

The Investigation of Zinc-Rich Paint (ZRP) Behavior in NaCl Solution by Electrochemical Methods

Azizul Helmi Bin Sofian, Kazuhiko Noda

Faculty of Chemical and Natural Resources Engineering, Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Kuantan, Pahang, Malaysia

ABSTRACT

Zinc-rich paints are coating materials designed to improve corrosion especially in marine and saline environments. Two types of zinc-rich paints (ZRPs) were employed in this research: 74 % ZRP and 96 % ZRP. The effectiveness of zinc coating systems has been analyzed in 0.5 M NaCl solution. Corrosion protections of coated metallic substrates were investigated using polarization measurement and electrochemical impedance spectroscopy (EIS). Electrochemical test showed that metallic substrates coated with 96 % ZRP have better corrosion resistance (galvanic protection) while those coated with 74 % ZRP have better barrier effect.

KEYWORDS: Electronics and Microelectronics, Instrumentation

DOI: [10.1007/978-4-431-54439-5_1](https://doi.org/10.1007/978-4-431-54439-5_1)