

Preface

Tribology is the science and engineering of *interacting surfaces in relative motion and associated issues*, such as friction, lubrication, and wear. It incorporates various disciplines such as surface physics and chemistry, fluid mechanics, materials, contact mechanics, and lubrication systems.

Tribology has an important role in manufacturing technology because all processes involve surface contact mechanics. Manufacturing processes of many kinds involve tribological considerations. Several examples have been chosen to illustrate how the tribological concepts have been applied to improve the manufacturing technology.

The [Chap. 1](#) of the book provides tribology of cutting tools. [Chapter 2](#) is dedicated to the tribology of machining. [Chapter 3](#) described tribology in metal forming processes. [Chapter 4](#) contains information on tribology in hot rolling of steel strip and [Chap. 5](#) is dedicated to micro contact at interface between tool and workpiece in metalforming. Finally, [Chap. 6](#) contains information on coatings and applications.

The present book can be used as a research book for final undergraduate engineering course or as a topic on manufacturing at the postgraduate level. Also, this book can serve as a useful reference for academics, tribology, and manufacturing researchers, manufacturing, materials, and mechanical engineers, professional in manufacturing, and related industries. The interest of scientific in this book is evident for many important centers of the research, laboratories, and universities as well as industry. Therefore, it is hoped this book will inspire and entuse others to undertake research in this field of tribology in manufacturing technology.

The Editor acknowledges Springer for this opportunity and for their enthusiastic and professional support. Finally, I would like to thank all the chapter authors for their availability for this work.

Aveiro, Portugal, August 2012

J. Paulo Davim



<http://www.springer.com/978-3-642-31682-1>

Tribology in Manufacturing Technology

Davim, J.P. (Ed.)

2013, X, 198 p., Hardcover

ISBN: 978-3-642-31682-1