

Finding A Reliable Product Solution for Corrosive Jobsites Is Not As Difficult As You Might Think

Randy Cox
Colburn Electric
Eureka, CA

I have worked extensively overseas and in 22 states across the U.S., but in my own backyard of Crescent City, California is a wastewater treatment facility that has the distinction of being the most corrosive jobsite that I have ever dealt with.

The average rainfall here is more than 60" per year. Our job location borders the ocean beach. Chemicals used in the wastewater process combine with salt air from the Pacific to create the ideal breeding ground for corrosion. For that reason, when it comes to reliably protecting electrical raceways and connections, specifying the "right" conduit product is essential to project survival and success.

With regard to this particular wastewater project, the design firm, Brown & Caldwell Engineering, specified PVC-coated galvanized rigid conduit for all outdoor and corrosive areas but made it our responsibility as contractors to select the brand of conduit to be used. In doing so, we feel that it is vital to consider not only the upfront cost advantages of one product versus another, but the long-term potential costs based on what is known about product performance and service life. The cost to a utility --- or any type of plant --- due to downtime from product failure, is extremely high. We have seen many cases where corrosion damage has harmed the operation of a facility because short cuts were taken during the product selection process. Some people feel they can live with substandard equipment and systems, but that approach is expensive and potentially unsafe. We believe that buying a product that does what it is intended to do invariably represents the best cost-choice over time.

The "right" product is the product with proven performance and service life.

I have been familiar with PVC-coated conduit since 1990, first as an installer and now supervising the installation of this product. The most effective way to find the best product for any given application is to research the product to determine if it has been tested for product performance and service life by an independent, objective source. This is especially important with a product line such as PVC-coated galvanized rigid conduit because all brands available in the U.S. meet exactly the same UL 6 standard and carry the same UL label relating to safety conformance. However, that does not mean that all brands will perform equally because not all brands have passed the same third-party tests designed to evaluate product performance and predict service life.

Specifically, not all PVC-coated galvanized rigid conduit brands are authorized to carry the ETL-Verification label predicting product service life based on having passed the stringent requirements of ASTM D870 and ASTM D2247 --- the two accepted tests designed to predict service life of a coating under the two most common conditions that affect adhesive bonds: heat and humidity.

ETL-Verification is authorized by Intertek, the world's largest independent testing, inspection and certification laboratory and verified products are subject to quarterly audits to ensure ongoing compliance. The significance of this is that ETL testing, and consequently ETL-Verification, is based on actual product performance as a predictor of reliable service life. Some brands therefore, have a documented, proven ability to perform in a corrosive environment over an extended time --- a fact

which has been evaluated and confirmed by a world-recognized, third-party source

We use Plasti-Bond RedH₂OT PVC-coated galvanized rigid conduit on all of our jobsites because that brand carries the ETL label and therefore represents proven reliability. Moreover, to further educate ourselves we have visited the plant where Plasti-Bond is manufactured and have participated in a unique, instructional course called Corrosion College.

Corrosion College: helping professionals make knowledge-based decisions

Corrosion College is a hands-on short course that provides proven solutions for the prevention of industrial corrosion through classroom and interactive experience. Offered once a month within a specialized facility in Gilmer, Texas, Corrosion College grants 1.5 Continuing Education Units (CEUs) to participants for completing the program successfully. CEUs are available from either Purdue University or Kilgore College. In addition, Corrosion College was recently approved by The Practicing Institute of Engineers in New York State for granting 15 Professional Development Hours (PDHs).

The importance for Corrosion College may be difficult to measure for businesses that don't consider how much corrosion can cost them. After I attended the course I was significantly more alert to the fact that corrosion damage is extremely prevalent and incredibly costly. In addition to educating participants about the causes and methods for preventing corrosion, Corrosion College provides hands-on guidance in the proper installation of anti-corrosion products such as PVC-coated conduit. I feel that this experience has given our company the ability to save our customers an impressive amount of money year-in-and-year-out.

Conclusion:

It all comes down to knowledge: Knowledge of what product has been proven to effectively fight corrosion; Knowledge in how to identify and fight the high cost of corrosion by properly using the best available products such as Plasti-Bond RedH₂OT PVC-coated galvanized rigid conduit.

For more information visit these websites:

www.plastibond.com

www.corrosioncollege.com