CASE HISTORY
#0-20

CL206 Eliminates Slime in Cooling Water

BACKGROUND

A Midwestern tire manufacturer developed a tenacious slime issue in their cooling water system. The slime coated the internal surfaces of the cooling tower, plugged screens, and coated sections of pipe inside the plant. Operations had to clean the screens daily.

There were three factors that lead to the tenacious slime. The first issue is system design. The cooling water is used to cool the tire molds. However, during the vulcanization process, steam, hot water, and cooling water are all mixed together. This unique combination results in oil and greases leaching from the rubber tires and contaminating the cooling water. The high level of organics is the primary food source for the slime.

The second factor was the limited biocide options as a result of the plant's Quality Control department. Only nonoxidizing biocides can be applied, because oxidizing biocides would interfere with the vulcanization process and affect tire quality. Daily treatment with 1.5 percent isothiazoline at 75 ppm and surfactant at 10 ppm was slowly improving the condition until a third adverse factor was introduced. A new mold release agent provided the additional food that overwhelmed the biocide program.

SOLUTION

Water and slime samples were sent to ChemTreat's laboratory in Virginia to determine the best biocide approach. The biocide efficacy study determined that CL206 at 20 ppm would perform best by providing a quick kill and would be cost effective. CL206 reduced the biocide treatment costs by 50 percent.

CL206 was fed at 20 ppm, three times per week. Within 30 days the slime masses were completely eliminated. Operations have been able to reduce cleanings from every day to the regular preventative maintenance levels.

A significant side benefit was a dramatic reduction in corrosion rates. By removing the slime and exposing the metal surfaces to the inhibitors in the water, the mild steel corrosion rates were reduced from 5.0 mpy to 0.5 mpy.

Cooling Tower Deck BEFORE CL206 Addition

Cooling Tower Deck AFTER CL206 Addition