Book Review

Reviewed by J. Paulo Davim

E-mail: pdavim@ua.pt

Metalworking Fluids (MWFs) for Cutting and Grinding
by: V.P. Astakhov and S. Joksch (Eds.)
Published 2012
by Woodhead Publishing Limited
80 High Street, Sawston, Cambridge CB22 3HJ, UK, 413pp
ISBN: 978-0-85709-061-4 (Hardcover)

In general, metalworking fluids are used to lubricate the tool-workpiece interface, to remove the heat generated in cutting zone and to facilitate removal of chips from cutting zone. The influence of metalworking fluids presents great impact in most machining operations. This book presents several modern technical solutions in field of metalworking fluids with minimum impact on environment. Environmentally friendly machining is an important aspect of sustainable manufacturing.

The present book explains metalworking fluids for cutting and grinding with quality and innovation in ten chapters. Chapter 1 provides information on mechanisms of action of metal working fluids in metal cutting. Chapter 2 clarifies selection and testing of metalworking fluids. Chapters 3 discuss delivery of metalworking fluids in the machining zone. The environmentally friendly near dry-machining of metals are introduced in the chapter 4. Subsequently, high-pressure supply of metal working fluids and circulation systems for metalworking fluids are described in chapters 5 and 6, respectively. Chapter 7 discuss monitoring metalworking fluids. Subsequently, maintenance of metalworking fluids and replacement of metalworking fluids are described in chapters 8 and 9, respectively. Finally, the Chapter 10 is dedicated to disposal of metalworking fluids.

In conclusion, this book can be used for final undergraduate engineering course (for example, mechanical, manufacturing, production, etc.) or as a subject on machining technology at the postgraduate level. Also, this book can serve as a useful reference for academics, manufacturing researchers, mechanical, manufacturing and production engineers, professional in related industries with machining technology.