

## عنوان مقاله:

Characterization and corrosion protection properties of Polypyrrole/TiO<sub>2</sub> nanocomposite electropolymerized Coatings onto carbon steel in the presence of HTAB and SDS

## محل انتشار:

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## خلاصه مقاله:

Intrinsically conducting polymers (ICPs) due to environmentally friendly properties are becoming an important materials as coatings for corrosion protection of metals. The electrosynthesis of ppy/TiO<sub>2</sub> nanocomposite on carbon steel was prepared in aqueous oxalic medium by means of galvanostatic method in the presence of HTAB and SDS as surfactants. The optimum surfactant concentrations for electropolymerization were chosen in such a way to improve the corrosion protection of the substrate. The coatings were characterized by SEM/EDX and XRD. Corrosion behavior was studied by means of open circuit potential, electrochemical impedance spectroscopy (EIS) and potentiodynamic measurements. The results revealed that coatings prepared in solution with SDS as surfactant provide greater corrosion resistance in comparison to that of the coating with HTAB.

## کلمات کلیدی:

Intrinsically conducting polymers (ICPs), nanocomposite, polypyrrole (Ppy), nanocomposite coating, electrochemical (impedance spectroscopy (EIS

## لینک ثابت مقاله در پایگاه سیویلیکا:

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