Corrosion Characteristics of B Grain Refined Al-10Si

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A360 contains around 9-10wt % Si which is a near eutectic alloy. Although this alloy suffers from castability, however the toughness is higher than 12wt% Si eutectic composition. It is a preferred choice of material particularly for high pressure die casting application. Due to fading effect of Ti, Al-3B is used for grain refinement of aluminium alloys. In literature, mechanical properties of this alloy can be found. However, there are not much works on the corrosion behaviour of this alloy. Therefore, in this work, characterisation of HPDC A360 alloy that contained various amounts of B have been investigated. Microstructural analysis was carried out and Tafel curves were plotted. Weibull statistical analysis was used to determine the reliability of the test results.