Analysis of Bidara Leaf Extract and Tobacco Stem As Inhibitors of Corrosion Rates and Microstructures in Seawater Testing in Bangkalan Regency Using ASTM A53 Pipes

Ahmad Robiul Awal Udin,S.T., M.T. *as Chief Counselor*

RB. Alhumaydi
Study Program of Automotive Engine
Majoring in Technique

ABSTRACT

Corrosion is the process of metal destruction due to electrochemical reactions between metals and their environment. The corrosion process occurs because the metal recombines with oxygen as the raw material (ores) in the metallurgical extraction process for making metal which also combines with oxygen. Therefore, it is necessary to inhibit the corrosion rate by adding an inhibitor.Inhibitors are chemical substances which, when introduced into an environment, can reduce the risk of corrosion of a metal. For this study, using bidara leaf and tobacco stem inhibitors, the Bangkalan area has many bidara leaves and tobacco stems, because tobacco stems are only waste produced by tobacco farmers.Based on the results of the study, the authors obtained the results that the comparison of the corrosion rate of ASTM A53 material using bidara leaf extract and tobacco stem was the inhibitor with the best performance with a low average corrosion rate of 9.93. While tobacco stems have an average corrosion rate above it, which is 11.9. The extract of bidara leaves and tobacco stems by testing that can inhibit the occurrence of corrosion compared to ASTM A53 steel without inhibitors.

Keywords: *Corrosion, Inhibitor, Bidara Leaf, Tobacco Stem, ASTM A53 Material.*