

**TEST  
YOUR TANK'S  
CATHODIC  
PROTECTION  
SYSTEM—  
IT'S EASY**

- Cathodic protection is a common technique used to provide life extending protection from corrosion for steel tanks and pipelines.
- Two (2) basic methods: sacrificial anode and impressed current.
- The most common, sacrificial anode system has an anode that operates exactly like one in a home hot water heater.
- Cathodic protection systems need a simple inspection at least every three (3) years.
- It's easy to provide monthly inspections of impressed current cathodic protection systems (see back).
- Remote monitoring of cathodic protection systems by trained corrosion engineers is readily available.

**ON THE  
OTHER SIDE...**

Impressed current: rectifier monthly check list.



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# Steel Facts



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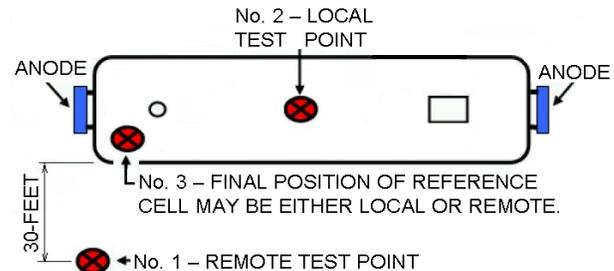
## Cathodic Protected Tank Inspection

### It's easy!

There are two basic methods used to provide cathodic protection to steel tanks. By far the most common and simplest method of protection is a *sacrificial anode system*. Most states require a simple inspection of this system every three years by a qualified inspector.

An *impressed current cathodic protection system* is the second type. Typically, it requires a detailed inspection every three years and a bi-monthly inspection of the power supply (called a *rectifier*). In order to insure the system is operating within its design parameters, you should perform certain tests:

- The rectifier requires an uninterrupted supply of electricity, so always check to see that the circuit breaker that supplies electricity to the rectifier is ON.
- Inside the rectifier, there is another circuit breaker that allows electricity to



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- operate the unit. Be sure that it is ON.
- Generally, there are two meters inside the rectifier, a *voltmeter* and an *ammeter*. Both volt and amp readings should be collected and recorded monthly:
  - ▶ The volt meter indicates there is AC power being supplied to the rectifier. The value displayed on the volt meter indicates the amount of power being supplied to the anodes. The volts can be adjusted by trained personnel, if necessary.
  - ▶ The amp meter indicates the amount of current (amps) that is flowing from the anodes to the

underground tank. Amps will fluctuate depending on weather, climate, and changes in the level of protection, but cannot be adjusted. If the amp value on the meter changes more than 10% from the previous month, contact your corrosion control representative and follow their instructions.

A properly installed cathodic protection system can prevent corrosion on steel tanks and pipelines. By performing routine testing and complying with federal, state, and local regulations you can sustain the life of steel tanks and pipelines, indefinitely.

### Volts and Amps



Understanding the difference between the electrical measures

of volts and amps is easy, and applies no matter where electrical power is used.

A *volt* is a unit of electricity that is a measure of the electro-motive force that exists in the wire circuit. A simple compari-

son is to the pressure (psi) that exists in a pressured water pipeline.

*Amps* are the units that measure the current being pushed through the system, similar to the gallons per minute you receive as a result of water pressure.

*Continued other side*



6868 St. Rt. 305 \* P.O. Box 10 \* Hartford, OH 44424  
330-772-2421 \* 300-826-5243 \* Fax 330-772-3307  
[www.stanwade.com](http://www.stanwade.com)

# Volts and Amps cont.

Therefore, the greater the number of volts, the more amps are delivered. This is true of both alternating current (AC), which is used in your home, office, and to power street lights; and direct current (DC), which is used in batteries, battery chargers—and cathodic protection systems.

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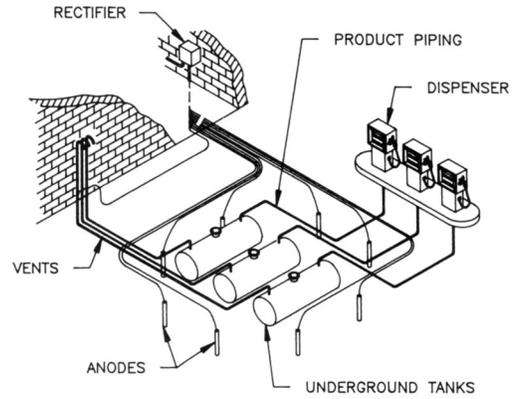


Image courtesy of Corpro Companies, Inc.

## RECTIFIER MONTHLY INSPECTION CHECK LIST

DATE \_\_\_\_\_ INSPECTED BY \_\_\_\_\_

*Please read the document associated with this check list.*

Checked	Item
	Check AC circuit breaker to insure the power to the rectifier is ON.
	Check the circuit breaker <i>within</i> the rectifier to ensure it is ON.
	Record the monthly VOLT reading. This is the power being supplied to the anodes. Compare this reading with last month's reading.
	Record monthly AMP reading. This indicates the amount of electricity (DC) that is flowing from your anodes. <ul style="list-style-type: none"> <li>• Compare this value with last month's reading.</li> <li>• If it is <b>LESS</b> than 10% of last month's reading, contact your corrosion control professional.</li> <li>• Only a qualified professional should make adjustments to the unit.</li> </ul>

**NOTE: IF THERE HAS BEEN RECENT CONSTRUCTION AT THE SITE, BE SURE TO INFORM YOUR CORROSION CONTROL PROFESSIONAL.**

RECTIFIER NUMBER IF AVAILABLE: \_\_\_\_\_

RECTIFIER OUTPUT RATING IF AVAILABLE:

VOLTS \_\_\_\_\_ AMPS \_\_\_\_\_

TESTER'S NAME: \_\_\_\_\_