is important. This insures that any movement in surrounding affects the anchor movement.

Snap Ring Anchor

This type is good to deal with upward installations in high-quality rock. These are Installed by pulling the cable to remove a pin, causing the anchor to lock by unfolding them. The related boreholes not required to be grouted.

Extension Rods

Mostly extension rods are available in fiberglass, stainless steel and mild steel (MS). The fiberglass rod is provided in the shape of a roll and cut to size on site to speed up installation. Stain less steel rods are preferred where compression movements are expected. These rods are in sections of 3 m and are

assembled on site. MS rods can be used as an economic substitute for stainless steel.

Protective Tube

Rods are advised to be installed in protective PVC covers to avoid the grout being injected into the movement space of rods and restricting the free movement of anchors. PVC tubes are available as segments of 1 m, 1.5 m, 2 m, 3 m and they can be jointed in different combinations to meet the specific requirement.

Rod Centralizer

Rod centralizers may be used to maintain the extension rods in position. They are highly recommended for deep installations.