



Quadrasperse[®] Solves Air Compressor Fouling Problems at Automotive Assembly Plant

BACKGROUND

An automotive assembly plant was experiencing calcium phosphate (CaPO₄) fouling in air compressor intercoolers. The intercooler is a shellside horizontal heat exchanger that has low flow velocity (1 fps) and skin temperatures as high as 230°F. The local municipality adds zinc orthophosphate to the water for corrosion control with typical PO₄ levels greater than 1 ppm in the makeup water.

The corrosion and deposit control program in use was HEDP and HPS terpolymer. The biocide program in use was bromochlorohydantoin.

PROBLEM

CaPO₄ deposits were forming in the intercoolers causing high temperature alarms and shutdown of the air compressor units. HEDP reversion to orthophosphate because of oxidation by bromine, as well as orthophosphate introduced by the municipality, was the root cause.

SOLUTION

Because of the outstanding high temperature and oxidation stability of the Quadrasperse[®] quadpolymer, it was recommended for this critical process.

RESULTS

Use of Quadrasperse[®] immediately stabilized the rising exit air temperatures of all units. Each unit was cleaned once more and was never cleaned again in over two years of continuous operation.

After one year of excellent results, the system conductivity level was increased to levels never before attempted prior to Quadrasperse[®] to conserve water and chemical costs at the plant. The result has been a total treatment cost decrease of over 20 percent in dollars per thousand cubic foot of compressed air produced. The resulting cooler air temperatures have also significantly decreased energy usage in the air compressor system.

SUMMARY

Quadrasperse[®] not only reduced downtime by solving fouling problems but also lowered water, chemical, and energy costs at this auto assembly plant.

Contact your local ChemTreat Rep to find out how we can help you reduce your plant's operating costs.

(800) 442-8292

