

Relationship between Extrusion Ratio and Mechanical Properties of Magnesium Alloy

Authors : C. H. Jeon, Y. H. Kim, G. A. Lee

Abstract : Reducing resource consumption and carbon dioxide emission are recognized as urgent issues. One way of resolving these issues is to reduce product weight. Magnesium alloys are considered promising candidates because of their lightness. Various studies have been conducted on using magnesium alloy instead of conventional iron or aluminum in mechanical parts, due to the light weight and superior specific strength of magnesium alloy. However, even stronger magnesium alloys are needed for mechanical parts. One common way to enhance the strength of magnesium alloy is by extruding the ingot. In order to enhance the mechanical properties, magnesium alloy ingot were extruded at various extrusion ratios. Relationship between extrusion ratio and mechanical properties was examined on extruded material of magnesium alloy. And Textures and microstructures of the extruded materials were investigated.

Keywords : extrusion, extrusion ratio, magnesium, mechanical property, lightweight material

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