



Solid-State Reference Electrode

Coupon potential and corrosion rate readings

The **STELTH**® 7 Reference Electrodes are designed to provide all of your Cathodic Protection readings, both AC and DC, with one device by utilizing integral coupons of different sizes and combinations.

SOLUTIONS FOR DC READINGS:

The **STELTH**® 7 provides ON-potential and IR-free OFF-potential readings of a structure without errors caused by any outside influences, such as nearby rectifiers, anode beds, electric transmission lines, electric trains, subways, etc. Eliminates the need for expensive GPS and interrupters for rectifiers. Instead, disconnect your DC coupon to take your OFF-potential readings. Produces on- and off-potential readings of pipelines with sacrificial anode systems. Retrieves current density readings of the **STELTH**® 7 coupon representing the structure in your cathodic protection system. An all-in-one solution, combining a long-life Reference Electrode with coupons precisely sized to match the aged conditions of your structure. With the Reference Electrode and coupons integrated, this solution is far superior to using separate external coupons.

SOLUTIONS FOR AC READINGS:

Monitor AC interference to determine if you need an AC mitigation system to stop corrosion due to AC currents. After installation, monitor its efficiency to check that the AC mitigation system is working correctly and complies with the law to avoid dangerous levels of AC. Achieve valid potential readings at sites with AC current interference, like high-density utility corridors and urban areas with uncontrollable foreign influences.

SOLUTIONS FOR CORROSION RATE READINGS:

Electrical resistance (ER) corrosion probes are commonly used in various environments where on-line corrosion rate readings are beneficial. The operating principle is based on the change in resistance of the probe element as it is exposed to corrosive conditions. Whereas corrosion coupons must be removed from the process for evaluation, corrosion probes can allow corrosion rate determination without probe removal.

The integration of an ER probe into a coupon enhanced reference electrode results in a unique tool, which will analyze all parameters of a cathodic protection system, as well as the current rate of structure corrosion.



READINGS:

The **STELTH® 7** with coupons (see coupon size options below) can give you readings for:

- Structure DC ON Potential
- Structure DC Instant OFF Potential
- Structure DC Depolarized Potential
- Structure AC Potential
- Coupon DC ON Potential
- Coupon DC Instant OFF Potential
- Coupon DC Depolarized Potential
- Coupon DC Current density
- Coupon AC Potential
- Coupon AC Current density
- Coupon Native DC Potential

APPLICATIONS:

- Instant Off - IR Free Readings
- AC and DC current densities
- AC mitigation monitoring
- Readings affected by AC interference
- Readings in cities with congested pipe-line distribution systems
- Direct Corrosion Rate Measurement, in addition, all CP system parameters

REFERENCE ELECTRODE FEATURES:

Uses	Coupon and corrosion rate readings
Size	5.50" (13.97 cm) x 1 1/2" ceramic x 18.11" (45.99 cm) length
Material	Ceramic with Moisture Retention Membrane (MRM™) and carbon steel coupons
Service Life/Shelf Life/Stability	Minimum 20-year service life; Infinite shelf life, infinite stability
Long Term Stability Range	±5 millivolts
Certified Potential Range	±5 millivolts vs. standard
Maximum Continuous Current	3.0 microamps
pH Range	4–9 pH
Working Temperature Range	32° F to +176° F (0° C to 80° C)
Material Temperature Range	-60° F to +185° F (-51° C to 85° C)

ER PROBE FEATURES:

Probe Body/ Surface Strip	PVC / Epoxy
Cable	High-Density Polyethylene Jacket Rated for Direct Burial
Temperature Rating	176°F (80°C)
Element Thickness	10 mil thickness (5 mil useful probe life) - cylindrical or surface strip 20 mil thickness (10 mil useful probe life) - cylindrical or surface strip
Code	375*
Description	Carbon Steel **
UNS #	G10100