

## **REFERENCE ELECTRODES**

for Cathodic Protection Systems

Reference electrodes are used in locations where a constant, stable reference is required, with constant potential rectifiers and at inaccessible locations. MATCOR manufactures a complete line of cathodic protection reference electrodes.

Choose from a wide variety of probe, zinc, silver chloride or copper sulfate reference electrodes for condenser water box/vessel applications. We can also custom-manufacture any of our reference electrodes to meet your specific project requirement.



Underground Copper Sulfate Reference Electrode



Freshwater Copper Sulfate Reference Electrode

### **Copper Sulfate-CuSO<sub>4</sub> Reference Electrodes**

Copper sulfate reference electrodes are available in underground and freshwater models. MATCOR CuSO<sub>4</sub> electrodes are larger and have more copper sulfate than others, resulting in a longer life. We offer four basic types of copper sulfate reference electrodes:

Basic	<ul> <li>Underground and water tank</li> <li>Dimensions: 2" dia. x 10" long</li> <li>Chloride ion trap in heat formed recess</li> <li>Lead wire: 25 ft. #14 HMWPE stranded copper</li> <li>All tested for + or – 10 millivolts to standard electrode</li> </ul>
Underground	<ul> <li>Basic electrode is packaged in prepared backfill to retain moisture contact and electrode stability</li> <li>Size: 10" dia. x 24" long</li> <li>Weight: 25 lbs.</li> <li>Model code: PRC-CU4-UG pictured top left</li> </ul>
Under Tank	<ul> <li>Small profile for under tank applications</li> <li>Size: 3" dia. x 24'</li> <li>Weight: 3 lbs.</li> <li>Model code: PRC-CU4-UT</li> </ul>
Freshwater	<ul> <li>Basic electrode has extended shield over porous plug to avoid contact with structure</li> <li>Model code: PRC-CU4-WT pictured bottom left</li> </ul>

NOTE: Reference electrodes listed above represent standard sizing. MATCOR CuSO<sub>4</sub> Reference Electrodes can also be produced to your size and lead wire type specifications.

#### Zinc Underground Reference Electrodes

Zinc has the longest life of any of the permanent type reference electrodes. We use Hi-Pure zinc to ensure consistent quality and a constant conversion factor of -1.1V to CuSO<sub>4</sub>. MATCOR Zinc reference electrodes are suitable for underground applications:



Zinc Underground Reference Electrode

- Packaged in prepared backfill to maintain stability.
- Size: 10" dia. x 24" long
- Weight: 25 lbs.
- Model code: PRC-ZN-UG



# **REFERENCE ELECTRODES**

for Cathodic Protection Systems

### Silver Chloride-AGCL Reference Electrodes

MATCOR AgCl reference electrodes are designed for use in high-chloride conditions. There are three standard types:

Seawater	<ul> <li>Size: 1" dia. x 10" long</li> <li>Lead wire: 150 ft. AWG #14 HMWPE</li> <li>Model code: PRC-AGCL-WT</li> </ul>
Probe	<ul><li>For water boxes and pressure vessels</li><li>Contact MATCOR with specific requirements</li></ul>
Concrete	• Packaged in prepared backfill suitable for concrete environments

### PRC-AGCL-ZN-X Direct Drive Dual Reference Electrode

The dual reference electrode consists of both a silver chloride and a zinc reference electrode, prepackaged within a tightly compacted MATCOR reference electrode backfill to retain moisture contact and electrode stability.

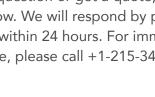
Designed with a unique driving cone and driving assembly to enable the dual reference electrode to be directly driven into soft soil, mud or sand to depths of 40 feet or more without the need for drilling equipment. This design is not suitable for all soil conditions - please contact MATCOR to discuss the feasibility of direct driving the anode.

### **Internal Vessel Reference Electrodes**

MATCOR manufactures a wide variety of probe or plug type zinc, silver chloride or copper sulfate reference electrodes for condenser water box/vessel applications.

Please contact us for assistance with cathodic protection reference electrode specifications and ordering.

<b>REGIONAL OFFICES</b>					
CO	303	407	2709		
GA	267	291	2099		
OK	405	293	9777		
PA	215	348	2974		
ТΧ	281	558	2600		
WY	307	362	7992		



ISO



+1 800 523 6692 matcorsales@matcor.com matcor.com



RGY & INFRASTRUCTURE SERVICES Infrastructure Services Company.

© February 2016 MATCOR, Inc.



Silver Chloride Reference Electrode

MATCOR's mission is to solve your corrosion problems. In addition to our broad range of proprietary corrosion prevention products, we are ready to assist with your corrosion engineering and field service needs, including design, manufacturing, installation, commissioning and ongoing maintenance, as well as full turnkey solutions.

To get in touch with our team of corrosion experts for more information, to ask a question or get a quote, please click below. We will respond by phone or email within 24 hours. For immediate assistance, please call +1-215-348-2974.