

Analysis of the antimony and strontium cross-effects in Al-Si foundry alloys

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Abstract: In this work, we show the effect of various concentrations of strontium and antimony on the level of modification in the Al-Si alloy. The scale of the modification rate was determined in two ways: thermal analysis was performed as well as the images of samples cast during the analysis were analysed. The eutectic temperature registered during the analysis was compared with the eutectic temperature of the unmodified alloy and on the basis of the differences between the temperatures it was determined which samples are considered modified and which are not. On the basis of the results of the cooling curves, the partially modified category was introduced in case if ΔT value is less than 9°C and more than 7.5°C. The samples made of the alloys were investigated by a computer image analysis and the samples were grouped on the basis of the sizes of the eutectic silicon phases. The aim of our research work was the examination of cross-effects of strontium and antimony.

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