عنوان مقاله:

Effect of SiC Content on the Microstructure of Semi-solid A356/SiCp Composite Castings Processed via Vibrating Cooling Slope Method

محل انتشار:

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خلاصه مقاله:

The aim of this paper is to study the effect of SiC content on semi-solid processing of A356-SiCp composite using a relatively new process termed Vibrating Cooling Slope (VCS) method. In this study, for the first time, VCS method was used for processing of A356-SiCp composites and the effect of SiC content (in the range of 0-20 vol. %) for a fixed SiC particle size (76μm) on the microstructure of solidified alloy and composites was investigated. It was concluded that by pouring the molten A356 metal on the vibrating cooling slope with desired length, angle, frequency and amplitude, globular structures could be directly achieved. By increasing the SiC content, the average diameter of globules decreased at the expense of decreased shape factor. However, a more uniform distribution of SiC particles within the matrix alloy was achieved for increased SiC content.

کلمات کلیدی:

Semi-solid casting, Composite, Vibrating cooling slope, Average diameter, Shape factor, Distribution factor

لینک ثابت مقاله در پایگاه سیویلیکا: