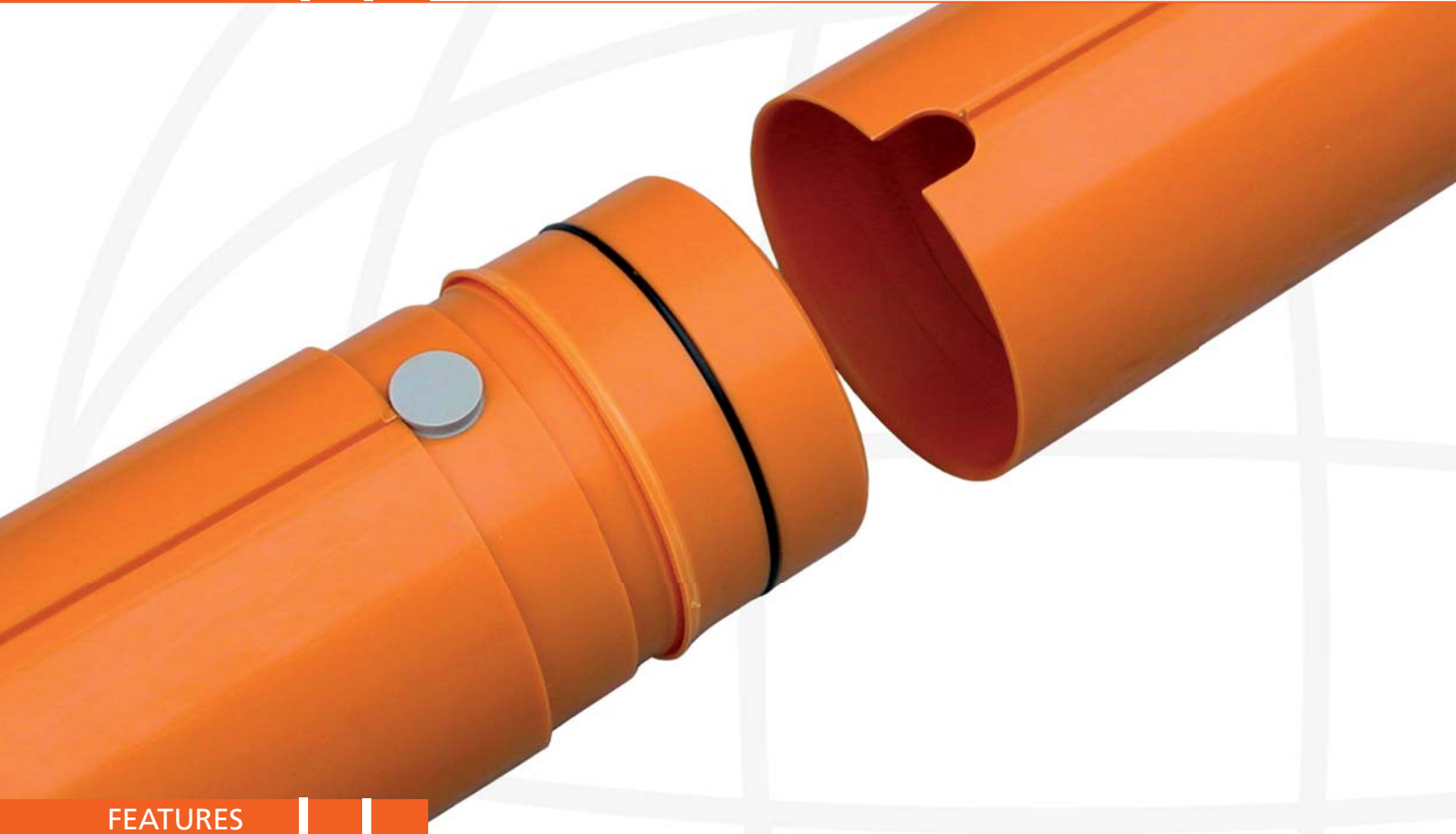


EC (EASY CONNECT) INCLINOMETER CASING

DATASHEET C9

PRODUCTS



FEATURES

- Consistent, reliable joints - The machined slot ensures consistent keyway alignment for accurate data.
- Watertight - An 'O' ring on each joint prevents ingress of water or grout, better long term data.
- Low spiral, deep tight groove profile, more accurate data.
- Joint tested to ensure resistance to collapse (pressure) and twist (spiral).
- Significant savings in installation time reduces both labour cost and drill rig standing charges.



