

## Influence of Selected Iron Correctors to Solidification of Secondary AlSi10MgMn Alloy

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Secondary (recycled) aluminium alloys are still not widely used in the foundry industry, because of the higher amounts of impurities that require more strictly control of the manufacturing process. The most problematic impurity of aluminium cast alloys is iron, which is in alloy mostly present in form of hard and brittle intermetallic phases. Such phases are thought to be detrimental to alloy mechanical and foundry properties and have to be removed or modified to eliminate negative effects. Several techniques might be used to this purpose, from which the most beneficial seems to be addition of some elements, so-called "iron correctors". Influence of the iron correctors can be also analysed by thermal analysis that serve as a tool to prediction of solidification behaviour of the alloy. Influence of V, Cr and Ni (alone and in selected combinations) to solidification behaviour of AlSi10MgMn alloy with increased iron level is presented in this article. Selected iron correctors influenced temperatures of thermal arrests representing formation of primary aluminium, iron intermetallics and also eutectic silicon.

**Keywords:** AlSi10MgMn alloy, Intermetallic phase, Iron correctors, Thermal analysis

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