Effect of Nickel on the Properties of the AlSi10MgMn Alloy with Increased Iron Content

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The article deals with the issue of secondary aluminum alloys with higher iron content and the possibility of reducing the negative impact of the iron by adding certain elements (correctors of iron). This paper evaluated the impact of nickel on amount of gas and mechanical properties of AlSi10MgMn alloy with increased iron content. For evaluation purposes master alloy AlNi20 with concentrations of 0.1, 0.3 and 0.5 wt. % was used. The main conclusion is that the addition of nickel corrector appears to have positive influence on reducing the negative effects of iron. The next conclusion is that the addition of 0.5 wt. % AlNi20 according to the results in the paper seem to be most benefical.

Keywords: AlSi10MgMn alloy, mechanical properties, intermetallic phase based on iron content, nickel

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