عنوان مقاله:

Investigation the Anti-Corrosion and Adhesion Properties of Novel MultiCationic Conversion Coating Applied on Steel Substrate

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خلاصه مقاله:

Conversion Coatings are one of the effective ways for improving adhesion of organic coatings to metallic substrates and consequently increasing anti-corrosion performance of a fully coated system. In the current research, multi-cationic conversion coating formed from sources such as hexafluorotitanic acid, sodium molybdate, phytic acid and nickel sulphate was studied and investigated. Results obtained from electrochemical impedance spectroscopy and polarization revealed that conversion coating which formed in the presence of sodium molybdate has not appropriate polarization resistance and the reason for this weak performance investigated by field emission scanning electron microscope. Obtained results showed that in the presence of sodium molybdate, there were abundant micro-cracks on the surface of the coating. After optimizing the multicationic conversion coating, an epoxy coating applied on the surface of bare steel and conversion coated one. The results obtained from adhesion and salt-spray tests indicated that the multi-cationic conversion coating causes improvement in adhesion strength of epoxy coating to steel substrate and finally increased the anti-corrosion performance of the system

کلمات کلیدی:

,Conversion coating, Adhesion, Corrosion, Impedance, Polarization, FE-SEM

پوشش تبدیلی, چسبندگی, خوردگی, امپدانس, پلاریزاسیون, FE-SEM