

LD250 REFERENCE ELECTRODE FOR COMBINED POTENTIAL & CURRENT MEASUREMENTS

General Description

The LD250 is designed for burial alongside buried steel which is protected by a cathodic protection system using ground bed anodes such as tank bases and pipelines. These units provide monitoring of the steel potential using a combined silver/silver chloride reference electrode and corrosion coupon.

Specification

50mm diameter silver/silver chloride reference electrode with 4 x 10mm diameter ceramic frits
6mm thick mild steel plate with a surface area of 11,000mm² and double cable connection.
White nylon housing.

Dimensions: Main body 150mm long x 130mm diameter
Reference electrode 90mm long x 50mm diameter
IP68 cable gland.

Cable: Three core 2.5mm² copper stranded with rubber core insulation and black outer sheath in synthetic rubber.

Installation

The LD250 units are calibrated under laboratory conditions before despatch and a calibration certificate for the reference electrode is issued with each unit.

Pre-installation check

The purpose of this procedure is to check that the electrode potential is stable. Prepare a solution of 3% salt solution; 30g of sodium chloride (salt) per 1 Lt of water. Remove the cap from the electrode and soak the tip of the electrode in the solution for a **minimum of 2 hours** and **maximum of 3 hours**. It is important to note that these electrodes must not be left in the solution for excessive periods of time. After soaking the electrode measure the potential using a calomel electrode (SCE) with a digital voltmeter at 10mohm and 1000mohm input impedance with the SCE connected to the positive/common terminal and record the results. The potentials should be steady and in the range +/- 20mv of the calibrated values. Once the electrode is checked it should be removed from the solution, the cap carefully replaced and it should be installed within 48 hours.

Installation Procedure

Prior to installation make a record of the electrode number and remove the red cap. The units should be buried in a conductive backfill alongside the steel structure taking care to ensure good contact with the reference electrode and coupon and avoiding physical damage.

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