

Vacuum Hot-pressed and Sintered Technology of Silver Matrix Composite Electrical Contact Materials

Lin Gu, Huijin Guo, Lijun Chen, Fan Wang

Powder Metallurgy&Environment Technology Division, Advanced Technology&Materials Co.,Ltd, China

Abstract

Silver oxide composite electrical contact materials were often used as low-voltage electrical contact, in particular Ag-CdO due to its excellent properties. However, Ag-SnO₂ powder metallurgy materials were developed, because Cd is one kind of ungreen materials, In order to reduce the mounts of noble metal silver consumed, Ag-SnO₂-Cu composite electrical contact materials were developed. In view of the combination characteristics, mass production and the save of cost of electrical contact materials, we studied the Ag-SnO₂-Cu powder metallurgy composite materials using different kinds of vacuum hot-pressed and sintered devices by appropriate metal powder hot-pressed plate forming process. At last 300~500kg each furnace silver oxide composite electrical contact materials were produced by means of process optimized, which provided reliable information for the crucial cost accounting. According to this paper, the production of high quality powder metallurgy electrical contact materials show wide application prospect using the vacuum hot-pressed sintered technology.