

**IR Free Reference Electrode
for Buried & Water Service**

Size: 2.25" (6 cm) Diameter x 8.5" (22 cm) long.

Material: High Impact ABS, Ceramic with
Moisture Retention Membrane.

Stability: 10 millivolts with 3.0 microamps load.

Temperature Range: +32 ° to + 135 ° F (0 ° to 55 ° C)

Includes: Bullet™ Box IR Free Interrupter
Bullet™ Box CP Test Station

1 cm² Coupon

SRE-022-CIY - Cu-CuSO₄

SRE-025-SIB - Ag-AgCl

SRE-028-ZIR - Zn-ZnSO₄

10 cm² Coupon

SRE-023-CIY - Cu-CuSO₄

SRE-026-SIB - Ag-AgCl

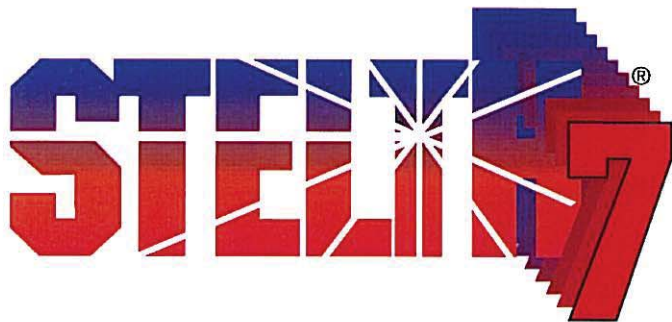
SRE-029-ZIR - Zn-ZnSO₄

100 cm² Coupon

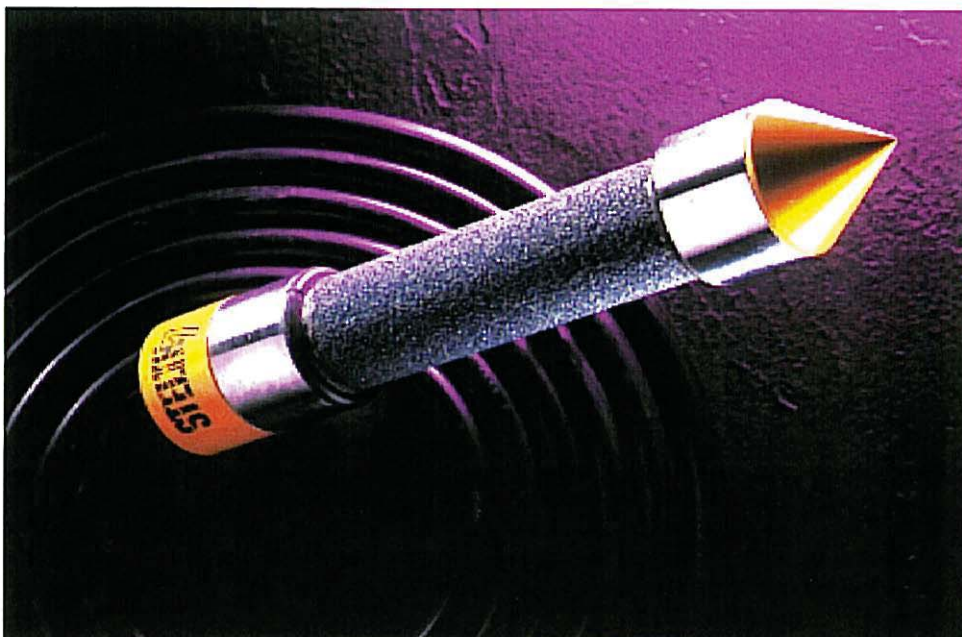
SRE-024-CIY - Cu-CuSO₄

SRE-027-SIB - Ag-AgCl

SRE-030-ZIR - Zn-ZnSO₄



Rocket



**IR Free Reference Electrode
for Tank Bottom Service**

Size: 2" (5 cm) Diameter x 13" (33 cm) long.

Material: High Impact ABS, Ceramic with
Moisture Retention Membrane.

Stability: 10 millivolts with 3.0 microamps load.

