

عنوان مقاله:

Refinement Effects of Strontium on Structure of Aluminium-10Magnesium (A520) Alloy

محل انتشار:

دومین کنفرانس بین المللی آلومینیوم (سال: 1391)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

The effects of strontium on the macrostructure and microstructure of Al-10Mg alloy (A520) have been studied. In this work, different amounts of Sr have been used to study its effects on the grain size and microstructural evolution of the alloy. Microstructural data were assessed by the use of optical microscope, scanning electron microscope (SEM) and x-ray diffractometry (XRD). The results showed that the optimum amount of Sr as a grain refiner was 0.01 wt.%. The grain size of unrefined A520 alloy was reduced from 387 μm to 161 μm after adding Sr. Microstructural studies also showed that Sr changes the microstructural feature from dendritic to rosette-like morphology and reduces the measured dendrite arm space (DAS) value slightly. It is believed that Sr increases growth restriction factor (GRF) which results in grain size decrement.

کلمات کلیدی:

Al-10Mg alloy; Grain refiners; Microstructure; Grain size

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/193456>

