

ABSTRACT

Among automobile manufacturers, in recent times, a paramount importance has been given to less fuel consumption of the vehicles by utilizing lightweight and high strength materials. Metal matrix composites (MMCs) have been used commercially in the automotive market for nearly twenty years. Metal Matrix Composites (MMCs) have very light weight, high strength, stiffness and exhibit greater resistance to corrosion, oxidation, and wear. Tensile and compressive strength is an especially important property of Aluminium matrix composites which is essential for automotive application. In this study hybrid Aluminium matrix composite was fabricated through crucible casting route. Titanium di boride (TiB_2) and Egg shell particles were used as reinforcement phases for the present study. The hybrid MMC was prepared with varying the TiB_2 particles weight ratio ranging from 0% to 4% and Es were varied 0% to 5% fixed quantity 1% of magnesium. The various mechanical properties were investigated and compared with non-metal matrix alloy of Al8011.

Keywords : Metal Matrix Composites (MMCs), Aluminium Al8011, Titanium di boride (TiB_2), Eggshell(Es) and Magnesium(Mg)