

عنوان مقاله:

Reduction process of Cu/Sn nanocomposite by Plasma Furnace

محل انتشار:

هشتمین کنفرانس بین المللی مهندسی مکانیک، مواد و متالورژی (سال: 1401)

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خلاصه مقاله:

Pre-milled copper and tin powder was subjected to heat treatment to investigate the effect of polyethylene glycol surfactant powder on it. The existing thermographic shows that the delta value of the copper-tin phase powder formation reaction is much higher than other chemical reactions, and this increase in energy is related to the new phase formation. Results of the DTA heat test in the direction of temperatures ۳۰۰, ۶۰۰, and ۱۰۰۰ °C were selected for this heat treatment and after that non-destructive and mechanical tests were performed on it, the phases Copper and tin are formed with great intensity and the particle size is reduced to ۵ μm. On the other hand, the hardness of the resulting powder is greatly increased and about ۲۲۰ HV۰.۱, all of which are due to the effects of adding a surfactant to copper and tin powder and ceramic phase made in this alloy

کلمات کلیدی:

.Cu/Sn, mechanical thermal, surfactant, polyethylene glycol, Nanocomposite

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