

## INTISARI

### INHIBISI KOROSI BAJA St.37 DENGAN EKSTRAK KULIT BUAH MARKISA UNGU (*Passiflora edulis var. edulis*) DALAM MEDIUM ASAM KLORIDA

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Penggunaan ekstrak kulit buah markisa ungu (*Passiflora edulis var. edulis*) sebagai inhibitor korosi baja St.37 dalam medium asam klorida diselidiki dengan metoda kehilangan berat, *polarisasi potensiodinamik* dan analisis *Scanning Electron Microscopy*. Efisiensi inhibisi tertinggi adalah 96,3284% (metoda kehilangan berat) dan 86,4665% (*polarisasi potensiodinamik*). Efisiensi inhibisi naik dengan naiknya konsentrasi ekstrak, tetapi turun dengan meningkatnya suhu. Kurva *polarisasi potensiodinamik* menunjukkan bahwa ekstrak kulit buah markisa ungu merupakan inhibitor jenis katodik. Analisis *Scanning Electron Microscopy* menunjukkan adanya perbedaan permukaan baja antara baja tanpa perlakuan, baja yang direndam dalam asam klorida dan baja yang direndam dengan asam klorida dengan penambahan ekstrak kulit buah markisa ungu. Adsorpsi ekstrak kulit markisa pada permukaan baja sesuai dengan isotherm Langmuir.

**Kata kunci:** *Passiflora edulis var. edulis*, inhibisi korosi, kehilangan berat, *polarisasi potensiodinamik*, isotherm Langmuir, *Scanning Electron Microscopy*.



**ABSTRACT**  
**CORROSION INHIBITION ST.37 STEEL WITH PURPLE PASSION FRUIT PEEL EXTRACT (*Passiflora edulis var. edulis*) IN HYDROCHLORIC ACID MEDIUM**

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The use of purple passion fruit peel extract (*Passiflora edulis var. edulis*) as a St.37 steel corrosion inhibitor in hydrochloric acid medium was investigated using weight loss method, potentiodynamic polarization and Scanning Electron Microscopy analysis. The maximum inhibition efficiency was found to be 96,3284% (by weight loss method) and 86,4665% (by potentiodynamic polarization). Inhibition efficiency increased with an increase in extract concentration, but decreased with rise in temperature. Potentiodynamic polarization curves indicated that purple passion fruit peel extract behaves as cathodic type inhibitor. Scanning Electron Microscopy analysis showed that a difference between the steel surface without any treatment, the steel is immersed in hydrochloric acid and steel soaked with hydrochloric acid with the addition of purple passion fruit peel extract. Adsorption of passion fruit peel extract on the steel surface according to the Langmuir isotherm.

**Keywords:** *Passiflora edulis var. edulis*, corrosion inhibition, weight loss, potentiodynamic polarization, Langmuir isotherm, Scanning Electron Microscopy

