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Advanced AgSnO2 Contact materials for the Replacement of AgCdO in High Current Contacts

F. Hauner, Metalor Contacts Deutschland, Redwitz, Germany
D. Jeannot, Metalor Contacts France, Courville, France
K. McNeilly, Chemet Corp., Attleboro, USA
J. Pinard, Metaux Precieux Metalor, Neuchatel, Switzerland

New Silver Tin Oxide contact materials for low voltage application were developed. They exhibit excellent over-temperature behavior and a very long life compared to other $AgSnO_2$ materials. These materials are produced by die compaction or extrusion using a newly developed precipitated powder. Defined particle size distribution and high shrinkage during sintering characterize these powders. The new contact materials have comparable electrical properties whether produced by die compaction or extrusion. This paper reports on the production and electrical properties of these new materials. Tests were conducted using a 250 A contactor originally optimized for AgCdO and a 250 A contactor optimized for $AgSnO_2$. The test results show these materials have the potential to replace AgCdO without changing the design of AgCdO optimized contactors. This is due primarily to their superior over-temperature behavior. The contacts and contactors made with these new materials have considerable technical, economical and environmental benefits.