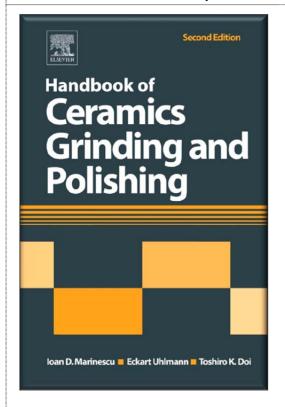




Handbook of Ceramics Grinding and Polishing 第2版

Edited by Toshiro Doi, Ioan D. Marinescu and Eckart Uhlmann Just Published!



2014年11月刊行 ISBN: 9781455778584 定価: USD 169.00 装丁:Hardcover

Page: 約544頁

Description

Handbook of Ceramics Grinding and Polishing meets the growing need in manufacturing industries for a clear understanding of the latest techniqies in ceramics processing. The properties of ceramics make them very useful as components—they withstand high temperatures and are durable, resistant to wear, chemical degradation, and light. In recent years the use of ceramics has been expanding, with applications in most industry sectors that use machined parts, especially where corrosion-resistance is required, and in high temperature environments.

However, they are challenging to produce and their use in high-precision manufacturing often requires adjustments to be made at the micro and nano scale. This book helps ceramics component producers to do cost-effective, highly precise machining. It provides a thorough grounding in the fundamentals of ceramics—their properties and characteristics—and of the abrasive processes used to manipulate their final shape as well as the test procedures vital for success.

The second edition has been updated throughout, with the latest developments in technologies, techniques, and materials. The practical nature of the book has also been enhanced; numerous case studies illustrating how manufacturing (machining) problems have been handled are complemented by a highly practical new chapter on the selection and efficient use of machine tools.

Table of Contents

Chapter 1 - Properties of Ceramics, Pages 1-49

Chapter 2 - Deformation and Fracture of Ceramic Materials, Pages 50-66

Chapter 3 - Abrasive Processes, Pages 67-132

Chapter 4 - Grinding, Pages 133-233

Chapter 5 - Honing and Superfinishing, Pages 234-262

Chapter 6 - Lapping and Polishing, Pages 263-325

Chapter 7 - ELID Grinding and Polishing, Pages 326-359

Chapter 8 - Grind/Lap of Ceramics with UV-Bonded Diamond Wheels, Pages 360-393

Chapter 9 - ELID Grinding with Lapping Kinematics, Pages 394-448

Appendix - Applications to Optoelectronics Materials, Pages 449-466

第2版に新たに追加されたコンテンツ:

- · New chapter on Fundamentals of Abrasive Machining
- New chapter on Requirements for Machine Tools for Ceramics Machining
- · Additional material on nano ceramics and recent trends
- · New material on Magnetic Finishing of Ceramics, ELID Grinding of Ceramics
- · Additional case studies on products from Corning, Ceradine, NGK (Japan), Kyocera and Coors.
- · More emphasis on insights and experience-based advice from the authors.

下記サイトにて抄録をご覧いただけます。

http://www.sciencedirect.com/science/book/9781455778584



Meet the Editors

Dr. Toshiro Doi

Professor of Manufacturing Processes, Department of Mechanical Engineering, Kyushu University, Japan

Dr. Ioan D. Marinescu

Professor & Director, College of Engineering, University of Toledo, OH, USA

■Eckart Uhlmann

Institute for Machine Tools and Factory Management, Technical University Berlin, Chair of Machine Tools and Manufacturing Technology

Contributors

Hideo Aida, Namiki Precision Jewel Co., Ltd, NJC Institute of Technology, Adachi, Tokyo, Japan,

Kyushu University, Fukuoka, Japan

Gill Bukvic, University of Sao Paulo (USP), São Carlos - SP, Brazil

Luiz Eduardo de Angelo Sanchez, Sao Paulo State University (Unesp), Vargem Limpa, Bauru - SP, Brazil

Benedito de Moraes Purquerio, University of Sao Paulo (USP), Sao Carlos - SP, Brazil

Arne Dethlefs, Technical University Berlin,

Chair of Machine Tools and Manufacturing Technology, Berlin, Germany

Carlos Alberto Fortulan, University of Sao Paulo (USP), Sao Carlos – SP, Brazil

Qiuyun Huang, MIME Dept., University of Toledo, Toledo, Ohio

Ahmed Bakr Khoshaim, Mechanical Engineering Department, University of Mecca, Saudi Arabia

Michael Kleinschnitker, Technical University Berlin,

Chair of Machine Tools and Manufacturing Technology, Berlin, Germany

Yin Ling, Department of Mechanical Engineering, Tianjin University, CHINA

Osamu Ohnishi, Institute of Education and Research for Engineering, University of Miyazaki, Miyazaki, Japan

Mariana Pruteanu, Researcher, Precision Micro-Macgining Center, University of Toledo, Toledo, USA

Brian Rowe, Liverpool John Moores University, Liverpool, England

Christoph Sammler, Technical University Berlin,

Chair of Machine Tools and Manufacturing Technology, Berlin, Germany

Nikolas Schröer, Technical University Berlin,

Chair of Machine Tools and Manufacturing Technology, Berlin, Germany

Cristian Spanu, MIME Dept., University of Toledo, Toledo, Ohio

Hirofumi Suzuki Chubu University, Kasugai-shi, Japan

Rainer Telle, Institut fur Gesteinshuttenkunde der, RWTH Aachen, Aachen, Germany

Eckart Uhlmann, Technical University Berlin, Chair of Machine Tools and Manufacturing Technology

Michael Weismiller, VP for Global R&D, Master Chemical Co., Perrysburg, Ohio

Hans G. Wobker, Institute for Production Engineering & Machine Tools,

University of Hannover, Hannover, Germany

Zonghua Xu, MIME Dept., University of Toledo, Toledo, Ohio

Günter Spur

出版日および価格等は予告なく変更となる場合がございます。予めご了承ください。 オンライン版のご用意もございます。詳しくは下記までお問い合わせください。

出版元

エルゼビア・ジャパン株式会社 S&T Books 〒106-0044 東京都港区東麻布 1-9-15 東麻布 1 丁目ビル 4F Tel: 03-5561-1051 E-mail: jp.stbooks@elsevier.com URL: http://www.elsevierdirect.com/ ※ご注文は洋書取扱書店を通してお願いいたします。