

Glue-Snap ABS Inclinometer Casing

Applications

Model 6400 Inclinometer Casing is used with all commercially available inclinometer probes to monitor the stability of...

- Embankments
- Slopes
- Rock cuts
- Foundations and excavation walls
- Piles
- Cofferdams



• Model 6400 telescoping coupling.



• Model 6501-6-2 Inclinometer Casing Protective Housing, 4" galvanized steel pipe with lockable cap.



• Close-up shows the Glue-Snap sections of the Model 6400.

Operating Principle

Model 6400 Glue-Snap ABS Inclinometer Casing is used in conjunction with all commercially available inclinometer probes to monitor the stability of embankments, slopes, rock cuts, foundation and excavation walls, piles, coffer dams, etc. Model 6400 Inclinometer Casing is engineered to be assembled quickly and accurately, and used for long and short-term monitoring in the most adverse field conditions. ABS Inclinometer Casing is suitable for installations in boreholes and piles, set into concrete or attached to structures.

The casing and couplings have grooves spaced at ninety-degree intervals, which are designed to maintain the orientation of the probe as it is traversed up and down the casing. The probe accurately measures the change in the angle of tilt, from the vertical, of each portion of the casing. These incremental changes are added together to give a vertical profile of the casing. Changes in the profile become a measure of the stability of the structure.

Advantages and Limitations

GEOKON® ABS Inclinometer casing is manufactured using precision CNC technology with non-recycled virgin ABS resin. While more costly than common PVC resin, ABS is preferred due to its superior stability, corrosion resistance and low temperature impact resistance.

The easily assembled casing has high-precision, machined guide grooves so that the inclinometer probe cannot lose its orientation as it passes through the telescoping coupling.

The Glue-Snap integral flush coupling is self-aligning, water-tight and grout-tight. Installation time is minimal and the coupling's external key provides visual and tactile confirmation of proper assembly.

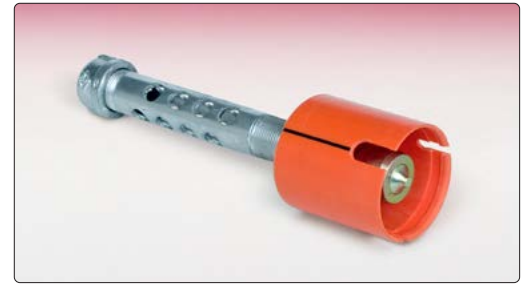
ABS Inclinometer casing cannot exceed temperatures of 80 °C.



- The Model 6400 Glue-Snap Inclinometer Casing can accommodate a range of inclinometer sensors including the Model GK-604D Digital Inclinometer System.



- Casing anchor.



- Grout adapter.

Accessories

- **Bottom plug:** to seal the bottom of the casing.
- **Top cap:** to cover the top of the casing.
- **Grout adapter:** used at the bottom of the casing for depositing grout into the bottom of the borehole through a pipe within the casing. A quick connect fitting on the tremie pipe mates with the grout adapter.
- **Reconnect adapter and alignment tool:** used for reconnecting casing ends that have been sawn off.
- **Casing anchor:** for use with steel or plastic borehole casing. It is attached to the bottom of the Model 6400, which is then pushed inside the borehole casing until the casing anchor emerges, snaps open and engages the ground, thus holding the Model 6400 in place.
- **ABS-DVW Solvent Cement.**



- Reconnect adapter and alignment tool.



- Bottom plug and top cap.

System Components

Where heave or settlement is anticipated to exceed 1-2%, telescoping sections must be used to allow axial movement of the casing while minimizing distortion due to vertical strain. Settlement sections must be inserted appropriately extended or collapsed, to accommodate the expected

settlement/heave. These sections can accommodate up to 150 mm (6 in.) of compression or heave.

To help prevent damage and vandalism, a lockable protective housing, made from galvanized steel pipe that can be grout-extended in-place around the top of the casing, is recommended.

Technical Specifications

| Casing | 6400-2 | 6400-3 |
|-----------------------|--------------------------------------|--------------------------------------|
| Casing OD | 70 mm (2.75 in.) | 85 mm (3.34 in.) |
| Casing ID | 59 mm (2.32 in.) | 73 mm (2.87 in.) |
| Casing Length | 1.5 or 3 m (5 or 10 ft.) | 1.5 or 3 m (5 or 10 ft.) |
| Coupling OD | 70 mm (2.75 in.) | 85 mm (3.34 in.) |
| Bottom Plug OD | 70 mm (2.75 in.) | 85 mm (3.34 in.) |
| Material ¹ | ABS Plastic | ABS Plastic |
| Temperature Range | -30 °C to +80 °C (-22 °F to +176 °F) | -30 °C to +80 °C (-22 °F to +176 °F) |
| Groove Spiral | < 0.005 Rad/3 m (< 0.3°/10 ft.) | < 0.005 Rad/3 m (< 0.3°/10 ft.) |
| Weight | 1.27 kg/m (0.85 lbs/ft.) | 1.49 kg/m (1.00 lbs/ft.) |

¹Tensile modulus = 340,000 psi approximately (per ASTM D638) | Poisson's ratio = 0.35 approximately

| Telescoping Casing Section | 6400-2S | 6400-3S | Glue & Snap (70 mm) |
|----------------------------|--------------------|-------------------|---------------------|
| Telescoping Section OD | 77 mm (3.03 in.) | 91.4 mm (3.6 in.) | Load Test |
| Compressed Length | 457 mm (18 in.) | 457 mm (18 in.) | 738 kg (1630 lbs.) |
| Extended Length | 609 mm (24 in.) | 609 mm (24 in.) | Collapse Test |
| Range | 152 mm (6 in.) | 152 mm (6 in.) | 17.2 bar (250 psi) |
| Weight | 0.77 kg (1.7 lbs.) | 0.9 kg (2.0 lbs.) | |