



# **TINKER & RASOR**

CORROSION MITIGATION INSTRUMENTATION

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## **PRODUCT INSTRUCTIONS COPPER-COPPER SULFATE HALF CELL ELECTRODES W-7 SUBMERSIBLE WATERPROOF ADAPTER**

Half Cell Electrodes are shipped dry. However, they do contain the initial charge of high purity copper sulfate crystals. To prepare for use, remove either end of the electrode and fill with water. (Distilled water preferred, however, almost all potable water will suffice.) Replace the end piece, making sure both ends are on firmly to affect proper sealing. Shake electrode to obtain proper solution saturation. All Tinker & Rasor Half Cell ceramic tips are pretreated with Copper Sulfate solution to affect rapid wetting on initial preparation for first time usage.

For operation, remove the vinyl protective cap from the ceramic porous plug. Place ceramic plug in contact with moist soil or water and connect top copper terminal of the electrode to appropriate voltmeter. Make connection from the voltmeter to structure under test. Observe polarity and voltage, which is usually below two-volt range. Always replace the vinyl cover on the electrode after each usage to prevent moisture loss in the ceramic plug.

Special submersible waterproof adapter is put into service as follows:

- 1.** Observe the drawing supplied with each Half Cell and screw the adapter onto the Half Cell electrode leaving approximately 1/2 turn before compressing the large "O" ring seal.
- 2.** Strip 1/4" of insulation from end of #18 Ga. stranded test lead wire and insert stripped end into the brass hex fitting, making sure small "O" ring is in place over the insulated part of test lead. Push test lead into the brass fitting as far as possible. Tighten hex nut firmly.
- 3.** After hex nut is secured, hand tighten adapter to Half Cell firmly to affect the "O" ring seal between adapter and electrode.
- 4.** Test lead wire should have no discontinuities in the portion that will be submerged and the Half Cell should be filled completely so pressure will not force water into the electrode and contaminate the copper sulfate solution.
- 5.** The Model W-7 can be used with most reference electrodes utilizing 1/4-20 threads.