



ELECTRODEPOSITION OF COPPER AND SILVER FROM WASTEWATER AT FLOW-THROUGH POROUS ELECTRODES

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Abstract

Conversion of soluble precious metals into a solid form for further reuse was studied by using an electrochemical deposition approach. In this study, the experimental parameters were investigated, which include operation time and initial concentration of copper and silver ions. A new porous, conductive organic cathode was obtained from polyurethane foam with chemical oxidative polymerization method. The maximum value of the purification percent (99%) is observed for CFC after the solution of copper ions has been processed during 90 minutes. For CPC, the maximal value is 81%, which is reached after 150 minute of the electrolyte treatment. For silver ions, maximal value demonstrated by ED with the help of CFC after 80 minutes is 93%, while for the copper ions this value is reached only after 150 minutes of processing.

Keywords: wastewater, electrodeposition, silver, copper, porous electrodes

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