FARWEST CORROSION CONTROL COMPANY

The Corrosion Monitor

Newsletter: Volume 10 - Summer 2014

Topics

Making the Right Decisions when Buying CP Rectifiers

Under the Sea - Protecting Vital Structures with Cathodic Protection

Farwest News: Recognition and Expansion

Choosing The Right Rectifier

Selecting a cathodic protection power supply, commonly referred to as a rectifier in our industry, can be a challenge especially if you have little experience in doing so. Not only must you determine the DC voltage and current output ratings required for your application, but there is a long list of rectifier options available to you.

In some cases, rectifier users have a written specification that details the rectifier type, ratings and required features for units purchased for their use. However, other users must select rectifiers that suit their particular needs or desires without the assistance of a standard specification. Either choice is acceptable but if you have a large "fleet" of rectifiers, it's not a bad idea to have similarities for training and familiarity purposes.

Following is a list of selections that you're likely to encounter when purchasing or specifying a rectifier:

DC Output - This refers to the desired voltage and current output for which the rectifier will be built to provide. Choices here are almost unlimited and voltage is always expressed as the first number. For instance, a 50-25 rating means the unit will provide 50 volts at 25 amps DC maximum output.

Choosing the right rectifier output depends on the cathodic protection (CP) system parameters, which include the amount of DC current to protect a structure, the electrical circuit resistance of the CP system, environmental considerations, future coating performance and/or system additions. This is a science unto itself and consulting an experienced corrosion professional can help you make this determination. Selecting a higher than needed output rating may make it difficult to adjust the rectifier as desired. Conversely, selecting a lower than required output rating may prevent the user from adequately protecting the structure.

AC Input - The AC input power rating of a rectifier is selected to meet field requirements or available AC power at the project site. Choices here include 115, 208, 230 and 480 volts with combination choices and phasing options.

Rectifier Output Control - Choices to control the DC output of the rectifier includes manual voltage control link bars (most common), tap switches, electronic voltage, current or potential control and variable transformers (Variac). If link bars are selected, manufacturers offer a standard number of coarse and fine links (i.e. 3 coarse & 6 fine) but other options are available to suit the requirement.

Cooling - All rectifiers generate heat, much like the engine in a car, and that heat must be removed for the rectifier to operate properly. The two rectifier cooling choices are air or oil:

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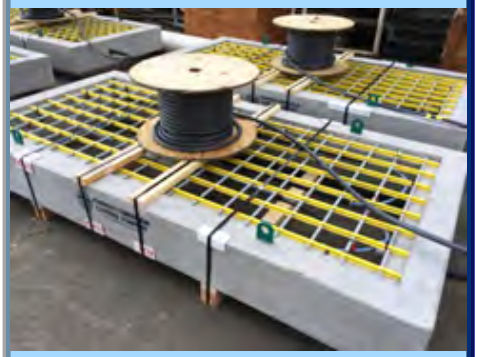
Undersea Anode Sled Design



Farwest recently assisted a customer with the design and supply of custom-made impressed current anode sleds to protect steel, dock support piles in the Chesapeake Bay. The design of anode sleds can be challenging as many special design elements must be considered. These include high CP current requirements, sled distance from structure (relating to cable resistance), the potential for sled or cable damage, water depth, movement and temperature, installation techniques and more.

On this project, the provided sleds utilized a reinforced concrete frame for structural support and weight, MMO anodes for high current output, special cable splices and a fiberglass grating system to protect the anodes from damage. Due to the weight and size of the sleds, special consideration was also given to shipping and handling of the sled assemblies, which were ultimately delivered to the job site in excellent condition.

If you have a similar project need, please contact Farwest customer service personnel for assistance.

Product Endorsement

Royston R28 Zero VOC Mastic

Royston R28 Zero VOC Rubberized Mastic is a thixotropic brush applied asphalt coating for below grade applications. It offers the ease of application of standard mastic coatings but uses a VOC exempt solvent to obtain its 0 lb/gal VOC rating, which passes California's toughest VOC regulations.

R28 Zero VOC Mastic is easy to apply by brush or rubber glove. Due to its thixotropic nature it resists drips and sags during application, but will become more flowable the more it is mixed. It is typically applied in two or three coats that each has a WFT of 10-15 mils. The first coat must dry to the touch before application of the second coat, which is about 30 minutes. A good rule is to never apply more than 30 mils in a single coat to prevent mud cracking. The mastic should be sufficiently dry after 1-1/2 hours for light handling and backfilling. Low temperature or high humidity conditions will lengthen the dry time.

The service temperature range is -40F to +250F. It is available in 1 Gallon Cans and 5 Gallon Pails and for optional reinforcement, Royston Glas-Wrap can be applied over the mastic or between mastic layers, giving the coating added strength and impact resistance.

Royston R28 Zero VOC Rubberized Mastic offers a time proven technology that forms a corrosion preventing, chemical resistant bonded coating that will not, craze, crack, check or alligator while providing corrosion protection to metal fittings, flanges, valves, tanks, mechanical couplings, anode connections and other difficult and irregular configurations.

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Innovation Award

Farwest Corrosion was honored by *Material Performance* magazine for the "Corrosion Innovation of the Year Award" in March at the NACE Expo in San Antonio, Texas. This award was in recognition of our PowerMag 1000, an automatic potential, magnesium anode controller used for water storage tanks. The controller does not require any external power and provides "IR drop" free potential measurements. Congratulations to John Bollinger PE, the designer and inventor of the PowerMag 1000, for his ingenuity and work on the product.

Learn more about the PowerMag 1000 here

Farwest Expansion and Relocation

Over the last six months, Farwest has expanded and relocated the following locations:

Southern California: We relocated and expanded our headquarters to a 90,000 sq. ft. building, which will house our warehouse, material sales, production, accounting, engineering, and construction operations. This new space doubles our footprint and will allow continued growth in the cathodic protection and corrosion control industry. The new address is 12029 Regentview Avenue, Downey, CA 90241-5517 and our telephone number remains as it was, 310-532-9524.

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Gulf Coast Region: We're pleased to announce that we've added an additional 6,200 sq. ft. of office/warehouse space to our existing 9,100 sq. ft. building in Humble (Houston), Texas. This 15,300 sq. ft. facility will provide needed space to meet the products and service requirements of Farwest's clients in the region and to accommodate continued growth.

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Rocky Mountain Region: Our Denver facility relocated and expanded to a 19,274 sq. ft. office and warehouse building located at 11809 E. 51st Avenue, Denver, CO 80239. The larger facility will accommodate continued growth in the Rocky Mountain region and allow for an expanding array of cathodic protection and corrosion control related products and equipment.

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