

Application of PANI-Mn Nano-Composite for Corrosion protection

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Abstract: India loses around 5-7% of its Gross Domestic Product (GDP) every year due to corrosion. The International Zinc association (IZA) said that the need for immediate and appropriate measures to control further damage. Corrosion is the biggest problems which affect the economy of the country. Corrosion is the deterioration of materials by chemical interaction with their environment or Corrosion is the degradation or destruction of metals by chemical or electrochemical reaction with the surrounding environment. Conducting polymer such as Polyaniline (ES) salt has a variety of application due its inherent high conductivity. Polyaniline (ES) salt is used in the field of nanotechnology for improvement of Sensor, Electronics, drugs, anti-corrosion materials, photonic device and optoelectric device. It is also used in removal of dyes from wastewater, removal of heavy metals from aqueous solution. When Polyaniline is doped with different metal oxides nano particle there is formation of Polyaniline Nano-composite. The PANI-Mn Nano-composite having great potential to protects the metal from corrosion. In this research the main focus on synthesis and characterization of PANI-Mn Nano-composite and its application in controlling the corrosion.

Keywords: Coating, Electrochemical deposition, SEM, TEM. Nano-composite.

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