

Service Reference

TOPIC: Restarting Anolyte System After Unexpected Shut Down

Unexpected events may call for plants to be idled or closed down for many weeks. Electric power and a source of DI water may or may not be available during this period. In addition, the only persons who may be looking at the equipment on a regular basis are plant security personnel.

Best Practices are to keep the ion-exchange membrane wet and take steps to suppress the growth of biological organisms. Thus, keep the anolyte pump running 24/7 and use approved biocides on a rotating basis, so the organisms do not develop immunities.

Since the goal is to re-start the E-coat paint system once the plant is re-opened, what can or should be done before the plant is idled? This document will consider two scenarios: First, electric power and DI water are available. Second scenario is no electric power or DI water available.

Tasks to be completed regardless of scenario

Anode Cells should be full of anolyte or DI/RO water. Some fluid will be lost to evaporation; however, since the exposed surface area (i.e. inside the Neck of the TECTRAN Cell) is low compared to its total volume of anolyte, evaporation should be at most 1 or 2 inches per month. An approved biocide should be added (at the upper end of the dosage recommendation range) into the anolyte tank and allowed to mix for 4 hours (minimum) with the make-up RO water valve turned off.

**Note-Only use biocides approved by your paint supplier & UFS Corporation.*

Electric Power & DI Water Available

Keep the anolyte pump running 24/7 in order to suppress the growth of biological organisms.

At some point, the effectiveness of the biocide may begin to degrade. If this begins to happen, add more biocide (again at the upper limit of the dosage range) and allow to mix. Repeat as often as necessary.

If more than 2 inches of liquid is lost in the anolyte tank, refill with DI



water and add an appropriate amount of biocide based upon the lost volume of anolyte since the last addition was made.

Electric Power & DI Water Not Available

If the paint tank is drained, rinse the paint solids off the exterior of the Anode Cells with a DI water hose (do not use a power washer as this can damage the fragile ion-exchange membrane). If possible, order poly sleeves from UFS for each of the TECTRAN Tubular Anode Cells, so they are on hand before the E-coat tank is drained. Poly sleeves cover the exterior of the TECTRAN Cells and help to retain moisture in the Cell during the time E-coat paint is absent from the paint tank.

When re-starting the system, review the original Anode Cell & anolyte circulation manuals since the system will have to be re-started just as when it was first commissioned. Contact UFS Corporation for further recommendations.

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