

## عنوان مقاله:

SYNTHESIS AND STUDY OF CORROSION PERFORMANCE OF EPOXY COATING CONTAINING MULTI-WALLED CARBON NANOTUBE/ POLY ORTHO AMINOPHENOL NANOCOMPOSITE

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## نویسندگان:

N. Bahrami Panah - *Department of Chemistry, Payame Noor University (PNU), P.O.BOX ۱۹۳۹۵-۳۶۹۷ Tehran, IRAN*

N. Ajami - *Department of Chemistry, Payame Noor University (PNU), P.O.BOX ۱۹۳۹۵-۳۶۹۷ Tehran, IRAN*

## خلاصه مقاله:

The epoxy coatings containing multi-walled carbon nanotube/ poly ortho aminophenol nanocomposite were prepared and used as anticorrosive coatings. The nanocomposites with different contents of carbon nanotube were synthesized in a solution of sodium dodecyl sulfate and ammonium peroxy disulfate as a surfactant and an oxidant, respectively. The morphology and structural properties were confirmed by Fourier transform infrared spectroscopy and scanning electron microscopy methods. The mean size of nanocomposite particles was ۲۰-۳۵ nm determined by scanning electron microscopy. The epoxy coatings containing the nanocomposites were applied over mild steel panels and their corrosion performance was investigated using electrochemical impedance spectroscopy and potentiodynamic polarization measurements in a ۳.۵ % sodium chloride solution. The results showed that epoxy coatings consisting of nanocomposite with ۱ wt.% multi-walled carbon nanotube exhibited higher anticorrosive properties than other prepared coatings of different carbon nanotube contents, which could be due to the strong interaction between the mild steel surface and the conjugated nanocomposite.

## کلمات کلیدی:

Corrosion, Electrochemical impedance spectroscopy, Multi-walled carbon nanotube, Nanocomposite, Ortho aminophenol

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