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PREPARATION AND CHARACTERISATION OF STIR CAST ALUMINIUM MATRIX COMPOSITE (AMC) AT DIFFERENT COMPOSITION OF SIC & FLY ASH

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Abstract

Aluminum 6061 reinforced with various weight percentages of Silicon & Fly Ash called as Aluminum matrix composites (AMCs) is prepared by stir casting method. Matrix composite in molten state is poured into the preheated sand mould and allowed it for proper cooling, casted samples are taken out from the casting and these are machined as required by the different tests. The value of Toughness increases approx two times when SiC is fixed and fly ash increases in a sample prepared and if SiC varies and fly ash is fixed then the value of toughness increases approx 10%. Wear rate decreases when fly ash and silicon carbide particles is added to the aluminum alloy. The value of Hardness increases approx 20% when SiC is fixed and fly ash increases in a sample prepared and if SiC varies and fly ash is fixed then the value of hardness increases approx. 10%. The value of Tensile Strength decreases approx 12% when SiC is fixed and fly ash increases in a sample prepared and if SiC varies and fly ash is fixed then the value of tensile strength increases approx 15%.