Statistical analysis of grain size distribution for different AZ91/SiC composites.

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Abstract: Primary phase grain size is one of the most important microstructural characteristic determining the mechanical properties of materials, that's why it is so important to know what and how to affect on these properties.
Magnesium alloys and especially their composites combine low density with good strength what makes them very useful materials for automotive and aerospace industries. One of the most popular materials in this group are AZ91/SiC.
This paper presents experimental results using different mass fraction SiC and different SiC particle size as a reinforcement for AZ91 alloy and their influence on the nucleation process of magnesium primary phase.

Keywords: AZ91/SiC composite, statistical analysis, grain size distribution, SiC particle, magnesium alloy