

The Effect of Adding Green Inhibitor of Pineapple Skin Extract as an Inhibitor of SS 400 Steel Corrosion Rate in Seawater Media

by

Muhammad Fauzi

Study Program of Automotive Engineering, Department of Engineering
Politeknik Negeri Jember

ABSTRACT

Corrosion cannot be avoided but its rate can be slowed down. One way that can be used as a corrosion inhibitor on metals is to use inhibitors. Due to the use of inhibitors that are safe, easy to obtain, biodegradable, inexpensive, and environmentally friendly. Pineapple peel extract can be used as a corrosion inhibitor with a tannin content of 0.28% which inhibits the corrosion rate. The purpose of this study was to determine the effect of the addition of green inhibitor pineapple peel extract as an inhibitor of the corrosion rate of steel ss 400 in seawater media using the weight loss method and the percentage of the most corroded area in the microstructure observation. The method used was an experimental method. The results showed that the lowest corrosion rate was obtained on specimens soaked with pineapple peel extract inhibitors for 4 days with an average corrosion rate of 12,48 ipm while on the microstructure it is known that specimens soaked with pineapple peel extract inhibitors for 4 days can inhibit the occurrence of Corrosion was better with the percentage of area corroded by pineapple peel extract inhibitor 4 days of 24.54% and the area not corroded was 74.46%. The longer the immersion in the pineapple peel extract inhibitor, the more adhesive the extract will be to the specimen which can protect the specimen from direct seawater reaction so that the corrosion resistance will be better.

Keywords: *Inhibitor, Pineapple Peel, SS 400, Corrosion Rate, Microstructure.*