

Welding Characteristics of Ag-based Contact Material under Automobile Lamp Load

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Abstract-The welding characteristics of different contact pairs, which are made up of AgNi10, AgNi0.15 or AgSnO₂, under automobile lamp load are investigated. The appearance of contact surfaces and composition distributing over the welding area are studied by means of scanning electron microscope and electron probe. The results have shown that the welding area consists of melting area and welding points. The welding points distribute over the melting area. The rupture mode of welding points is ductile fracture and the fractured surfaces are characterized by a heavily dimpled appearance. The composition of welding points is almost the same as that of anode material for the asymmetrical pairs. The welding performance is influenced significantly by anode material.

Keywords-contact material; welding; automobile lamp load; ductile fracture