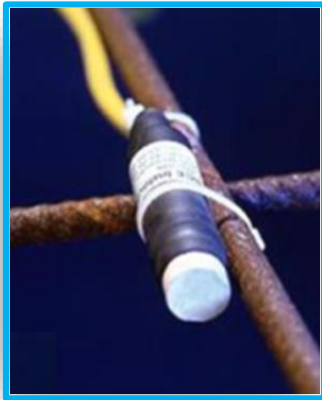


# Cathodic Protection (CP)



## Manganese Dioxide Reference Electrode for Concrete



Manganese Dioxide Reference Electrode is a true, long life reference electrode, which can be cast into the cover concrete to check the cathodic protection and to monitor the corrosion state of reinforcing steel or predict corrosion. Normally in newly cast concrete structures, but the electrode can also be installed in existing structures.

### Specifications

#### Potential:

Typical potential value measured in saturated  $\text{Ca}(\text{OH})_2$  at  $23^\circ\text{C}$  is + 200 mV versus saturated calomel electrode (SCE) equal to + 445 mV in hydrogen scale.

#### Internal Resistance:

Less than 5000 Ohm after soaking in water.

#### Cable:

Single core, stranded copper conductor (flexible,  $2.5 \text{ mm}^2$ ) with XLPE insulation and PVC sheathing, color: Yellow. Other types of cable can be fitted on request.

#### Temperature Range:

In investigated temperature range  $-10$  to  $+40^\circ\text{C}$  satisfactory performance is recorded. During frost periods, false readings must be expected. After thawing, normal properties are regained.

#### Service Life:

The half-cell is in chemical equilibrium with the surrounding environment. Furthermore the manganese oxide, which exists as a natural mineral in the earth's crust, will be stable in the long time period. The life time is governed

