

**PENGARUH INHIBITOR EKSTRAK DAUN INAI (*lawsonia inermis*)  
TERHADAP LAJU KOROSI BAJA ST. 37 DIUKUR DENGAN METODE  
PENGURANGAN MASSA**

**Sri Handani<sup>1</sup>, Sri Wildani<sup>1</sup>, Emriadi<sup>2</sup>**

<sup>1</sup>*Jurusan Fisika FMIPA Universitas Andalas, Padang*

<sup>2</sup>*Jurusan Kimia FMIPA Universitas Andalas, Padang*

**ABSTRACT**

The corrosion tests and micro structure analysis of St. 37 steel had been investigated. These investigation were conducted in nitric acid (HNO<sub>3</sub>). The range of concentration added was from 0-0.5 N with extract of henna leaves as inhibitors. The method used was losing mass by measuring loss mass of steel before and after corrosion. The boiling method was used to get the extract of henna leaves. Optical photo Carton Stereo Trinokuler were used for micro structure. Corrosion rate can be reduced by adding inhibitor and inhibition efficiency is measured if its ability to suppress corrosion. The result of the immersion tests show that the inhibition efficiencies are different on 0-0.5 N concentration are 81.96 %, 78.92 %, 53.74 %, 44.85 %, 44.45 % and 39.65 %. Addition of 50 g/1000 mL extrac of henna leaves results in the highest efficiency for HNO<sub>3</sub> environment. The photo showed the surface structure of steel before corrosion, in layer with extract of henna leaves and after corrosion in medium nitric acid.

**Keywords:** *Corrosion rate, Inhibition efficiency, Extract of henna leaves, Nitric acid.*

**DAFTAR PUSTAKA**

1. Widharto, Sri, *Karat dan Pencegahannya*, PT. Pradnya Paramita, Jakarta, 2001.
2. M.G. Fontana, *Corrosion Engineering*, 3<sup>rd</sup> ed Mc. Graw Hill Book Company, New York, 1987, 4; 14-31; 91; 304-313.
3. R.R. Pierre, *Handbook Corrosion Engineering*, New York, 1999.
4. I.L. Rozenfeld, *Corrosion Inhibitor*, 1<sup>st</sup> ed, Mc. Graw Hill Book Company, New York, 1981, 182; 191-192.
5. Mooryanti, *Alam Sumber Kesehatan*, Balai Pustaka, Jakarta, 1998.
6. K.R. Trethewey and J. Chamberlin, *Korosi Untuk Mahasiswa Sains dan Rekayasawan*, Alih Bahasa Alex Tri Kantjono Widodo, Gramedia Pustaka Utama, Jakarta, 15; 228; 282-283.