EC (Easy Connect) Casing is an ABS inclinometer casing manufactured in 3 metre lengths, using advanced extrusion techniques. The result is an accurate groove profile equivalent to broached casing.

Designed to replace traditional inclinometer casing, EC Casing is both faster and easier to install. EC Casing can be extended or joined at any point along its length; telescoping couplings can also be installed to cope with significant settlement or heave.

Each order of EC Casing is supplied with a laminated installation guide.

Extremely simple installation, no rivets, tape or glue. Just push together and the joint is made.

THE SOIL INSTRUMENTS' EASY CONNECT CASING

EC Casing is a specially manufactured ABS extrusion with precise keyways formed at 90° into the internal surface. The keyways allow for the accurate placing and orientation of inclinometer probes and IPI's.

EC Casing can be used in boreholes, embedded in fill material, cast into concrete or attached to structures. It is designed to move with the ground, material or structural movement and provide inclination information over an extended period of time. (Its useful life only ends when the movement of the material or structure causes the casing to shear or prevents the inclinometer probe from passing down the full length of the installation.)



INCLINOMETER SYSTEMS PROVIDE DATA FOR:

SITE INVESTIGATION

- Evaluating the soil strength and stability.

VERIFICATION OF DESIGN ASSUMPTIONS

- Installed in structures EC casing can confirm initial design assumptions by proving actual movement compared to design predictions.

LONG TERM MONITORING

- Long term monitoring of structures and ground conditions to establish changes after works have finished.

EC CASING AND INCLINOMETERS ARE SUITABLE FOR THE FOLLOWING APPLICATIONS:

SLOPES AND LANDSLIDES

Inclinometer tube is installed to determine the shear and slip zones and whether shear is planar or circular. Correct installation will determine if the movement is constant, slowing or accelerating.

DIAPHRAGM OR SHEET PILE WALLS

Inclinometer systems can be used to ascertain the stability of the retaining wall and check that deflections are within design assumptions. The system should also show ground movement that could affect other buildings and can verify the performance of struts and ground anchors.

DAMS

Can be used to detect movement in the downstream and upstream side of the dam and define shear zones in foundations. Inclinometer systems can also monitor deformation of concrete face dams and will determine shear, depth, direction, magnitude, and rate of movement (i.e. constant, accelerating, or decelerating)

TUNNELS

Detect and record soil movement due to tunnelling operations. Verify design assumptions and element analysis.

RETAINING WALLS

Measure bending and rotation in the retaining wall.

LATERALLY LOADED PILES

Monitor bending of piles. EC Casing has been extensively tested to ensure that the coupling joint is strong and resists the ingress of water and grout. These tests are detailed below.

TESTING PROCEDURES

1. TWIST TEST

This test is performed to determine how much twist (torque) the EC joint can withstand.

2. JOINT STRENGTH TEST

This test is performed to determine how much pull the EC joint can withstand, equivalent to how long a length of 3 metre sections can support their own weight in tension.

3. BENDING (RADIUS) TEST

This test is performed to determine how elastic EC Casing is. The casing is bent to a point whereby the joint fails.

4. COLLAPSE (PRESSURE) TEST

This test is performed to determine how deep EC Casing can be installed in a borehole before the pressure of water or grout will deform the casing.

FOR DETAILS ON:

Quick Drive Inclinometer Casing, see data sheet: C9-4.

Standard Inclinometer Casing, see data sheet: C18

In-Place Inclinometer, See data sheet: C12.

Digital Bluetooth Inclinometer System, See data sheet: C17.

