

# **EKSTRAK DAUN TEH (*Camellia sinensis*) SEBAGAI ALTERNATIF INHIBITOR KOROSI BAJA DALAM MEDIUM AIR LAUT**

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**ABSTRACT:** Research about the use of tea leaf (*Camellia sinensis*) as steel corrosion inhibitor alternative in sea water medium has been done. The aim of this research is to find out the influence of tea leaf extract on the rate of corrosion, the degree of closeness and efficiency of steel corrosion inhibition in sea water medium. The method used is weight loss method (the deficiency of weight). The steel sample has the code of ASSAB 760 (AISI 1148, 0.5%) and the tea leaf sample used is the old tea leaf. The tea leaf is extracted with aquadest as the solvent. The characteristic of steel surface ended and unended by inhibitor are then analyzed with Carton Stereo Trinocular Optic Photo with 100 times magnification. The result of research shows that the tea leaf extract reduces the rate corrosion of steel ASSAB 760 in sea water medium. The rate of steel corrosion unended by inhibitor is  $1.13 \times 10^{-4}$  g/cm<sup>2</sup>.day, the rate of steel corrosion ended by inhibitor (tea leaf extract) is  $1.07 \times 10^{-5}$  g/cm<sup>2</sup>.day. The efficiency of steel corrosion inhibition increases along with the longer of steel soaked in sea water medium. The analysis of steel surface shows the formation of purple pasive layer from iron-tanin complex.

**Key words:** tea leaf extract, steel corrosion, inhibitor, sea water, iron-tanin complex.