

عنوان مقاله:

Study of particles rearrangement in supersolidus liquid phase sintering of Cu-28Zn

محل انتشار:

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خلاصه مقاله:

The aim of this study is evolution of influence of effective forces in Supersolidus Liquid Phase Sintering of Cu-28Zn alloy which causes heterogeneity in different sections of microstructure. For this purpose prealloyed Cu-28Zn powder was sintered at various temperatures, 840-890 °C, under nitrogen atmosphere for 60 minutes. Metallography and fractography studies revealed that small increase in sintering temperature as a consequence of creating different amount of liquid phase results in considerable particle rearrangement, and varieties in obtained grain size, zinc accumulation in grain boundaries, pores' shape and size. As well as the effect of produced liquid phase amount, which is a function of sintering temperature, would be clear by comparing fracture morphology of diverse parts of sections. Finally, according to attained physical and mechanical properties, which were in a good agreement with achieved microstructure, optimum sintering temperature equal of 860 °C was determined.

کلمات کلیدی:

prealloyed brass powder; supersolidus liquid phase sintering; microstructure changes; particle rearrangement; zinc accumulation

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