عنوان مقاله:

A STUDY ON SINTERING BEHAVIORS OF COPPER COATED SIC COMPOSITE POWDERS FABRICATED BY ELECTROLESS PLATING AND MECHANICAL PROPERTIES OF THE CONSOLIDATED COMPOSITES

محل انتشار:

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خلاصه مقاله:

Copper coated SiC powders having three different amounts of copper, in the range of ۲۰-۶۰ wt%, were prepared via electroless coating process. The produced composite powders were uniaxially cold compressed and sintered at different temperatures and times under protective atmosphere. It was found that composite Cu/SiC powders and a relatively dense copper matrix composite with a uniform distribution of SiC reinforcing particles imbedded in copper matrix can be fabricated via electroless coating method followed by conventional cold pressing and sintering process. The results also show that SiC particles have a poor wettability with copper and so liquid phase sintering of the Cu/SiC composite powders did not enhance densification of the samples. Regarding this fact, optimum sintering .temperatures, which depends on copper content, was determined to be in the range of ۱۰۵۰-۱۰۸۰?C

کلمات کلیدی:

Electroless, Cu/SiC Composite, Sintering, Wettability