



## Friction and Wear Characteristics of Cu-4Al Foil Bearing Coating at 25 and 650 Degree C (Paperback)

By -

Bibliogov, United States, 2013. Paperback. Condition: New. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. The friction and wear performance of a Cu-4Al top foil coating has been investigated in Generation I foil air bearings. The copper alloy was applied by a novel deposition technique (ion diffusion) and the journal was coated with PS304, a plasma spray deposited high temperature composite solid lubricant coating. The ion diffusion coating process deposits a desirable smooth layer compared to other methods like cathodic arc deposition. The tribological performance of bearings with and without Cu-4Al foil coatings were evaluated through start-stop tests on an air bearing test rig at 25 and 650 C. The results indicate that the Cu-4Al assists during the initial break-in period, gives more stable friction performance with respect to temperature, and appears to prevent top foil wear at high temperature. The measured load capacity coefficient was 0.5, which was comparable to earlier testing of more advanced design Generation III bearings coated with standard cathodic arc deposited Cu-4Al. However, further studies are needed to determine if deeper penetration of the copper alloy into the foil would help make the transition in friction behavior from contact with the Cu-4Al...



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