The Effect of Temperature and Holding Time Aging Precipitation Hardening on Microstructure and Mechanical Properties Mg-6Zn-1Y Alloy

Name : Winarto Hadi Candra
NRP : 2710100098
Department : Teknik Material dan Metalurgi
Advisor : Sutarsis S.T, M.Sc

ABSTRAK
Magnesium alloy have many application. Any application of magnesium for automotive parts. This alloy used for light automotive parts. This research is precipitation hardening of Mg-6Zn-1Y alloy with variable aging temperature 150°C, 175°C and 200°C and holding time 4 hours, 8 hours and 24 hours. After that this alloy will be testing metallography, hardness, XRD and TMA. The result of testing get phase are αMg, Mg₃Y₂Zn₃ and Mg₃YZn₆. The shape of microstructure is lamellar, Mg₃YZn₆ and αMg. The phase of Lamellar are phase αMg+Mg₃Y₂Zn₃. The result of hardness on sample aging 150°C with holding time 4, 8 and 24 hours are 75.4, 80.93 and 84.6 BHN.

Kata kunci : Mg-6Zn-1Y, precipitation hardening, aging temperature 150°C, 175°C and 200°C and holding time 4 hours, 8 hours and 24 hours
(Halaman ini sengaja dikosongkan)