

REFERENCE ELECTRODES

3.5.1

There are three basic types of half cell/reference electrode supplied by BAC Global for use with their Cathodic Protection test and survey equipment viz:

- **COPPER/COPPER SULPHATE**
- **SILVER/SILVER CHLORIDE**
- **ZINC**

Each type has been specifically designed for the measurement of surface potentials, in particular environments. It is imperative that the appropriate type is used for each installation to ensure correct readings. A chart detailing potential comparisons is shown overleaf.

Portable Copper/Copper Sulphate



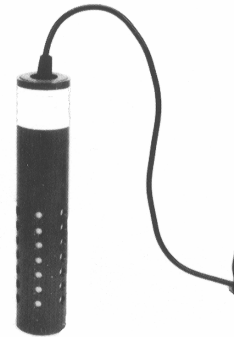
The Copper/Copper Sulphate half cell is the accepted standard for the measurement of surface potentials for land installations and can be used for any high resistance voltmeter normally used in the field of Cathodic Protection. The half cells are supplied with a standard 5 metre cable length but any length can be supplied to order.

Permanent Copper/copper Sulphate



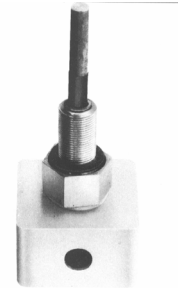
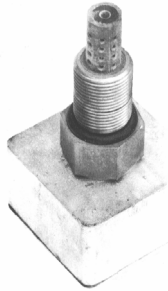
This half cell comprises a terracotta hand made container housing copper sulphate crystals and copper electrodes. Unique semi permeable design ensures excellent electrode/earth interface connection under most conditions. Under extremely high resistivity conditions the use of low resistivity back fill is recommended.

Silver/Silver Chloride - Portable



This Standard half cell is specially designed for the accurate measurement of surface potentials in aqueous electrolytes. The half cells are supplied with a standard 10 metre cable length but any length can be supplied to order.

3.5.1



Silver/Silver Chloride in Steel Housing

This half cell, whilst covering the same functions as the standard silver/silver chloride half cell, has been adapted for use in circulating water systems by housing the half cell in a steel holder so that it may be permanently fixed in CP installations such as found in Power Stations, to provide an accurate means of constantly monitoring surface potentials for automatic cathodic protection installations.

Zinc - Permanent Electrode

This electrode incorporates the use of High Purity Zinc rods mounted in a steel housing similar to that of the permanent silver/silver chloride half cell. Whilst being suitable for monitoring surface potentials in circulating water systems, it can be adapted for offshore use on Platforms and Jetties.

Special Half cells/Electrodes

A range of Silver/Silver Chloride and Copper/Copper Sulphate half cells/reference electrodes are available in addition to the standards overleaf, for monitoring CP Installations both on and offshore. BAC Global will be pleased to offer individually designed electrodes to meet your specialised requirements.

COMPARISON OF POTENTIALS USING ZINC Cu/CuSO₄, Ag/AgCl & KCl REFERENCE ELECTRODES

