

Horizontal Inclinometer Probe

Applications

The Model 6015 Horizontal Inclinometer Probe is designed to make high resolution measurements of settlement or heave in and around...

- Tank foundations
- Dams
- Highway Embankments
- Landfills



• Model 6015 Horizontal Inclinometer Probe.

Overview

The Model 6015 Horizontal Inclinometer Probe is designed to make high resolution measurements of settlement or heave in tank foundations, dams, highway embankments, landfills, etc.

The system consists of the probe and cable, inclinometer casing, pull cable and the readout unit. The casing is installed in a horizontal trench or borehole passing below or through the fill material. When the casing cannot extend completely through the fill, a return pulley and cable arrangement is required.

An initial, baseline survey is taken to which all subsequent surveys are compared. The instrument yields the sine of the angle of inclination of the probe in the casing. Knowing the gage length and this angle, the vertical deflection can be calculated for each gage increment read. By summing these segments a change profile can be constructed which is a direct measurement of the casing and soil settlement or heave. The readings are repeated in reverse probe orientation to eliminate probe offset errors.

Technical Specifications

Standard Range ¹	±53°
Sensors	2 force-balanced accelerometers
Output @ 30°	±5 VDC
Resolution ²	±0.025 mm/500 mm (±10 arc seconds)
Linearity	0.02% F.S.
Repeatability	±2 mm/30 m
Total System Accuracy ³	±6 mm/30 m
Temperature Range	0°C to +50°C
Temperature Coefficient	0.002% F.S./°C
Wheel Base	0.5 m
Length × Diameter ⁴	671 × 45 mm
Casing Size I.D. ⁵	59 to 79 mm
Weight (with case)	8 kg
Shock Survival ⁶	1000 g
Maximum Cable Length ⁷	850 m (2790 ft)

¹The calibrated range of the inclinometer is ±30 degrees from horizontal, but the inclinometer can be used at greater inclinations with a lessening in performance.

²±10 arc seconds. The resolution shown is only true in the range of ±5 degrees from horizontal. Beyond this, the resolution is diminished (by the cosine of the angle from horizontal). Resolution also depends on readout instrument used.

³Within 3° of horizontal. This takes into account the accumulation of the error inherent with each reading, and normal placement errors in positioning the probe inside the casing; also the effect of debris in the casing, or casing damage.

⁴The cable connector adds 150 mm to the length of the probe.

⁵The probe is designed for use in all standard inclinometer casing up to a maximum diameter of 89 mm.

⁶The Inclinometer Probe is a highly sensitive device and should be treated with great care at all times in order to maintain calibration. Particular attention should be given to preventing the probe from hitting the bottom of the casing with any impact.

⁷When used with the Model GK-604.

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