ANALYSIS OF MANGO LEAF EXTRACT AS AN INHIBITOR OF CORROSION RATE AND MICRO STRUCTURE IN SEAWATER TESTING IN PROBOLINGGO DISTRICT USING ASTM A53 PIPE

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ABSTRACT

Corrosion or rusting is known as an event of metal damage due to metallurgical factors (in the material itself) and chemical reactions with the environment which causes a decrease in the quality of a metal material. Corrosion occurs due to a redox reaction, where iron will undergo oxidation and oxygen will experience reduction. Iron oxide (rust) can peel off so that gradually the newly peeled surface will experience corrosion. Therefore, it is necessary to inhibit the rate of corrosion using organic materials so that they are environmentally friendly. An inhibitor is a substance that, when introduced into an environment, can delay and prevent corrosion of a metal. In this study, the inhibitor used was mango leaf extract because Probolinggo district is famous for mangoes so the population of mango trees is very abundant. Based on the results of this research, the author found that the best comparison of corrosion rates was the test specimen using inhibitors with a mixture of 10 grams of polyvinyl acetate (PVAC), with an average corrosion rate of 6.7 mpy. Meanwhile, the test specimen with the highest average corrosion rate was the test specimen without inhibitors with an average corrosion rate of 26.8 mpy.

Keywords: polyvinyl acetate, inhibitor, corrosion