

## 가스분무 Mg-Zn-Y 합금분말의 성형특성

## Consolidation of gas atomized Mg-Zn-Y alloy powders

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Light Mg alloy stands on the center of investigation due to the high potential of industrial application not only to the structural, but also to the functional fields. However, the intrinsic low strength and corrosion resistance have limited the industrial application of Mg alloys. In order to modify the disadvantage, the modification of composition as Mg-Zn-Y and process as rapid solidification have been conducted. The cast Mg-Zn-Y alloy leads to the high strength and hardness, low friction coefficient and low interfacial energy in both the ambient and elevated temperature. The rapid solidified Mg-Zn-Y alloys presents further enhancement in the materials properties as well as the workability. Especially, powder metallurgy process (PM) via the rapid solidification can be a promising route to produce the Mg alloys with the productivity as well as the property modification at the same time.

In the present work, materials properties of  $Mg_{85}-Zn_{4.3}-Y_{0.7}$  alloy powders prepared using an industrial scale gas atomizer were investigated. In addition, the extrusion behavior of powders was also evaluated, depending on the extrusion conditions.