

Alteration of solution treatment condition to the precipitation behaviour A319 alloy

Abstract

The development of precipitate during ageing treatment of A319 alloy contributed significantly to the alloy strengthening mechanism. Two solution treatment temperatures which were set at 510°C and 525°C were subjected onto the different groups of A319 alloy samples and followed by artificial ageing process at 180°C. Scanning electron microscopy was employed to observe the over-aged samples from both solution treatment temperatures. The observation shows that Mg₂Si precipitates was only appeared at the higher solution treatment condition, while the Al₂Cu precipitate developed in both solution treatment temperatures.

Keywords — A319 alloy, artificial ageing, precipitates solution treatment.