

Synthesis and characterization of electroless copper coated SiC particles

Abstract

Silicon carbide reinforced copper matrix (Cu-SiCp) composites fabricated via the conventional powder metallurgy methods have inferior thermophysical properties due to the weak bonding between the copper matrix and the SiCp reinforcement. In order to improve the bonding between the two constituents, the SiCp were copper coated via electroless coating process. Based on the experimental results and findings, a continuous copper deposition on the SiCp was obtained via the electroless plating process. The copper film was found to be high in purity and homogeneously deposited on the SiCp surfaces. The thickness of the coated copper layer was roughly estimated to be around 1 μ m

Keywords

Advanced packaging materials; Electroless copper; Silicon carbide