

ABSTRACT

INHIBITION CORROSION RATE OF CARBON C-MN STEEL USING INHIBITOR EXTRACT OF MANGOSTEEN PEEL (*GARCINIA MANGOSTANA*)

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Abstrac. Corrosion inhibition of low carbon C-Mn steel by extract of mangosteen peel (*Garcinia mangostana*) in corrosive medium of Hydrochloride Acid (HCl) and Natrium Chloride (NaCl) of 1 M. Corrosion rate was tested on C-Mn steel with the extract of mangosteen peel for 120 hour with concentration of 0%, 10%, 15%, and 20%. The results rate corrosion and inhibitor efficiency suggests that the increasing concentration of inhibitor, the rate of corrosion inhibitor decreases and the efficiency increases. The X-Ray Diffraction (XRD) result showed that the phase was Fe. Scanning Electron Microscopy (SEM) showed that the cluster, crack, and hole. Energy Dispersive Spectroscopy (EDS) showed that the most widely corrosion product is FeO.

Key words. C-Mn steel, *Garcinia mangostana* extract, corrosion inhibition, SEM-EDS, XRD.