

## **Effect of SiC on the corrosion resistance of electroless Cu-P-SiC composite coating**

### **Abstract**

In this work, Cu-P-SiC composite coatings were deposited via electroless plating with the addition of sodium hypophosphite ( $\text{NaH}_2\text{PO}_2$ ) as a reducing agent. The coating compositions deposited were determined by using energy dispersive X-ray spectroscopy (EDX). The surface morphology of the coatings that were analyzed using scanning electron microscopy (SEM) showed that SiC particles were uniformly distributed by virtue of surfactant addition and mechanical stirring. The anti-corrosion properties of Cu-P and Cu-P-SiC coatings in NaCl and HCl solutions were investigated by the weight loss and potentiodynamic polarization techniques. The results showed that the corrosion resistance of Cu-P-SiC coatings was superior to that of electroless Cu-P coatings and carbon steel substrates in various concentrations of NaCl and HCl solutions. © 2010 ACA and OCCA.