# Pengaruh Temperatur dan Prosentase Magnesium terhadap Karateristik Komposit Matrik Logam Al/AL2O3 hasil Infiltrasi Tanpa Tekanan

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Abstrak

Metal Matrix Composite (MMCs) is combination from two material or more with metal as matrix developed to improve the nature of metal; strength, hardness. electric resistance stability at high temperature. Aluminum as a matrix composite developed because is light, cheap, and easy to fabrication. Pressureless infiltration is one of the fabrication process of metal matrix composite in a melt condition which is developing because more economic; no need complicated equipments. Characteristic of metal matrix: composite can be influenced by infiltration temperature, dopant content (Magnesium), % Vf reinforcement and holding time. This research aim is to study the effect of temperature infiltration, as well as magnesium content on characterization of A£fA1,O, metal matrix composite i.e, thermal expansion, hardness, wear resistance, porosity and density as well as metallography. The infiltration temperature used various from 800 to 1200°C and Al;03 particle reinforcement was 5U%Fj= The magnesium content was also various from 4% to l2% wt and holding time was I0 hours. The results shows that higher magnesium content produced more Al molten infiltrated into ,41,O,~ preform. It is found that the optimum performance of composite produced at 1100° C.