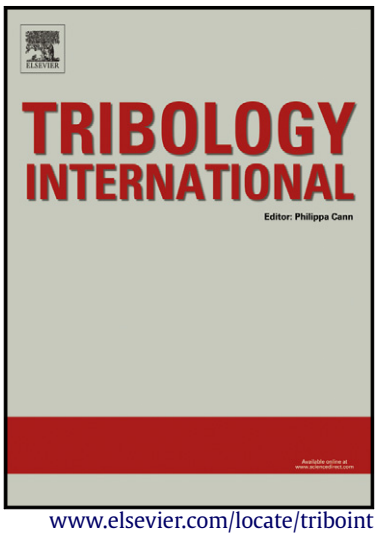

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Effect of copper powder third body on tribological property of copper-based friction materials

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ABSTRAT

Tribological property of copper-based friction materials with exogenous copper powder third body was investigated. Friction tests were conducted under the friction speeds (100~1500 r/min) and pressures (0.25 MPa, 0.38 MPa and 0.51 MPa) by a pin-on-disc tribometer. The results indicate that the friction coefficient can be average increased 0.03 by the presence of exogenous copper powder on the friction surface compared with the non-exogenous copper-based friction materials. There are two main reasons: exogenous copper powder third body increases the actual contact area; exogenous copper powder particles are compacted forming dense third body. But, for non-exogenous copper-based friction materials, less particles and the piece shape nature third bodies are compacted, which consume less friction force leading to lower friction coefficient.

Keywords: Exogenous copper powder, Third body, Tribological property.

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