

The Properties of Na₂CO₃ and Ti Hybrid Modified LM 6 Alloy Using Ladle Metallurgy

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Abstract : The present work deals with a study on the influences of hybrid modifier on LM 6 added through ladle metallurgy. In this study, LM 6 served as the reference alloy while Na₂CO₃ and Ti powders were used as the hybrid modifier. The effects of hybrid modifier on the micro structural enhancement of LM 6 were investigated using optical microscope (OM) and Scanning Electron Microscope (SEM). The results showed fragmented Si-rich needles and strength enhanced petal/ globular-like structures without obvious formation of soft primary α -Al and β -Fe-rich inter metallic compound (IMC) after the hybrid modification. Hardness test was conducted to examine the mechanical improvement of hybrid modified LM 6. 10% of hardness improvement was recorded in the hybrid modified LM 6 through ladle metallurgy.

Keywords : Al-Si, hybrid modifier, ladle metallurgy, hardness

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