In-Site Data Presentation Software, See data sheet: C13.

CASING SPECIFICATIONS

Material	ABS (Acrylonitrile Butadiene Styrene)
Groove Spiral	< 0.5° / 3m
Collapse Rating	1960kPa
Bend Rating	252N
Maximum Temperature	80°C
Tensile Strength	585kgF
Torque	25Nm

DIMENSIONS

Effective Length	3m
Length	3.06m
Outside Diameter	70mm
Inside Diameter	59mm

WEIGHTS

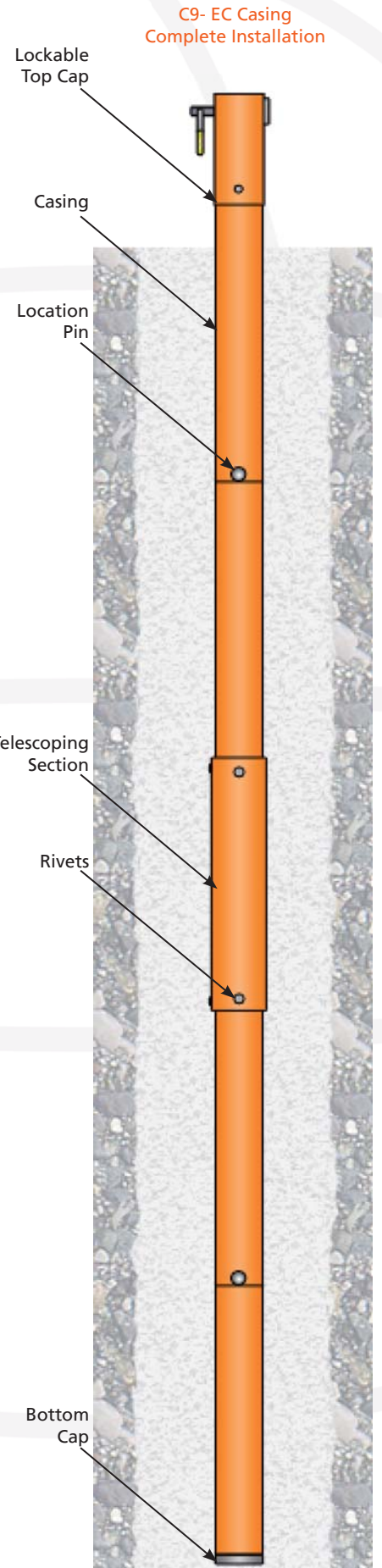
Casing	3.8kg
End Cap	360g
Top Cap	48g
Loackable Top Cap	718g
Telescoping Section	1.89kg

TELESCOPING SECTIONS

Effective Length	1m
Length	1.06m
Telescoping Range	±0.3m
Outside Diameter	83mm
Inside Diameter	59mm

ORDERING INFORMATION

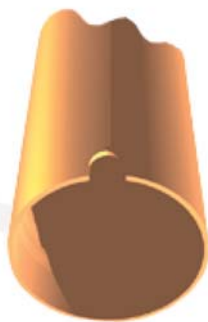
PART NO.	DESCRIPTION
C9-1.1	EC Casing, 3m Length, Ø70mm OD
C9-4.3	EC Casing, 1m Length, Ø70mm OD
C9-1.2	Telescoping Section: 300mm travel, 1m long, Ø83mm OD
C9-1.2.1	Repair Coupling: 300mm in length Ø83mm OD
C9-1.3	Bottom Cap
C9-1.4	Top Cap
C9-1.5	Lockable Top Cap Assembly
C9-1.9	Grout valve
C9-1.10	Grout valve coupling 1inch BSP female thread
W6-1.2	Bentonite powder (per 25kg)
C9-3.10	Pop riveting tool
C9-3.11	Hand drill
C9-3.9	4.2mm stub drill bit for telescoping couplings



C9-1.1 Male End



C9-1.1 Female End



C9-1.1 Casing Joined



C9-1.5 Lockable Top Cap



C9-1.3 Bottom Cap



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