



Corrosion Protection Studies of Modified Mild Steel Surface in Hydrochloric Acid Medium

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ABSTRACT

The modification of mild steel surface was achieved by immersion method using a condensation product formed between furfural and amino benzoic acid (FFBA). The product molecule possesses heterocyclic ring, imine group and -COOH group. The corrosion protection of modified mild steel surface was investigated using electrochemical method. The studies pertain to the effect of surface treatment time, concentration of the surface treatment solution, acid concentration and temperature. The results showed that the treated mild steel surface possessed good corrosion resistant compare to untreated mild steel. The corrosion protection was interpreted on the basis of formation of protective film on the modified metal surface, which isolates metal surface from the corrosive medium. Scanning electron microscopic analysis, FTIR spectra and UV-Visible spectral studies were carried out to confirm the formation of protective organic layer formed on the modified mild steel surface.

Keywords: Corrosion protection, mild steel, polarization measurements, Tafel lines and SEM analysis.
