

Evaluation Method of Effects of Heat Resistance of Copper-based Sintered Alloy Base Material on Friction Coefficient

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Train mechanical brake converts kinetic energy into friction heat, which is emitted, to obtain braking force. Therefore, when, a shortening a stopping distance for the improvement of safety is required, the heat load in the brake increases. Then, the friction material used for the brake is required to have the thermally stable friction coefficient in addition to the heat capacity capable of accepting a given kinetic energy. Therefore, we have focused our study on the evaluation method of brake friction materials used in Shinkansen, especially copper-based sintered alloy. We conducted experimental investigations, such as thermal analysis of solid lubricants and measurement of friction coefficient using a high-temperature friction test apparatus. This paper introduces the developed evaluation method of the heat resistance of base materials on the experiment results.