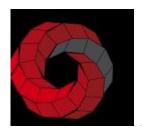
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# EFFECTS OF GATING SYSTEM DESIGN ON TENSILE PROPERTIES OF CAST ALUMINIUM 6063 ALLOY

Oyetunji Akinlabi, Adedeke Ayodele

Abstract

The effects of gating system design on the tensile strength properties of cast Al-Mg-Si alloy component were studied, with gating sprue diameters of 10 mm and 12 mm respectively for a pressurized and non-pressurized systems. A match plate pattern was made for channels and mould cavity preparation, while the pouring temperature is at 680°C maintained as the optimum temperature. The variation with respect to increasing ingate of 1 to 3 was observed, the resulting castings from the gating system were compared for tensile strength using instron tensile test machine. The non-pressurized system with reduced turbulence and increasing cross sectional area towards the mould cavity, had finally increased the tensile strength. The result shows that 2-ingate pressurized gating system with 10 mm sprue diameter designed type has improved tensile strength. While the non-pressurized system with reduced turbulence and increasing cross sectional area towards the mould cavity, had finally increase the tensile strength.

## Keywords

Gating system; Pouring Temperature; Tensile Strength; Gravity; Pressurized and Non-pressurized.

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