

CORROSION PROTECTION OF ELECTRICALS

One of the beauties of a new facility is that everything has a fresh start, with less chance of breaking for many years. That does not, however, mean the facility should not take precautions against corrosion. In fact, protecting electricals and electronics from corrosion can be one of the first steps towards ensuring a long, healthy service life through good preventive maintenance habits.

High cost of corrosion in electricals and electronics

Corrosion can cause electricals and electronics to malfunction and fail. The risk is higher in a hot, humid climate and/or near the high-chloride sea spray of the ocean. Often, the corrosiveness of a facility stems

from its industrial activities. For example, wastewater treatment, pulp and paper manufacturing, as well as chemical processing, create highly corrosive industrial environments.

Possible results of accelerated corrosion in these facilities include electrical shorts, frequent repairs or early replacements of expensive equipment. Moreover, the cost of downtime itself can be substantial due to lost production.

The ease of corrosion protection

Corrosion can be prevented by the use of VpCI® Emitters, small devices that contain vapour phase corrosion

inhibitors. Like the workings of a diffuser or air freshener, these devices release vapours that fill the enclosed space.

These corrosion-inhibiting vapours are attracted to exposed metal surfaces, where they adsorb, forming a protective molecular layer which discourages the corrosion reaction in the presence of oxygen and moisture. If the door of the





Good preventive maintenance habits

Cortec® recommends installing and replacing VpCI® Emitters inside electrical compartments once every two years. Starting this practice at the beginning of a plant's life forms a protective habit that minimises the hassle of corrosion damage and failure on electronics and electricals over time.

Application is as simple as calculating the size of the compartment and placing the proper size of VpCI® Emitter inside (eg one VpCI®-105 Emitter protects 0,14m³ of space, while one VpCI®-111 Emitter protects 0,31m³ of space).

The sticker on the convenient self-adhesive emitter cup backing can be placed next to the emitter as a reminder of when the emitter needs to be replaced. ■

electrical cabinet is briefly opened, the vapour phase corrosion-inhibiting layer will replenish itself once the door is closed again. VpCI® Emitters typically offer enough corrosion protection for at least two years in a fully enclosed space.

For additional protection in enclosures that are vented (and therefore lose some of their corrosion-inhibiting vapours over time), a light coating of ElectriCorr™ VpCI®-238 can be sprayed on metal contacts and wires inside the panel. In environments such as wastewater treatment facilities with a high amount of H₂S, maintenance can add further protection by placing a Corrosorber® cup inside the compartment to absorb the corrosive gases.

