

Carbon nanotubes reinforced aluminum matrix composites – a review of processing techniques

ABSTRACT

Carbon nanotube reinforced aluminium matrix composites (Al-CNTs) have been widely used in aerospace and automotive industries where high quality and strength is required. The enhanced mechanical properties of Al-CNTs are closely related to processing technique due to challenges within production of these composite materials. In the current review, solid state processing techniques used for synthesizing Al-CNTs have been reviewed to provide an insight into the features and capabilities of each technique regarding the incorporation of CNT reinforcements. To conclude, the mechanical performance of Al-CNT composites is mainly decided by the capability of each technique in the dispersion of CNTs within the aluminum matrix.

Keyword: Metal matrix composites (MMC); Aluminum matrix composites (AMCs); Carbon nanotubes (CNTs); CNT reinforced aluminum composites (Al-CNTs)