



ELGI Publication

The Rheology of Lubricating Grease was compiled by Professor Corneliu Balan from “Politehnica” University, Rumania and a team of Grease Specialists at ELGI

The book puts forward theoretical hypotheses on which some of the rheological properties of grease can be based. It considers experimental work using rotational rheometry to investigate the effect of surface finish at the boundaries in plate - plate and cone - plate geometries and the effect of the gap size between the rotating surfaces. Mathematical expressions are developed to give a basis for grease flow in small gaps and are used to compare the mathematical model to the analytical models for flow in Journal Bearings.

The use of NMR and Reflecting Tracer / laser beam techniques are described to facilitate the visualisation of velocity gradients in a gap under shear conditions demonstrating the occurrence of "wall slip" & regions of constant velocity.

A comprehensive list of references is included for each topic together with an introductory overview of grease composition and properties relating the conventional analytical testing to its performance in the field and to the relationship to its rheology.

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