

ABSTRAK

Arabic Gum diketahui dapat digunakan sebagai *inhibitor* korosi, terutama dalam lingkungan asam (HCl). Penelitian ini menggunakan logam alumunium 1100 (99%) dengan variasi *inhibitor arabic gum* 1%, 2%, dan 3% pada media larutan asam klorida (HCl) konsentrasi 0,5M. Penelitian ini memperoleh efisiensi *inhibitorarabic gum* pada logam alumunium terhadap media asam klorida (HCl) sebesar 92,83%. Pengujian dengan metode elektrokimia, didapat arus tertinggi sebesar $4,01 \times 10^{-6} \text{A/cm}^2$ *inhibitor* 1% dan arus terendah $1,43 \times 10^{-6} \text{A/cm}^2$ *inhibitor* 3%. Pada hasil SEM dengan pembesaran 500x menunjukkan morfologi permukaan alumunium dengan *inhibitor* 3% perendaman 1 hari sebagian area terlindung dengan baik namun pada area tertentu mulai terbentuk lapisan oksida dan terbentuk lubang-lubang (*PittingCorrosion*). Pada perendaman 5hari permukaan mengalami pembentukan lapisan oksidasi serta struktur pemetaan merata (*Uniform Corrosion*) berdasarkan lamanya waktu perendam.

Kata kunci: Alumunium, Arabic Gum, Inhibitor, Korosi



ABSTRACT

Arabic Gum is known to be used as a corrosion inhibitor, especially in an acidic environment (HCl). This study used 1100 (99%) aluminum metal with variation of 1%, 2%, and 3% arabic gum inhibitors on hydrochloric acid (HCl) concentration medium 0,5M. This study obtained the efficiency of arabic gum inhibitors on aluminum metal against hydrochloric acid (HCl) media of 92.83%. Tests with electrochemical method, obtained the highest current of 4.01×10^{-6} A / cm² inhibitor and the lowest current of 1.43×10^{-6} A / cm² inhibitor. In SEM results with 500x magnification showing aluminum surface morphology with 3% immersion inhibitor partly partially well protected area but in certain area begin to form oxide layer and pitting corrosion (Pitting Corrosion). At 5-day immersion the surface undergoes oxidation layer formation as well as uniform corrosion structure based on the duration of the immersion.

Keywords: Aluminum, Arabic Gum, Inhibitor, Corrosion

