THE INFLUENCE OF TEMPER T6 AND T351 AT HARDNESS AND CORROSION BEHAVIOR ALUMINIUM ALLOY AA2024 IN NaCl 0.05 M SOLUTION

By : B a s r i
Student Identity Number : 1107201725
Supervisor : 1. Dr. Mochamad Zainuri, M.Si
2. Drs. Zaenal Arifin, M.Si

ABSTRACT

Aluminium alloy AA2024 can be used for tank fuel and plane structural application. It has low corrosion tenacity, but it can be increased by using heat treatment. This research studies temper influence T6 and T351 to mechanical property and aluminium alloy corrosion property AA2024. Characterization sample is done through hardness test, microstructure with Optical Microscope and SEM equipped with EDX, and intermetallic phase forming distribution using XRD its corrosion rate is being observed with potentiostat. Result is showing AA2024-T6 after heat of solution 4 hour experiences improvement of hardness 38.61% and derivation of the corrosion rate until 27.90% to state initially. Hardness assaying of AA2024-T6 after heat of solution 6 hour experiences improvement of hardness of until 37.72% and derivation of the corrosion rate 24.08% to state initially. Improvement and derivation of hardness is more resulted existence of grain growth and deposition at grain boundary region and improvement of corrosion rate many influenced by formation of intermetallic Al(Cu,Mg) phases is having the character of anodic and phases Al(Cu,Fe,Mn) is having the cathodic character.

Keywords : Aluminium alloy AA2024, Temper T6 and Temper T351, intermetallic particles