



INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

"KEY ELEMENTS FOR A SUSTAINABLE WORLD: ENERGY, WATER AND CLIMATE CHANGE"

Zero Discharge of Galvanoplasty's Effluent - Use of a Reactor for High Efficiency of Electrocoagulation-Flotation Combined with Ion Exchange Resins for Plating Wastewater Treatment

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Abstract

This paper presents some results obtained after implantation of a reactor for high efficiency of electrocoagulation-flotation (ECF-AE) to replace the method of physical-chemical reactions traditionally used in plating wastewater treatment (ETEG) of the Termogal Tratamento de Superfícies Ltda, Itu-SP, Brazil. The effluent leaving the reactor after ECF-AE filtration of solid particles is percolated into ion exchangers (IER) to ensure the removal of contaminants levels of heavy metal waste. The effluent is reused continuously in a closed circuit. After the implementation of the ECF-AE reactor, there was a reduction of up to 91% in the use of chemical reagents in ETEG, and improving the quality of the effluent after removal of the reactor compared to the treated effluent by conventional physico-chemical method.

Keywords: Electrocoagulation, electroflotation, electroplating, ion exchange resin, reuse.
