

Lubricity Evaluation Method of Cylindrical Roller Bearings

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As one of the causes of damage of a rolling bearing, the poor lubrication between rollers and a cage has been pointed out. Therefore, it is important to improve the lubrication performance between them in order to ensure the reliability of the bearing. In this research, behavior of the bearing in case of the poor lubrication between the rollers and the cage and an evaluation method of lubrication performance have been investigated by sliding friction tests of test pieces of the roller and the cage and rotation tests of the cylindrical roller bearing. As a result, it has been clarified that vibration acceleration of the bearing increases quickly just before seizure of the bearing caused by the breakage of the oil film. Therefore, a method of using changes in vibration acceleration as an index indicating seizure can be considered for evaluating the lubricating performance of the bearings.