IMMERSION'S TIMING VARIATION OF STEEL ASTM A36 WITH HOT DIP GALVANIZING METHOD POST NORMALIZING AGAINST TENSILE TEST AND CORROSION RATE

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ABSTRACT

Corrosion is a decrease in the quality and damage of metals due to environmental reactions. Corrosion can not be prevented can only be reduced the rate of corrosion. Many methods to reduce the rate of corrosion, one of them uses coating on steel with zinc metal using the method of hot dip galvanizing post normalizing. Research aims to determine the influence of coating time variations on tensile test and corrosion rate. The material used is ASTM A36 steel uses zinc metal as its coating. The coating process is done with time and temperature variation then it corrosed used a HCL solution with 15% concentration. Tensile test result on raw material of 257.5 N/mm^2 while the highest tensile test results obtained at 9 minutes by 208.3 N/mm^2, the lowest grade of 191.3 N/mm^2 in 3 minutes. With heat treatment, it is able to increase the tensile strength of the material. Then the corrosion rate of raw material was 0.061 mm/y, the highest corrosion rate was 9 minutes by 0.040 mm/y, the lowest corrosion rate was at 3 minutes by 0.028 mm/y. The merger between normalizing and Hot Dip Galvanizing is proven to reduce the value of corrosion rate and increase the elongation value of ASTM A36 steel.

***Key words**: Hot Dip galvanizing, normalizing, ASTM A36, strain coating.*