

C18 STANDARD INCLINOMETER CASING

Datasheet C18



Description

Standard Inclinometer Casing is used in boreholes, embedded in fill material, cast into concrete or attached to structures.

The casing is jointed using standard or telescoping couplings and requires rivets to make the joints, and glue and tape to seal against water or grout ingress.

Standard Inclinometer Casing is manufactured using ABS extrusion techniques, which enable precise keyways to be formed at 90° to each other.

This allows the accurate orientation of inclinometer probes or In-Place Inclinometer Sensors (IPIs).

Features

- Deep, tight groove profile ensures accurate data
- Available in 70mm and 85mm outer diameters
- Manufactured from virgin ABS

Benefits

- Cost effective
- Reduced wastage; casing can be cut and joined at any point along its length
- Can be used in conjunction with magnetic extensometers to form a combined inclinometer/extensometer



Comprehensive information about this product and our full range is available at www.soil.co.uk
If you would like to speak with someone directly please call +44 (0)1825 765044 or email sales@soil.co.uk

Operation

Standard Inclinometer Casing can be installed in boreholes, embedded into fill material, cast it into concrete or attached to structures. The casing moves with the ground, material or structure and provides inclination over an extended period of time.

Standard casing is available in 70mm and 85mm outside diameters and is suitable for most construction and civil engineering projects.

Inclinometer systems are used to measure lateral movement in the ground or in a structure. They are useful for determining the depth, direction, magnitude, and also rate of movement.

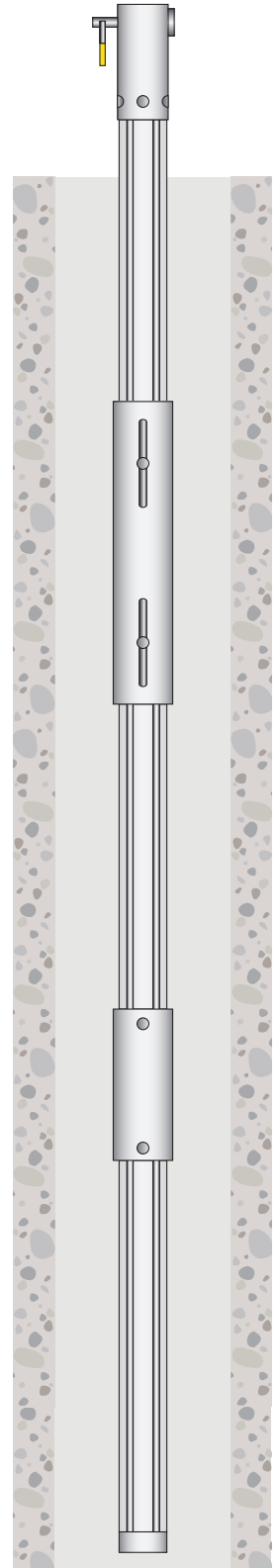
They can be used to ascertain the stability of retaining walls by measuring bending and rotation and can also reveal ground movement that could affect adjacent buildings. Inclinometer systems can also be used to detect movement in the downstream and upstream side of dams and define shear zones in the foundations of concrete faced dams.

Measurements of recorded movement are used to check that the deflections are within the design assumptions and continued monitoring can establish any long-term effects after works have finished.

Applications

Inclinometer casing is used in boreholes, embedded in fill material, cast into concrete or attached to structures for the following typical applications:

- Determining shear and slip zones
- Monitoring diaphragm or sheet pile walls
- Monitoring bending in piles
- Verifying design assumptions and finite element analysis
- Long term monitoring purposes
- Monitoring dams
- Detecting and recording ground movement due to tunnelling operations
- Monitoring retaining walls



Associated products

For details on:

Catalogue code:

Digital Inclinometer System

C17

'In-Site' Software

C13

Inclinometer Test Probe

C10

In-Place Inclinometers

C12

View our full product range on www.soil.co.uk

THE TECHNICAL RATING FOR THIS PRODUCT:

INTERMEDIATE



As the correct installation of any monitoring sensor or system is vital to maximise performance and accuracy, Soil Instruments makes the following recommendations, for the skill level of the installation contractor.

ADDITIONAL SUPPORT

We offer installation and monitoring services to support this system. For more information please email : sales@soil.co.uk or call : **+44 (0) 1825 765044**

ADVANCED



The installer is trained and experienced in the installation of this type of instrument or systems, and is ideally a specialist Instrumentation and Monitoring contractor.

INTERMEDIATE



The installer already has previous experience and/or training in the installation of this instrument or system.

BASIC



As a minimum the installer has read and fully comprehends the manual, and if possible has observed these instruments or systems being installed by others.

