

ProSense™

PRODUCT DESCRIPTION

The copper-copper sulfate (Cu/CuSO₄) reference electrode is primarily used to measure structure-to-electrolyte potentials in underground structures and freshwater applications. Since chloride ions can contaminate the Cu/CuSO₄ solution and affect electrode stability, this electrode is not recommended for environments such as seawater, brackish water, or other chloride-contaminated environments.

The Cu/CuSO₄ reference electrode consists of a copper rod immersed in a saturated copper sulfate solution, housed within a non-conductive cylinder with a porous plug at the bottom. The copper ions in the saturated solution help inhibit copper corrosion and improve the stability of the reference electrode. Portable Cu/CuSO₄ reference electrodes are used for temporary structure-to-electrolyte potential measurements, while stationary Cu/CuSO₄ reference electrodes are used for permanent structure-to-electrolyte potential monitoring.

PRODUCT FEATURES

Backfill Material Technology

- The backfill is specially formulated with excellent electrical conductivity and is designed to prevent agglomeration commonly associated with traditional backfill materials.

Environmentally Friendly Packaging

- Packaged with degradable, environmentally friendly materials, allowing direct on-site installation without the need for plastic waste disposal.



CU/CUSO4 REFERENCE ELECTRODE



PRODUCT PERFORMANCE

Potential Stability

- Stable electrode potential with low susceptibility to polarization, supporting reliable and accurate reference potential measurements.

Environmental Adaptability

- Specially formulated backfill maintains stable electrical performance under alternating dry and wet conditions, helping prevent agglomeration and reference failure.

Reference	Title
NACE RP0572-2024	DESIGN, INSTALLATION, OPERATION, AND MAINTENANCE OF IMPRESSED CURRENT DEEP GROUNDBEDS
EN 13509:2003	CATHODIC PROTECTION MEASUREMENT TECHNIQUES

MODELS AND SPECIFICATIONS

Model	AT-CSE-1	AT-CSE-2	AT-CSE-3
Type	Portable	Stationary	Packaged
Size	Φ32 mm 150 mm Length	Φ100 mm 300 mm Length	Φ100 mm 300 mm Length
Enclosure Material	High Impact Strength ABS	Ceramic Pot	Cotton Bag with Backfill
Load Stability	±5 mV at 0.3 mA	±5 mV at 0.3 mA	±5 mV at 0.3 mA
Water Tightness	-	2MPa water pressure, ≥15 min	-
Insulation	-	-	-
Life	-	30 years	30 years
Recommended Environment	Soil, Fine Sand, Fresh Water	Fresh Water	Soil, Fine Sand



PRODUCT
PARAMETERS

Life	≥20 years
Operating Temperature	0-55 °C
Potential Stability	Potential Drift ≤ ±10mV
Reference Potential	+316 mV at 25 °C vs SHE

Canada

290 North Queen St
Suite 208,
Etobicoke, Ontario
Canada, M9C 5L2

Phone: + 1 416 433 3186

advance-technology.com

consult@advance-tech.ca

For further information, please contact Advance Technology.

