

Proposal of Backing Ring for Reducing Fretting Wear of Axle Journal Bearings

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In an axle journal bearing of railway vehicles, it is required to reduce the fretting wear caused by the very slight relative slip between the contact surfaces of the inner ring and the backing ring. In this work, we have proposed a backing ring with grooves in the circumferential direction on its oil seal sliding surface in order to obtain the even contact pressure distributions in the radial direction between them. As a result of a rotation test of a full-scale railway axle bearing using the proposed one, it has been found that it is effective in suppressing the fretting wear.