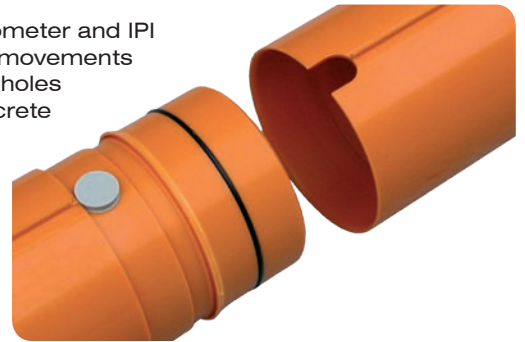


EC (Easy Connect) Inclinometer Casing

Key Benefits

- Easy Connect Inclinometer Casing is an integral part of inclinometer and IPI sensor systems used for measurement of lateral and vertical movements of soil, rock and structures. Although typically installed in boreholes its versatility renders it suitable for use in landfills, cast to concrete or attached to structures
- Ideal for projects such as landslides, slope stability, pilings, dams, tunneling, embankments, tank foundation, landfills, bridge piers, abutments etc.
- Fully strength controlled for twist, bending, collapse and joint pull ensuring excellent performance during inclinometer data gathering



Technical Applications

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 deflect 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).

Features

- Quick and simple assembly offers significant saving in installation costs
- Self aligning integral coupling reduces casing spiral significantly
- Installable in boreholes and piles, set into concrete or attached to structures
- Manufactured from ABS plastic which is flexible, impact and corrosion resistant thus ensuring long service life
- Precision extruded keyway ensures low spiral and perfect fit for the inclinometer probe wheels rendering accurate inclinometer data
- Provision of O rings at the joints ensures against ingress of water or grout
- Telescopic sections with a 300mm range for accommodating settlement or heave
- Compatible with all inclinometer, settlement probes and IPI Sensors
- Available in 70mm and 58mm diameter

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 undertaken by Soil Instruments

1. **Twist test** - Performed to determine how much twist (torque) the EC joint can withstand.
2. **Joint strength test** - 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** - Performed to determine how elastic EC Casing is. The casing is bent to a point whereby the joint fails.
4. **Collapse (pressure) test** - Performed to determine how deep EC Casing can be installed in a borehole before the pres-

FOR FURTHER INFORMATION PLEASE CONTACT:

Soil Instruments Limited, Bell Lane, Uckfield, East Sussex, TN22 1QL, United Kingdom

Tel: +44(0)1825 765044 Fax: +44(0)1825 761740 Web: www.soil.co.uk Enquiries: sales@soil.co.uk

Specifications

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
Lockable 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

¹58mm diameter size available

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

