

## **Choosing the Best Enclosure for a Highly Corrosive Wash Down Room**

**The Challenge: Housing and protecting sensitive electrical components** The Monterey Bay Aquarium (<http://www.mbayaq.org>), with more than 35,000 animals and plants representing over 550 species of fishes, invertebrates, mammals, reptiles, birds and plants, needed to move its existing electric room into one of its wash down rooms. After discussions between Stahlin, and the project's electrical installer, Cupertino Electric, Inc. (CEI), San Jose, CA, it was determined that to properly house and protect important electrical wire management components a customized enclosure would need to be built. Consequently, an investigation of modifiable enclosure options was begun.

### **The Problem: Corrosion control in a wash down room**

Because, in this application, electrical wire management components were to be located in the wash down room at the aquarium, enclosure options were limited to either Type 304 stainless steel or a composite fiberglass NEMA Type 4X rated enclosure. Type 4X enclosures are used for indoor or outdoor applications to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, hose-directed water and corrosion. They are also rated based on their ability to remain undamaged by the external formation of ice on the enclosure. Due to the high price of steel for a Type 304 enclosure compared to the cost of a Type 4X composite fiberglass enclosure, everyone involved in this project was inclined to select a non-metallic enclosure option. Weight considerations --- the fact that this enclosure needed to be wall mounted --- was the final factor in them choosing to go with a significantly lighter weight non-metallic enclosure for this application.

### **Finding an Enclosure Supplier that was up to the challenge**

A critical step still remained: finding an enclosure manufacturer that offered the capabilities to effectively produce a customized composite enclosure and who could deliver product within less than a month. At this point in the project, Electrical Distributors, in San Jose, CA, was able to contribute through its knowledge of Stahlin Non-Metallic Enclosure and Stahlin's ModRight™ Program --- an in-house service that offers the capability of producing a unique custom design through a hand lay-up process. Such products can also be pretested for effectiveness making them ready to use upon delivery. Electrical Distributors helped define the necessary specs, thereby enabling Stahlin to quickly expedite the customized order and ship to the end-user well within the required turnaround time.



**The Results: A properly customized enclosure that handles the corrosive environment in the Monterey Bay Aquarium wash down room**

The team at Stahlin Non-Metallic Enclosures worked with installer CEI's CAD drawings for an enclosure size of 78" x 38" x 11. And after some engineering clarifications the specified enclosure was ready to be produced using the hand-lay up process. Hand-lay up is an open molding process in which components or successive plies of reinforcing material or resin-impregnated reinforcements are applied to the mold, and the composite is built up and worked by hand. After the enclosure was molded Stahlin took time to perform proper wash down testing at its facility in Belding, Michigan to ensure it would meet the demands at the aquarium. The enclosure shipped within two weeks, was quickly installed at the Monterey Aquarium, and has performed as required by offering reliable protection for important electrical wire management components in this very demanding wash room environment.

For Additional Information: Cupertino Electric, Inc. (CEI) designs, installs, commissions, upgrades and maintains electrical infrastructure systems for facilities from mission critical data centers to commercial and industrial buildings. Cupertino Electric, Inc.'s highly skilled and experienced employees are engaged in projects nationwide with headquarters in San Jose, California, with additional offices in San Francisco, California and Phoenix, Arizona.

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Electrical Distributors has thrived by providing customers with outstanding service for over 50 years. Electrical Distributors Co. located in San José, California started with 3 employees. Today, the company has 4 branches and over 100 employees. 1135 Auzerais Street San Jose, CA 95126 TELEPHONE: 408-293-5818 FAX: 408-287-1152  
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