

BEARING & LUBRICATION

Introduction, Surfaces: Nature, Characterization and effects, Friction : Mechanisms and Types, Wear: Nature, Mechanism and types, Surface Temperature Formulation and Measurements, Friction and wear of metals, polymers and composites, Methods of improving tribological behavior.

Lubricants: Friction control and wear prevention, Characterization, types and selection, effects and testing of lubricants. Mechanisms of fluid flow : Reynolds equations and its applications to infinite long and short journal bearings and its limitations

Lubrications: Regimes; Hydrodynamics, Hydrostatics, Elastohydrodynamic lubrication, etc. Bearing Design and design considerations

Text Books

1. Introduction to Tribology of Bearings - B.C.Majumdar, Wheeler Publication, 1999.

Reference Books

1. Friction & Wear of Materials - E. Rabinowicz, John Wiley & Sons Inc. ISBN 0-471-83084-4, 1995.

2. Tribology: Friction, Lubrication and Wear - Z. Andras Szeri, ISBN 0070626634, 1980

3. Principles and Applications of tribology - Bharat Bhushan, Hardcover, 1999.

4. Engineering Tribology (Tribology Series, 24) - G.W. Stachowiak, A.W. Batchelor, ISBN 0444892354, 1993

5. Engineering Tribology - Prasant Sahoo, PHI Pvt. Ltd.

6. Fundamentals of Tribology - S.K. Basu, S.N. Sengupta, B.B. Ahuja, PHI Pvt. Ltd.

7. Tribology in Industries – S. K. Srivastava. S. Chand and Company Ltd., New Delhi.