Temperature Range: +32 ° to + 135 ° F (0 ° to 55 ° C)

Includes: Bullet™ Box IR Free Interrupter
Bullet™ Box CP Test Station

50 or 100 cm² Coupon

SRE-031-CSY - Cu-CuSO₄

SRE-032-SSB - Ag-AgCl

SRE-033-ZSR - Zn-ZnSO₄

Exclusive Stelth Features

Moisture Retention Membrane MRM™

The Moisture Retention Membrane traps moisture and the internal chemistry inside the cell. This is critical in dry soil conditions. Also, the MRM™ prevents contaminated ground water from entering the reference electrode.

Chloride Ion Trap (Membrane impregnated)

First, we impregnated a trapping material into the ceramic sensing tube that traps chloride ions before they reach the chemistry of the Stelth®.

Chloride Ion Trap (Integral to electrolyte)

Second, we employ a chloride ion trapping system that removes chloride ions that penetrate the CuSO₄ chemistry of the Stelth® before these ions can cause damage.

Chloride levels of only 200 parts per million will alter the chemistry of a Cu-CuSO₄ reference cell, causing a complete breakdown, resulting in a loss of stability and finally a total shut down.

100% Testing of each Stelth Reference Electrode

Each cell is individually calibrated against a calomel reference under field conditions. They are then tested for internal resistance, continuity, IR Drop, sensitivity, stability and finally serialized. "Certification Certificates" are provided for each cell to the End User. - This calibration method is impossible to do with the old fashioned plaster backfilled reference electrodes.

The Stelth® Reference Electrodes can now be FROZEN

With the development of the Moisture Retention Membrane MRM™, the Stelth® reference electrodes can now be used in frozen environments without concern of damaging the cell. Through extensive testing with hundreds of cells in Russia, the MRM™, has proven to eliminate failures from freezing.

Sensing Area Increased to 33 sq. inches (182 sq. cm²)

The larger the sensing area surface that comes into contact with the internal electrolyte, the greater the sensitivity of the cell and the lower the IR Drop is between the reference electrode and the soil environment it makes contact with.

Hydrogen Sulfide Sensor (Integral to cell)

Provides the ability to examine a reference cell and its surrounding environment should it come under attack from hydrogen sulfide. This can be accomplished on site, without having to send the electrode to a laboratory for analysis.

Sulfide Ion Trap

Hydrogen sulfide contributes to an ever increasing rate of mortality to reference cells, as industry and garbage landfill continue to invade previously untouched areas. Impregnated in the Stelth® ceramic, is a barrier of sulfide "ion Trapping" chemistry that absorbs the hydrogen sulfide (H₂S) ions, acting like a chemical sponge.



Reference Electrode of the Future

The Stelth 7™ IR Free & Stelth 7™ IR Free Rocket reference electrodes were developed to take **IR Free on-potential and off-potential readings** of a structure without having to shut down or turn off any interference systems such as **your own system rectifier, other rectifiers in the area, electric trains and subways, electrical transmission lines**, etcetera, while reading only the single lowest potential that exists on that structure.

The Stelth 7™ IR Free & Stelth 7™ IR Free Rocket reference electrodes have a minimum design life of 20 years and an **indefinite shelf life**. Shipping weight is only three pounds.

The Stelth 7™ IR Free & Stelth 7™ IR Free Rocket reference electrodes will maintain a stability of 10 millivolts with no more than a 3 micro-ampere load over 20 years. - Temperature range from 0 to 58 C (32 to 135F).

The Stelth 7™ IR Free & Stelth 7™ IR Free Rocket reference electrodes will operate in all ranges of soil and water conditions, from desert dry soils to flood zones, swamps, sea and fresh water environments. Can be reused and taken in and out of service, as many times as desired.

***Eliminates expensive interrupters. *Eliminates the tedious procedure of synchronizing a series of interrupters.**

***Allows you to take off-potential readings on rectifiers that have high amperage outputs which are beyond the capacity of the interrupters on the market today to handle.**

***This technology easily allows any remote monitoring and control system (process control system) to automate the IR Free on-potential and off-potential readings of a structure.**

***On-potential and off-potential measurements can now be taken with total disregard for any and all outside influences - Your own rectifier - neighboring rectifiers - anode beds - electric transmission lines - trains & subways - steel in concrete - etcetera.**

Built strictly to the DIN Standard 50925 - European & US patents applied for.