

ABSTRACT

Solidification characteristic of metal matrix composite (MMC) consisted of titanium carbide particulates reinforced aluminium-11.8% silicon alloy matrix is investigated. Sand casting is used as the production method to produce the specimens. Thermal measurements during the casting process are captured and solidification graphs are plotted to represent the solidification characteristic. The result shows that as volume fraction of particulates reinforcement is increased, solidification time is faster. Particulates reinforcement promotes solidification which will support finer grain size of the casting specimen. Hardness test is performed and confirmed that hardness number increased as more particulates are added to the MMC system.

Keywords: Metal matrix composite (MMC), Sand casting, Solidification characteristic, Hardness