Effect of Magnetic Fields on the Behavior of Iron Electrodeposition

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The behavior of iron deposition in a horizontal magnetic field was studied by electrochemical analysis. The influences of cathodic polarization curve, cyclic voltammetry, potentiostatic polarization and electrochemical impedance on the process of iron electrodeposition under magnetic field in different directions to current were investigated. The results showed that the mass transport process and charge transfer process were enhanced by applying magnetic fields.

Keywords: Electrodeposition; Magnetic field; Iron; Electrochemical analysis; MHD effect

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