Specifications

Casing Specifications

| | 70mm OD | 85mm OD |
|---------------------|---------------------------------------|---------|
| Material | ABS (Acrylonitrile Butadiene Styrene) | |
| Groove spiral | < 0.3°/3m | |
| Collapse rating | 1960kPa | 1770kPa |
| Bend rating | 3.07kN | 2.65kN |
| Maximum temperature | 80°C | 80°C |
| Tensile strength | 705kgF | 700kgF |
| Torque | 520Nm | 481Nm |

Casing Dimensions

| | 70mm OD | 85mm OD |
|------------------|---------|---------|
| Length | 3m | 3m |
| Outside diameter | 70mm | 85mm |
| Inside diameter | 62mm | 77mm |

Standard Coupling Dimensions

| | 70mm OD | 85mm OD |
|------------------|---------|---------|
| Length | 160mm | 200mm |
| Outside diameter | 77mm | 91mm |
| Inside diameter | 70mm | 85mm |

Telescoping Coupling Dimensions

| | 70mm OD | 85mm OD |
|-------------------|---------|---------|
| Length | 400mm | 380mm |
| Telescoping range | ±75mm | ±75mm |
| Outside diameter | 77mm | 91mm |
| Inside diameter | 70mm | 85mm |

Weights

| | 70mm OD | 85mm OD |
|----------------------|---------|---------|
| Casing | 2.66kg | 3.18kg |
| End cap | 70g | 90g |
| Top cap | 48g | 64g |
| Lockable top cap | 554g | 654g |
| Telescoping coupling | 400g | 380g |
| Standard coupling | 136g | 236g |

Ordering Information

Standard Inclinometer Casing - 70mm Outer Diameter

| | |
|----------|---|
| C18-70.1 | Inclinometer casing; 70mm outer diameter, 3metre length |
| C18-70.2 | Coupling; 77mm outer diameter, 160mm length |
| C18-70.4 | Bottom cap |
| C18-70.5 | Telescoping coupling; 77mm outer diameter, 400mm length, 75mm range |
| C19-70.6 | Lockable top cap assembly; includes 150mm length ABS tube, rivets, cap, bar and padlock |
| C9-1.4 | Top cap |

Standard Inclinometer Casing - 85mm Outer Diameter

| | |
|----------|---|
| C18-85.1 | Inclinometer casing; 85mm outer diameter, 3metre length |
| C18-85.2 | Coupling; 91mm outer diameter, 200mm length |
| C18-85.3 | Telescoping coupling; 91mm outer diameter, 380mm length, 75mm range |
| C18-85.7 | Lockable top cap assembly; includes 200mm length ABS tube, rivets, cap, bar and padlock |
| C18-85.4 | Bottom cap |
| C18-85.5 | Top cap |

Inclinometer Head Works

| | |
|--------|---|
| C9-3.6 | Security Cover; includes 4inch diameter 500mm length steel tube, cap, bar and padlock |
| C9-3.7 | Lockable heavy duty stopcock cover |

Installation Equipment

| | |
|----------|---|
| C9-3.1 | Riveting kit - 70mm outer diameter casing. Tool box includes tube support plate, hand drill, 3.3mm diameter drill, 300No 3.2mm diameter rivets, riveting tool, sealing tape, mastic and mastic tool. Sufficient for 100metres of casing |
| C9-3.2 | Rivets for standard couplings; per 1000, 4 rivets required per standard coupling, 3.2mm diameter |
| C9-3.3 | Rivets for telescoping couplings; per 1000, 4 rivets required per telescoping coupling, 4mm diameter |
| C9-3.10 | Riveting tool |
| C9-3.11 | Hand drill |
| C9-3.4 | Sealing mastic; 1 tube per 20 couplings |
| C9-3.5 | Mastic applicator |
| C9-3.8.1 | Tube support plate; for 70mm outer diameter casing |
| C9-3.8.2 | Tube support plate; for 85mm outer diameter casing |
| C9-3.12 | Drill bit for rivets; for use with standard couplings C9-3.2. (3.3mm diameter) |
| C9-3.9 | Drill bit for rivets; for use with telescoping couplings C9-3.3. (4.2mm diameter) |
| W6-4.3 | Sealing tape; 1 roll per 6 couplings. 1 roll per 2 telescoping couplings |

Manuals

| | |
|---------|---|
| MAN-171 | Bentonite Cement 'Grout Mix' Guide |
| MAN-187 | Horizontal Riveted Inclinometer Casing Installation |
| MAN-201 | Riveted Inclinometer Casing Installation |



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INSTRUMENTS