

**PERBANDINGAN KETAHANAN KOROSI ANTARA
METODE HARDENING DAN METODE *HOT DIP*
ALUMINIUM PADA BAJA ASTM A36**

*(Comparison of Corrosion Resistence Between Hardening Method
and Hot Dip Aluminum Method on ASTM A36 Stell)*

Andik Irawan *supervisor* and Dicky Adi Tyagita
co supervisor

Pandu Teja Suwenda
Automotive Engine Study Program
Engineering Department
Program Studi Mesin Otomotif
Jurusan Teknik

ABSTRACT

Have conducted research to determine the effect of Hardening and Hot Dipping Aluminum on ASTM A 36 steel on corrosion resistance of the material. Hot Dip Aluminum is a method of coating technique using the concept of sacrificial anode to protect a metal from corrosion. Hot Dip Aluminum uses aluminum as a sacrificial anode to protect steel from corrosion. In addition to coating to protect steel from corrosion, it can also be hardened. Hardening is heating a metal to a certain temperature for some time at that temperature, then cooling it quickly, giving rise to a hard structure. Hardening aims to increase hardness, wear resistance and toughness with a combination of hardness and resistance to corrosion. The highest hardness value is in specimens that receive hardening treatment with an average hardness value of 84.23 HRB, the hardness value of the two raw materials an average value of 76.98 HRB and an average value of 76.98 HRB. The smallest average hardness of the hot dip aluminum method is 49.26 HRB. The thickness of the layer is inversely proportional to the hardness value, the thicker the layer, the smaller the hardness value. The highest corrosion resistance value is in the hot dip aluminum method and the second corrosion resistance is the hardening method and is more corrosive to the raw material.

Key words: *coating, hot dip Aluminium, hardening, hardness, thickness, corrosion*