

Microstructure analysis of Al6061+MgO foam manufactured through PM route

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Abstract

Metal foams have become an attractive research field both from the scientific viewpoint and the prospect of industrial applications [24]. Metallic Foams can be manufactured by many techniques. Various methods for making of metallic foams such as involving blowing agent in the melt pool which releases gas in the form of bubbles, injecting gases in the melt pool and many other techniques have been developed in past year and some still under development. In this project, evaluation of metal foam of AL6061 plus MgO using PM (Powder Metallurgy) route has been carried out. Manufacturing of Aluminium metal foam by adding of Magnesium oxide as a blowing agent, the porosity of the metal foam is enhanced and the mechanical properties of the material changes. The density of the pores obtained that will depend on the solidification time and the percentage of the magnesium oxide added to the aluminium metal powder. The porosity of about 50-60% is achieved in the powder metallurgy technique used to manufacture the metallic foam of aluminium.