# Friction Characterization of Engineered Surfaces

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**Abstract**
Surfaces are being engineered through coatings to enhance the reliability and durability of tribo-contacts operating under severe sliding loading contact conditions. Under such operating conditions, common surface failures includes wear, scuffing, and contact fatigue (pitting). Coatings are currently being evaluated and developed to prevent or retard the progression of these failures. A good frictional characterization is highly essential for better understanding and optimization of coated surface performance. Currently, adequate friction data for the coated surfaces is not available. In this paper Chrome Nitride, Boron Carbide and Titanium-DLC coatings of different thicknesses have been examined under dry and lubricated conditions at constant speed and varying normal load. The average friction coefficients varied from 0.09 to 0.22. The average friction coefficients are comparable with values for typical coated materials like titanium nitride and titanium carbide that are commonly used in cutting tool inserts. Also, the substrates of the tested specimens suffered little or no damage. These results suggest that the coating materials examined have potential as hard coatings for cutting tool applications.