



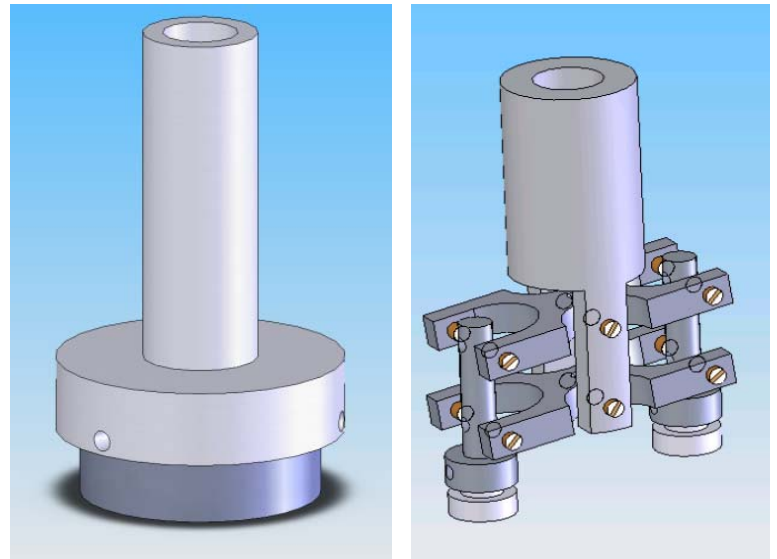
# Lubricity of Materials and Solutions

## Summary

Coefficient of Friction (CoF) is used to quantify how readily two surfaces slide in the presence of a lubricant or oil. Conventional CoF tests use custom built hardware to measure the friction but no robust standardized approach is currently available and sensitivity and resolution are problematic. In conjunction with unique test geometries, commercial shear rheometers provide the sensitive force/displacement control that is required to measure CoF accurately and reproducibly. Understanding coefficient of friction can help in design of bearings and surface in industry and medicine.

## Uses

Biomedical - Orthopedics  
Engineering  
Consumer products



## Description

The Coefficient of Friction determined using simple fixtures for commercial rheometers can be used to understand the performance of materials in biomedical and consumer applications. Often, apparently simple consumer observations such as “slimy” or “slippery” cannot be easily correlated with rheology, but are directly related to friction. In addition, the wear performance of biomedical materials and implants may be related to their apparent friction coefficient in the presence of physiological fluids. As a result, determination of CoF can allow insight into the sliding process in a vast array of applications. Two kinds of fixture can be used to provide the interaction between standard surfaces, or materials where only small amounts are available.

