

**VARIASI KUAT ARUS DAN WAKTU PENCELUPAN  
ELEKTROPLATING NIKEL PADA STEEL PLATE HOT ROLLED  
COILED TERHADAP KETEBALAN, KEKERASAN, DAN LAJU KOROSI  
(VARIATIONS OF CURRENT STRENGTH AND INVESTMENT TIME OF  
NICKEL ELECTROPLATING ON HOT ROLLED COILED STEEL PLATE ON  
THICKNESS, HARDNESS AND RATE OF CORROSION)**

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**ABSTRACT**

*Corrosion is a problem that often occurs in metal because metal is used as material for tools, especially tools used in industry. One type of metal used is hot rolled coiled (SPHC) steel plate. One way to inhibit the corrosion process is by electroplating. This research aims to determine the effect of variations in electroplating current and time on the corrosion rate SPHC steel with nickel coating. The research method used is experimental, by taking the research object to be the corrosion rate value of SPHC low carbon steel material using an acid solution test medium. The results obtained from the research and observation process were that the smallest variation in the corrosion rate value was found in a current variation of 3 amperes and a coating time of 30 minutes with a weight loss of 0,54 grams with a corrosion rate value of 32,60 mdd. Meanwhile, the largest corrosion rate value was at a voltage variation of 1A and a coating time of 20 minutes with a specimen weight loss of 7,53 grams with a corrosion rate value of 454,69 mdd. With this, the higher the current and the longer the nickel electroplating process takes, it may not necessarily be a good corrosion inhibitor, even though the layer mass has the largest value, an even distribution of the nickel layer must be required.*

**Keyword:** *Low Carbon Steel, Electroplating, Current, Time*