

# Tribological behavior of Ti-based thin film coatings under boundary lubrication regime.

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Friction and wear behaviors of two different commercially available Ti-based coatings, namely Titanium nitride (TiN) and Titanium diboride (TiB<sub>2</sub>) were evaluated under boundary lubrication regime with both, formulated and unformulated lubricants. The study was conducted with uncoated steel roller in reciprocating line contact. When lubricated with the unformulated PAO lubricant the friction in test with both coatings showed similar friction compared to the uncoated steel. In test with formulated lubricants, sometimes significant friction reduction was observed, and no change in friction was observed with some other lubricants. Both coatings produced more wear on the uncoated counterface, compared to the steel flats.