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The Easy Way to Extend Electrical/Electronic Service Life

Electronics and electricals have undoubtedly become an integral part of everyday life. Without them, normal activity stops and efforts to repair the failed component become top priority. Unfortunately, many do not realize that failures and malfunctions due to corrosion can be easily mitigated with the proper preventative maintenance plans in place. Sometimes, the answer is as simple as installing a Cortec® VpCI® Emitter.

Corrosion Challenges for Electronics/Electricals

Some environments are especially aggressive to electronics and electricals. These include wastewater treatment facilities, offshore/marine environments, pulp and paper mills, and outdoor installations. For example, one wastewater treatment facility had problems with one or two pumping-station HMI panels failing every six months at a replacement cost of



\$15,000-\$40,000. Even new electronics are at risk for corrosion during the shipping process, when they may pass through a variety of climates and travel on container ships exposed to ocean air with high chloride content. All these environmental factors can accelerate the risk of corrosion and shorten a component's life cycle.



Vapor phase Corrosion Inhibitors

An outstanding form of protection particularly suited to electrical enclosures is Vapor phase Corrosion Inhibitor Technology. This may be applied in the form of a VpCI®-101 or VpCI®-111 Emitter cup placed inside the control panel or cabinet. Vapor phase Corrosion Inhibitors diffuse out of these devices, disperse throughout the enclosure, and are attracted to metal surfaces where they

adsorb, forming a protective molecular layer that inhibits the corrosion reaction. These molecules do not interfere with electronics performance and simply float away when the enclosure is opened.

Three Scenarios of Electronics Protection

There are three main stages of electronics protection.

1. Shipment of New Components. While external protection such as VpCI®-126 Film or other materials is critical, an excellent practice for electronics manufacturers is to install a VpCI® Emitter inside as part of their standard shipping procedure. These VpCI® Emitters not only provide corrosion protection during shipping but can continue to provide corrosion protection for one to two years after the equipment is installed.



- 2. Preventative Maintenance. Control panels, circuit breaker boxes, and equipment electrical enclosures should also be protected against premature corrosion and failure while in use. A good rule of thumb is to reapply VpCI® Emitters every two years, especially when the cabinet is located in a harsh manufacturing, wastewater, or outdoor environment.
- 3. Mothballing and Layup. Preservation specialists mothballing a facility or stacking a rig should not overlook internal preservation of electrical cabinets. This is easily addressed by installing the appropriate VpCI[®] Emitter based on size. For example, the VpCI[®]-101 Device protects 1 ft³ (28 L); the VpCI[®]-105 Emitter protects 5 ft³ (0.14 m³); and the VpCI[®]-111 Emitter protects 11 ft³ (0.31 m³).

Take the Simple Step Toward Corrosion Protection

Whatever the situation, internal protection of electronics and electrical cabinets is one of the easiest parts of any corrosion prevention plan. What may seem like a small step can have potentially big payoffs in terms of time and money saved and is worth the small investment for long-term results. Contact Cortec® today to learn more about using VpCI® Emitters for electronics!

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