TILT PLATE

Application

The **CEP 5-1 tilt plate** is used with the portable tiltmeter system to monitor changes in the inclination of a structure. Tiltmeter data can provide an accurate history of movement of a structure and early warning of potential structural damage. Typical applications include monitoring rotation caused by mining, tunneling, soil compaction, or excavation as well as monitoring rotation of concrete dams and retaining walls.

Advantages

- **Economical:** One tiltmeter can be used to monitor any number of inexpensive tilt plates.
- **Easy to Install:** Tilt plates can be bonded or screwed to the structure.
- **Easy to Use:** Tilt readings are obtained quickly and easily by a single operator.

- Products and Specifications are subject to review and change without prior notice.

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Components

The tiltmeter system includes a number of tilt plates, the portable tiltmeter, and a readout unit. Tilt plates are available in aluminium alloy. The material is chosen for its lightweight and durability. It is also dimensionally stable and weather resistant. The portable tiltmeter uses a force-balanced servo-accelerometer to measure inclination. The accelerometer is housed in a rugged frame with machined surfaces that facilitate accurate positioning on the tilt plate. The bottom surface is used with horizontally-mounted tilt plates and the side surfaces are used with vertically-mounted tilt plates.

Operation

Tilt plates are mounted on the structure in specified locations. They are typically bonded to the structure, but may also be screwed to the surface. To obtain tilt readings, the operator connects the tiltmeter to the readout unit, positions the tiltmeter on the tilt plate, and notes the displayed reading. The operator then rotates the tiltmeter 180 degrees and obtains a second reading. Later, the two readings are averaged to cancel sensor offset. Changes in tilt are found by comparing the current reading to the initial reading.

SPECIFICATIONS (CEP 5-1 TILT PLATE)	
Material	Teflon coated Aluminium Alloy
Diameter	142 mm
Height	24 mm
Centre Hole diameter	58 mm
Weight	0.225 kg
Installation method	Epoxy Bonding compound or screws

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