

The impact of applied voltage on electro dialysis performances treating plating wastewater

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ABSTRACT

Electrodialysis (ED) is a new advanced separation process commonly used to produce drinking water in water systems and treat industrial wastewater. The paper presented describes an experimental study to reduce heavy metals (mainly copper and nickel) in plated wastewater using the ED process. The main advantages of ED process application in water treatment are considered high efficiency and selectivity. Basically, the ED process consists of an ion exchange membrane, and the driving force required for the operation of the process is potential. After passing through the ion selective membrane, it is transferred to the solution on the other side due to the presence of potential ions from the solution on one side. We investigated the effect of applied voltage on ED performance in treating plated wastewater. When the applied voltage increased and the supply concentration decreased, the concentration of the diluent decreased and the efficiency of removing heavy metals in the wastewater improved

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