

경량 알루미늄 하이드로포밍 서브프레임 개발

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Development of Aluminum Subframe Applied for Hydroforming Process

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Abstract

The technology of hydroforming is widely used today in the mass production of lightweight components for the automotive industry. In case of aluminum subframe, it has been produced by combination of hydroforming and other process, especially, sheet forming and casting etc. In our presentation, we have developed aluminum subframe applied for hydroforming and casting. Cross member is applied for hydroforming process and side member is fabricated by casting. For fabrication of hydroforming parts, we developed extruded aluminum 5xxx and 6xxx series tube and the tubes were bent and hydroformed. And side member was one piece and produced by sand casting. Subframe was assembled by aluminum MIG welding process of each component and was checked by endurance test and buckling test.

Key Words : hydroforming(하이드로포밍), aluminum subframe(알루미늄 서브프레임), extruded tube(압출튜브), sand casting(사형주조)

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