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# Electrocoagulation/flotation followed by fluidized bed anaerobic reactor applied to tannery effluent treatment

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**ABSTRACT**

A series operation of electrocoagulation/flotation (ECF) and fluidized bed anaerobic reactor (FBR) was conducted to treat tannery wastewater. Although both reactors were operated in fill- and-draw (batch) mode, effluent from ECF was fed to FBR in order to remove the remaining soluble biodegradable organic matter. Operating with a hydraulic residence time of 65 min, the ECF reactor reached 59% COD removal and FBR reached 74% COD removal with an 8 h residence time. Time profiles for wastewater treatment of 65 min in ECF plus 12 h in FBR, showed 39% removal of COD in the first 10 min and 84% in the remaining 775 min of the overall operation cycle. Although turbidity in the raw influent reached levels beyond the upper limit of detection for the turbidimeter, values as low as 10 uT were detected after 65 min treatment in ECF. However, after being treated for 8 h in FBR, the efficiency of turbidity removal was affected by solids settling in the recirculation basin.

*Keywords:* Fluidized bed; Anaerobic treatment; Electrocoagulation; Flotation; Tannery effluent; Biofilm

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