

A study on the fabrication and the mechanical alloy properties of Cu/CNTs nano composites by dry grinding process using a various ball mill (1) – the comparative study on different mill type

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The study of the fabrication and the mechanical alloy properties of Cu/CNTs nano composites for useful application of industrial field have recently gained scientific interest. Interactions between carbon nanotubes (CNTs) and copper powders during the mechanical alloying via various ball mills have been investigated. The powder metallurgy by various ball mills has been achieved commercially in many cases. A series of powder metallurgy by mechanical alloying experiments using various ball mills and copper and CNT powders as test samples were carried out to clarify the powder metallurgy mechanism in this study. The effect of mill type such as traditional ball mill, planetary ball mill and stirred was investigated. The results have been monitored by powder morphology from the SEM photography and crystal structure from XRD on a given grinding time. It was observed that Cu/CNTs composites were achieved with experimental results via various mill types by mechanical alloy