

REFERENCE CELLS

Permacell[®] 801

Permanent Reference Cell

For Accurate Readings in Fresh Water Environments

Routine monitoring is an important part of any cathodic protection maintenance program. To simplify this testing procedure, different types of permanent reference cells can be used. For structures located in fresh water areas, Corrpro offers the Permacell 801 copper/copper sulfate cell. The cell is made using a 99.99% pure copper coiled element, which is surrounded by a supersaturated solution of copper sulfate. To ensure a low-resistance connection, a lead wire is soldered and mechanically bonded to the copper element. This electrical junction is then encapsulated by a moisture-resistant material for a truly sealed connection. Electrical contact to the electrolyte is accomplished through a filtering plug at the end of the reference electrode. The plug allows accurate potential measurements to be obtained while preventing cell contamination.

In order for a reference to be effective, it must remain electrically stable over time. Corrpro's 801 reference cell delivers unsurpassed stability due to strict quality control procedures implemented during the manufacturing process. The cell is constructed in a controlled environment, totally free of contaminants. The various components used in the cell are also purified. Deionized water is used to create the supersaturated solution of copper sulfate, and the copper element is treated with a special cleansing agent before it is installed into the cell's plastic housing. Each cell is also tested for resistance and electrical potential, and the



values obtained are recorded and marked on shipping tags attached to the cells. These extra quality steps give the Permacell 801 a 10-year design life and the ability to maintain an electrical potential of within ± 5 millivolts.

Typical Applications

The Permacell 801 is ideal for use in cathodic protection systems operated in fresh water environments. This includes elevated water storage tanks, clarifiers, traveling screens, pasteurizers, locks, dams, and fresh water dock structures. The cell can be operated in temperatures of up to 135°F, but should not be used in waters containing high concentrations of chloride ions.



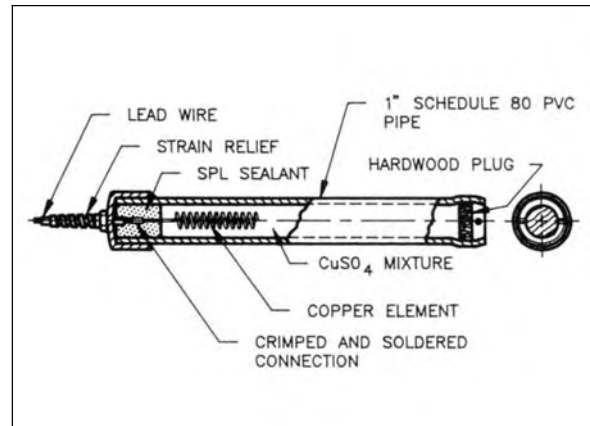
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Ordering Procedure

Permacell 801 is provided standard with fifty feet of insulated lead wire. To order this reference cell for your particular application, indicate that you need a Corpro Permacell 801 permanent reference cell, and specify the quantity desired and the lead wire length, size, and insulation, if different from the standard provided. An example is included to help illustrate this process.



Ordering Procedure Example	
ITEM	EXAMPLE
Quantity	10
Product	Permanent Reference Cell
Permacell Model	801
Lead Wire: Length (50 ft. = Standard)	50 ft.
Size (#14 AWG = Standard)	14 AWG
Insulation (HMWPE = Standard)	HMWPE

Product Specifications

NOMINAL DIMENSIONS	LENGTH	WEIGHT	ELECTRICAL STABILITY	MAXIMUM TEMP.	DESIGN LIFE
1 in. (25.4)	10 (254.0)	2 lbs. (0.91 kg)	±5 millivolts with 3.0 microamp load	135°F (57.2°C)	10 years



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