

## ROLE OF Ti & B IN MICROSTRUCTURE AND MECHANICAL PROPERTIES OF A 360 ALLOY

RIYAZ MOHAMMED<sup>1</sup>, ANUP KUMAR<sup>2</sup> & ARUN M<sup>3</sup>

<sup>1</sup>P.G Student, Department of Mechanical Engineering, St Joseph's College of Engineering &  
Technology, Palai, Kerala, India

<sup>2</sup>Assistant Professor, Department of Mechanical Engineering, St Joseph's College of Engineering  
& Technology, Palai, Kerala, India

<sup>3</sup>Assistant Professor, Department of Mechanical Engineering, Sree Buddha College of Engineering,  
Pattoor, Kerala, India

### ABSTRACT

In this investigation, the Role of Ti & B in microstructural and mechanical properties study of A 360 alloy, have been discussed. The microstructural aspects of cast A 360 alloy are strongly dependent on the grain refinement (Ti and B). The mechanical properties such as Tensile Strength, UTS, %E, BHN and toughness have been investigated. This journal deals with the grain refinement of A 360 and thereby improving the overall mechanical properties of the alloy. The quality of castings and their properties can be achieved by refining of  $\alpha$ -Al dendrites in A 360 alloy by means of the addition of elements such as Ti and B which reduces the size of  $\alpha$ -Al dendrites, which otherwise solidifies with coarse columnar  $\alpha$ -Al dendritic structure.

**KEYWORDS:** A 360 Alloy, Grain Refinement, Mechanical Properties,  $\alpha$ -Al Dendrites