

Effects of Segment-structured Carbon Film on Fretting Wear Prevention of Axle Journal Bearings

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In an axle journal bearing of railway vehicles, it is necessary to mitigate the fretting wear that occurs between the contact surfaces of the inner ring and the backing ring. In this work, we investigated the preventive effect of segment-structured carbon film on the fretting wear through rotation tests of full-scale railway axle bearings with the backing ring side face coated with the film. As a result, we have found that the film is effective in suppressing the fretting wear generated on the contact surfaces between the inner ring and the backing ring of the axle bearings.