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# Effect of space holder and compaction pressure on the porosity of sintered copper

## Abstract

The effect of space-holder content on the porosity of sintered copper that was fabricated by powder metallurgy technique has been investigated. Carbamide was used as space-holder and the content selected was 10 wt. %, 20 wt. % and 30 wt. %. A roll mill was used to mix the copper powder and the carbamide particles with rotation speed of 160 rpm for 2 hours. The mixture was compacted by hand press at 200-350MPa and sintered under argon atmosphere at 800°C. True density of the sample was determined by a gas pycnometer. Bulk density was determined using mass and volume of the sample. Result shows that the sintered porous copper with 30 wt. % of space-holder produced the highest porosity and the lowest density. Microstructure of pores was analyzed by a scanning electron microscope (SEM) which reveals the elongated pores interconnected to each other.

### Keywords

Copper; Porous; Powder metallurgy; Sintering; Space holder