C18 STANDARD INCLINOMETER CASING

Datasheet C18

Description

The Standard Inclinometer Casing is a specially manufactured ABS extrusion with precise keyways formed at 90° to each other. This allows the accurate orientation of inclinometer probes or In-Place Inclinometer Sensors (IPIs). The casing is jointed using standard or telescoping couplings.

The casing requires rivets to make the joints, and glue and tape to seal against water or grout ingress.

Features

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

Benefits

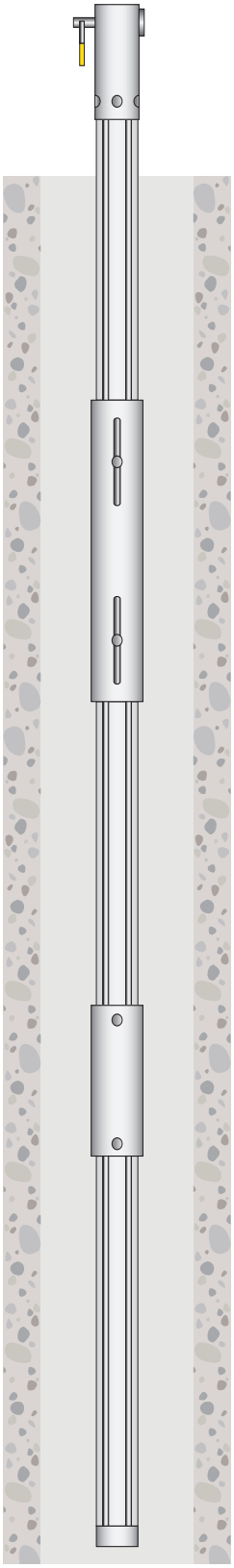
- **Cost effective**
- **Reduced wastage: casing can be cut and joined at any point along its length**
- **Can be used in conjunction with magnetic extensometers to form a combined inclinometer/extensometer**

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

Operation

You can use Standard Inclinometer Casing in boreholes; embed it into fill material, cast it into concrete or attach it to structures. The casing moves with the ground, material or structural movement and provides inclination information over an extended period of time.

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



Applications

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.

For example, they can be used to ascertain the stability of retaining walls by measuring bending and rotation in the retaining wall. They can also reveal ground movement that could affect other buildings. Inclinometer systems can also be used to detect movement in the downstream and upstream side of dams and to 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. Continue monitoring to establish any long term effects after works have finished.

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 Data Presentation Software	C13
Inclinometer Test Probe	C10
In-Place Inclinometer	C12

View our full product list on www.itmsoil.com

THE TECHNICAL RATING FOR THIS PRODUCT: **INTERMEDIATE**

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

ADDITIONAL SUPPORT

itmsoil offer installation and monitoring services to support this system. For more information please email : **sales@itmsoil.com** 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		
Length	3m	3m
Outside Diameter	70mm	85mm
Inside Diameter	62mm	77mm
Standard Coupling Dimensions		
Length	160mm	200mm
Outside Diameter	77mm	91mm
Inside Diameter	70mm	85mm
Telescoping Coupling Dimensions		
Length	400mm	380mm
Telescoping Range	±75mm	±75mm
Outside Diameter	77mm	91mm
Inside Diameter	70mm	85mm
Weights		
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

itmsoil group ltd has an ongoing policy of design review and reserves the right to amend these specifications without notice.
Revision No: 02 / Issue Date: 06/08/2012

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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