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## TYPE ME100 MAPPING ELECTRODE FOR USE ON CONCRETE

Silver/Silver Chloride elements in all SILVION electrodes are manufactured using an advanced technique which results in a porous silver matrix being formed around a silver wire skeleton. The matrix is then coated with precise quantities of Silver/Chloride to ensure:

- 1). HIGH STABILITY
- 2). GREATER ACCURACY
- 3). INCREASED LIFE PERFORMANCE.

The half-cell consists of a highly stable silver/silver chloride element enclosed in a solid inert electrolyte (with 0.5M chloride ion concentration), a porous sintered ceramic plug for ionic conduction, a collar enclosing a sponge for measurements on concrete and a solid collar to be fitted during storage. The ME100 mapping electrode has been specifically designed for corrosion technicians to undertake condition surveys on steel reinforced concrete structures and steel framed historic buildings.



The ME100 half-cell is a precision instrument and should be treated accordingly. To increase the usable life of the cell and to maintain the accuracy of the measurements the notes below should be followed:

### Notes

- 1). The sensor end of the cell is protected by a "screw storage cap". Prior to use, unscrew the cap and retain it for future use.
- 2). When making measurements on concrete, wet the sponge in the collar with 3% salt solution and screw it to the tip of the half-cell ensuring that the sponge is in good contact with the ceramic tip.
- 3). When not in use never leave the half-cell probe on warm surfaces, in direct sunlight or in work vehicles when it is hot.
- 4). Ideally the cells should be stored in a cool environment of high humidity. Prior to storage wet the sponge in the "screw storage cap" with 3% salt solution and fit the cap. **Allowing the internal electrolyte to dry out will result in permanent damage to the half-cell.**

### SILVION REFERENCE ELECTRODES

*25 Years Service to the Corrosion Prevention Industry*

Registered in England No: 6860239

VAT No 975 9426 61



**OUTER CASING**

MATERIAL ..... ACETAL  
 LENGTH ..... 150mm  
 DIAMETER ..... 32mm  
 SINTERED DISC DIAMETER ..... 20mm

**SPONGE COLLAR**

MATERIAL ..... ACETAL  
 LENGTH ..... 20mm  
 DIAMETER ..... 50mm

**BLANK CAP**

MATERIAL ..... ACETAL  
 LENGTH ..... 20mm  
 DIAMETER ..... 50mm

**SILVER CHLORIDE ELEMENT**

LENGTH ..... 50mm  
 SECTION ..... 5 x 5mm  
 GEOMETRIC SURFACE AREA ..... 10cm<sup>2</sup>  
 REAL SURFACE AREA ..... 500cm<sup>2</sup>  
 MATERIALS ..... SILVER COMPOUNDS ARE 99.90% PURE

**ELECTROLYTE** ..... INERT SOLID ELECTROLYTE WITH 0.5MOLAR KCl

**PERFORMANCE DATA**

SHORT CIRCUIT CURRENT (<1 MIN))..... 20mA  
 STABILITY (POTENTIAL DRIFT AT CONSTANT TEMP AND ENVIRONMENT)..... +/- 1mV (24Hrs) @ 5 micro Amp load  
 ACCURACY (Vs SCE IN 3% NaCl @ 20°C) ..... -5mV +/- 5mV  
 TEMPERATURE COEFFICIENT ..... -0.65mV/Deg C  
 DESIGN LIFE ..... 3 YEARS  
 TEMP RANGE ..... -5 to 80°C  
 SHELF LIFE ..... Infinite if stored correctly

**QA/QC**

All our electrodes are fully tested, calibrated and supplied complete with a calibration certificate. They are individually identified with a unique number to ensure full traceability.  
 All dimensions +/-1mm unless otherwise stated

*The information provided in this document was accurate at the time it was published, however, we reserve the right to revise this document without prior warning*