DESCRIPTION

Newly revised for its twelfth edition, DeGarmo's *Materials and Processes in Manufacturing, 12th Edition* continues to be a market-leading text on manufacturing and manufacturing processes courses for over fifty years. Authors J T. Black and Ron Kohser have continued this book's long and distinguished tradition of exceedingly clear presentation and highly practical approach to materials and processes, presenting mathematical models and analytical equations only when they enhance the basic understanding of the material. Updated to reflect all current practices, standards, and materials, the twelfth edition has new coverage of additive manufacturing, lean engineering, and processes related to ceramics, polymers, and plastics.

ABOUT THE AUTHOR

**J. T. Black** received his Ph.D. from Mechanical and Industrial Engineering, University of Illinois, Urbana in 1969, an M.S. in Industrial Engineering from West Virginia University in 1963 and his B.S. in Industrial Engineering, Lehigh University in 1960. J T. is Professor Emeritus from Industrial and Systems Engineering at Auburn University. He was the Chairman and a Professor of Industrial and Systems Engineering at The University of Alabama-Huntsville. He also taught at The Ohio State University, the University of Rhode Island, the University of Vermont, and the University of Illinois. He taught his first processes class in 1960 at West Virginia University. J T. is a Fellow in the American Society of Mechanical Engineers, the Institute of Industrial Engineering and the Society of Manufacturing Engineers.
Ron Kohser received his Ph.D. from Lehigh University Institute for Metal Forming in 1975. Ron is currently in his 37th year on the faculty of Missouri University of Science & Technology (formerly the University of Missouri-Rolla), where he is a Professor of Metallurgical Engineering and Dean's Teaching Scholar. While maintaining a full commitment to classroom instruction, he has served as department chair and Associate Dean for Undergraduate Instruction. He currently teaches courses in Metallurgy for Engineers, Introduction to Manufacturing Processes, and Material Selection, Fabrication and Failure Analysis.

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NEW TO EDITION

• NEW chapter on Additive Manufacturing incorporates the aspects of rapid prototyping, rapid tooling, and direct digital manufacturing, and provide updated information on many recent advances in this area

• NEW emerging technology is incorporated, and existing technologies are updated to accurately reflect current capabilities

• Four additional chapters are provided online at the book website: these chapters cover electronic manufacturing, thread and gear manufacture, nondestructive testing and inspection, and the enterprise (production system).

FEATURES

• Materials section focuses on properties and behaviors, while coverage of processes offers a descriptive introduction to the wide variety of options

• Emphasizes application and design

• Presents mathematical models and analytical equations sparingly
• Case studies provide real-world examples

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