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Engineering Tribology (Tribology Series)





Synopsis

The interdisciplinary nature of tribology encompasses knowledge drawn from disciplines such as mechanical engineering, materials science, chemistry and physics. The interaction between these different fields of knowledge to achieve the final result, the control of friction and wear, is reviewed in this volume. This interdisciplinary approach has proven to be a very successful way of analysing friction and wear problems. In many cases tribology is viewed as an inaccessible subject which does not produce useful answers. In this volume the authors redress this problem by providing a comprehensive treatment of the subject. A basic feature of the book is the emphasis on describing various concepts in an accessible manner for the benefit of non-specialists. This principle is applied from the beginning of the book, where the reader is introduced to the fundamental concept of tribology. This concept is then often used to show how the various topics in tribology are interrelated to form one coherent subject. A direct graphical illustration of the mechanisms controlling tribological phenomena is presented. Carefully prepared diagrams allow rapid appreciation of the basic ideas and facts in tribology. The numerical analysis of hydrodynamic lubrication is supported by a number of computer programs which are included in the book. The control of wear is given extensive treatment with a thorough discussion of lubricant additives, solid lubricants and surface coatings. The effectiveness of coatings in suppressing specific forms of wear is analyzed together with the methods of coatings deposition. The book contains 474 figures and 44 tables. More than 1000 references are provided to give the reader access to more specialized information if required. The volume is intended to provide graduates in engineering or materials science with an understanding of the fundamental concepts of friction, wear and lubrication.

Book Information

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Customer Reviews

Tribology is an extremely complex field that encompasses a vast variety of scientific disciplines and includes the work of such scientists as Newton and Raleigh. Stachowiak and Batchelor have produced a technical guide suitable for students, professional engineers and experts alike. It is a complete reference for tribology encompassing such diverse material as lubrication methods (Boundary, EHL etc), design and condition monitoring. The authors have a knack for presenting otherwise inaccessible material in a manner which is easy to digest. Material, sourced and adapted from an extraordinary array of reference sources, is combined with innovative diagrams that complement the text rendering explanations of exceptionally high clarity. Programs, based on the theory presented, are included at the rear of the book presenting the practicing engineer with invaluable tools for the design of tribological devices.

If you are interested in the technical side of lubrication, this is a really great engineering book for the mechanical engineer. Well written and contains easy to follow theoretical models. Great for both teaching and research. Best general text on lubrication theory, covering many of the technical areas of bearing wear and fatigue.

The book is easy to read and understand. I use it very frequently and it is important to my work <u>Download to continue reading...</u>

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