

EFFECT OF Mg ENHANCEMENT IN THE MICROSTRUCTURE AND MECHANICAL PROPERTIES OF AC2A ALUMINIUM ALLOY

NIYAS SALIM¹, ARUN M² & ANUP KUMAR³

¹P.G Scholar, Department of Mechanical Engineering, St Joseph's College of Engineering & Technology, Palai, Kerala, India

²Assistant Professor, Department of Mechanical Engineering, Sree Buddha College of Engineering, Pattoor, Kerala, India

³Assistant Professor, Department of Mechanical Engineering, St Joseph's College of Engineering & Technology, Palai, Kerala, India

ABSTRACT

For last several decades aluminium and aluminium alloys are widely used in automotive industries because for their favorable properties like low density, good malleability, high formability, high corrosion resistance and high electrical and thermal conductivity. High machinability and workability of aluminium alloys are prone to porosity due to gases dissolved during melting processes. However, in the engineering application pure aluminium and its alloys still have some problems such as relatively low strength, unstable mechanical properties and low wear resistance. AC2A alloy possesses better mechanical properties, machinability, wear resistance and are suitable for heat treatment. Now it is used for automobile application like brake calipers, piston rods etc. The microstructure can be modified and mechanical properties can be improved by alloying and heat treatment. In this regard, the present paper reports the presence of magnesium on the mechanical properties and microstructure of AC2A Aluminium Alloy.

KEYWORDS: AC2A Aluminium Alloy, Heat Treatment, Mg Modification, Mechanical Properties, T6 Condition