



Heavy Industrial Laundry

This facility washes heavily soiled towels from the ink printer and furniture polishing industries. The wastewater generated is very concentrated with metals and hydrocarbons making it difficult to treat in their DAF pretreatment system. The facility was using conventional chemistry with sulfuric acid, organic/inorganic coagulant, metal precipitant flocculant, and Harborlite (filter press precoat). The treatment was working most of the time with intermittent violations for Copper (over ppm) and Zinc (over ppm).



New treatment, flocked left, effluent right

The sludge generated is dewatered with a plate and frame press. The precoat required 8 bags of Harborlite as a precoat otherwise the sludge would not release the entrained water or release from the plates when opened for cleaning. These 8 bags accounted for a press volume of 4 cubic feet, so the actual sludge dewatered in the 12 cubic foot press was 8 cubic feet. The facility made 3 press loads a day and filled one 20,000 lb. dumpster for haul off per week. The disposal cost per dumpster is \$1,600 for a total haul off cost of \$6,400/month. The average chemical cost was \$11.00/1,000 gallons.

The facility was interested in looking at the Floccin products as a means to reduce costs and maintain compliance with the metal limits. Integrated Engineers formulated a special product to remove the metals and decrease the sludge generated. The result was a similar chemical cost at \$11.00/1,000 gallons, reduction in metals to below discharge limits, and a reduction in sludge. The reduction in sludge generated is from having to use only 1 bag of Harborlite/press load, which allows over 11 cubic feet of press for dewatering the sludge. The facility now makes 2 press loads/day and the cake is significantly drier saving labor at 2 hours/day for the operator. The drier sludge is also lighter, so the facility can put more press loads in each disposal bin as the cost of disposal is based on the total sludge bin weight. Overall savings are in excess of \$80,000/year.



Dry Sludge w/less precoat