

Analysis of Corrosion Rate and Microstructure on SS 400 Steel with Tuban Beach Seawater Media Using Green Banana Peel Extract Inhibitor, Ahmad Robiul Awal Udin,S.T., M.T (Commission Guide)

Ach Agus Mahendra

Study Program Automotive Engines

Majoring of Technique

ABSTRACT

Corrosion is referred to as rust, and is considered an enemy by most people. Corrosion inhibitors are substances that can reduce metal corrosion when added to a corrosive environment. Corrosion cannot be prevented, but the rate can be reduced. One important component that can affect the corrosion cycle is sea water (NaCl). This study used green banana peel inhibitors because they contain compounds that inhibit the rate of corrosion, namely saponins, tannins, and alkaloids. SS 400 steel is a material because it has good ductility so it will corrode when reacted with corrosive media. The purpose of this study was to analyze the comparison of the corrosion rate of the SS 400 material without using inhibitors and using the green inhibitor of banana peel extract in sea water and to analyze the comparison of the microstructure of the SS 400 material without using inhibitors and using the green inhibitor of banana peel extract in sea water. This research method is an experimental method which is carried out by adding banana peel extract inhibitors with variations in immersion in the banana peel extract and the surface area of the test specimens. The test specimen used is SS 400 steel which will be immersed in a corrosive medium in the form of sea water. The results obtained were that when the specimen was immersed in the banana peel extract inhibitor for 2 days, with an average corrosion rate of 21,86 ipm, it was better than the specimen immersed in the inhibitor for 1 day, which obtained a corrosion rate value of 22,08 ipm. and the influence of the corrosion rate SS 400 steel specimens using banana peel extract can inhibit the corrosion rate.

Keywords : Corrosion, SS 400 Steel, Inhibitor, Banana Peel Extract