The influence of SiC particles on the corrosion resistance of electroless, Cu-P composite coating in 1 M HCl

Abstract

The present paper aims to compare the corrosion resistance of the electroless Cu-P-SiC with Cu-P composite coating on carbon steel in 1 M HCl solution by the weight loss, potentiodynamic polarisation and electrochemical impedance spectroscopic (EIS) techniques. The study reveals that, the corrosion current density (I corr) and the double layer capacitance (C dl) values decrease, the charge transfer resistance (R ct) and inhibition of efficiencies (IE %) increase with the incorporation of SiC particles in the Cu-P matrix indicating the improvement in corrosion resistance.