

ALUMINIUM MATRIX COMPOSITES – AN OVERVIEW ON THE MATERIALS SUBSTITUTION AND EFFICIENT USE OF MATERIALS

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Abstract

Development of metal matrix composites has been an important innovation in materials engineering over the past decades. Metal matrix composites offer several attractive advantages over traditional engineering materials due to their superior properties. Therefore, the metal matrix composite become economical alternatives to the monolithic alloys due to their improved specific strength, stiffness and wear resistance combined with better physical properties such as low density and low coefficient of thermal expansion.

Materials substitution significantly affects the trend toward more efficient use of monolithic materials. The increasing use of alternative materials in aircraft, automotive and construction applications has motivated the metal industry to provide lighter weight aluminium alloys and metal matrix composites. This paper presents an overview of aluminium matrix composite systems on aspects relating to processing of matrix from re-melted aluminium wastes.

Key words: metal matrix composites, aluminium matrix, re-melted aluminium wastes

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