# TECHNICAL DATASHEET

## P90 Pseudo Ref Electrode™

A long life pseudo reference electrode used to measure steel potentials in reinforced concrete

## Uses

The P90 is a long life activated titanium pseudo reference electrode used to measure steel potentials in reinforced concrete and steel framed structures. The purpose of the P90 is to measure the effectiveness of impressed current and galvanic cathodic protection systems during depolarisation or polarisation in order to monitor steel corrosion activity.

## Advantages

- Chloride free
- Exceptional polarisation characteristics
- Compatible cementitious measurement interface
- Compact design
- Reliable long term performance
- Highly stable potential when current is drawn from the electrode
- Simple installation
- Accurate potential measurement
- Cost-effective

## Product Data

The reference electrode shall be an activated titanium pseudo reference electrode used to determine steel potential depolarisation or polarisation in reinforced concrete and steel frame structures.

| Length | Diameter |
|---|---|
| 90mm (3.5”) | 18mm (3/4”) |

## Application

A suitable location for the electrode must be identified which avoids contact with any steel in the structure.

BS EN 12696: 2016 offers guidance on the positioning of reference electrodes used in the monitoring of cathodic protection systems.

Prior to installation the P90 electrode must be soaked in saturated lime water for a minimum of 2 hours.

The P90 pseudo reference electrode is typically installed into a pre-drilled hole of dimensions 110mm x 30mm (4.5” x 1¼”). The hole should be soaked with water prior to insertion of the embedding mortar. The P90 pseudo reference electrode should be then be pushed into the embedding mortar to ensure complete coverage of the unit and elimination of air voids. A minimum of 20mm (⅞”) cover should be achieved.

An alternative application of the P90 pseudo reference electrode, where a large repair break out is required, is to attach the unit to the open steel reinforcement cage

## Technical Data

The resulting potential of the P90 pseudo reference electrode does not give absolute potential but does give accurate potentials over a relatively short period of time ( 4 to 48hrs). This feature is very useful in determining depolarisations or polarisations of steel cathodic protection systems.

The P90 pseudo reference electrode operates as a ‘solid state’ electrode which does not allow the loss of aggressive activating species into the parent concrete.

The P90 pseudo reference electrode is capped with a formulated cementitious outer coating to the activated titanium which offers compatibility with the host concrete and ensures intimate contact with the host concrete. This will minimise the potential for loss of contact following installation.

## Limitations

The cementitious end to the P90 pseudo reference electrode is brittle and care should be taken to minimise the chance of damage.

## Packaging

Supplied as individual units with pre attached 2.5mm² XLPE/XLPE yellow insulated copper cable to the desired length.

## Storage

Store dry

Shelf life 5 years

## Ancillary Materials

DuoGuard and PatchGuard anodes

Monitoring equipment

## Precautions - Health and Safety

Health and safety protective clothing, gloves and eye protection must be worn at all times.

Do not open or swallow the contents.

In the unlikely event that the contents should come into contact with the skin or eyes immediately rinse with water and seek medical help.

## Technical and Sales Support

w: www.cp-tech.co.uk

t: +44 (0) 115 9724 238

e: general@cp-tech.co.uk

Certificate Number 10159
ISO 9001, ISO 14001

MEMBER OF THE BRITISH PARKING ASSOCIATION

For technical and sales support please contact us at:
Concrete Preservation Technologies
1 Palmer Business Court, Manor House Road, Nottingham, UK, NG10 1LZ
(T) +44 (0) 115 9724 238 (E) general@cp-tech.co.uk
www.cp-tech.co.uk