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Sincerely,

William R. Carteaux
President & CEO

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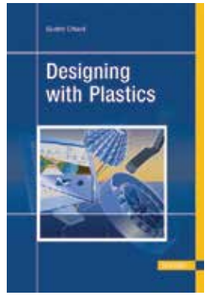


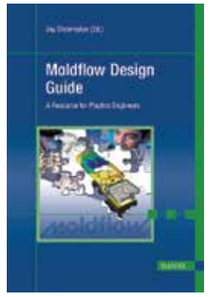
Designing with Plastics

By Gunter Erhard
ISBN: 978-1-56990-386-5

2006, 520 pages, 580 figures, 62 tables
Hardcover: $129.95 SPI members $116.96

Designing with Plastics is an indispensable tool for every engineer and designer who works with plastic materials. It will help you develop plastic parts that are not only functional and esthetically pleasing, but also easier to manufacture to ever-increasing end-use specifications and requirements.

The concise introduction into specific properties of plastics addresses the practical needs of the product designer and lays the foundation for the in-depth discussion of design for part production and intended end-use application that follows. Numerous detailed examples highlight practical tips and rules of thumb for successful part design.



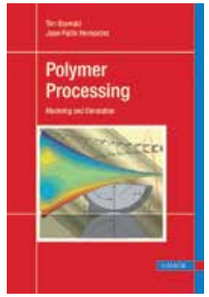
Moldflow Design Guide A Resource for Plastics Engineers

Edited by Jay Shoemaker
ISBN: 978-1-56990-403-9

2006, 326 pages, 280 figures, 36 tables
Hardcover: $99.95 SPI members $89.96

The *Moldflow Design Guide* helps plastics designers and engineers solve common problems associated with plastic parts and molds. Moldflow pioneered injection molding simulation in 1978, and has helped over 5,000 manufacturers make better parts, faster and with higher profit. Whether you use Moldflow software or not, this guide is an indispensable tool to understanding plastic flow, CAE analysis and interpretation of results, as well as cooling and warp effects. It is an indispensable aid in the successful design and manufacture of parts and molds. The book incorporates much of the worldwide knowledge base that has been developed at Moldflow over the past 28 years.

This valuable hardcover book delivers 300 pages of knowledge, including an overview of polymer flow behavior and the injection molding process, design principles to facilitate integrated part and mold design, and examples of how Moldflow technology can be used both to solve problems and to optimize design and manufacturing.



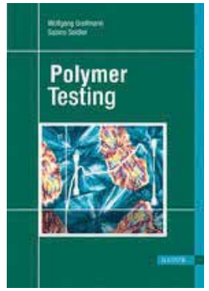
Polymer Processing Modeling and Simulation

By Tim Osswald and Juan Pablo Hernandez
ISBN: 978-1-56990-398-8

2006, 636 pages, 350 figures, 45 tables
Hardcover: $129.95 SPI members $116.96

This three-part textbook is written for a two-semester polymer processing series in mechanical or chemical engineering. The first and second parts are designed for a senior or graduate-level course introducing polymer processing, and the third part is for a graduate course in simulation in polymer processing. Many of the applications presented in the book are described in examples and illustrations. These illustrations help the practicing engineer to determine important parameters and factors during the design process or during process optimization. A separate instructor's solutions guide is available upon request.

Contents *Part 1:* Background: Polymer Material Science, Processing Properties, Polymer Processes *Part 2:* Processing Fundamentals: Dimensional Analysis and Scaling, Transport Phenomena in Polymer Processing, Analyses Based on Analytical Solutions. *Part 3:* Numerical Techniques: Introduction to Numerical Analysis, Finite Differences Method, Finite Element Method, Boundary Element Method, Radial Functions Method.



Polymer Testing

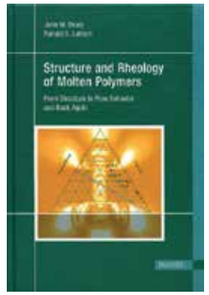
By W. Grellmann, S. Seidler
ISBN: 978-1-56990-410-7

2007, 700 pages, 483 figures, 27 tables
Hardcover: $99.95 SPI members $89.96

NEW

The staggering growth rates in plastics production and applications increases the demand for meaningful measuring and analysis methods in polymer testing. This book describes the significance of characteristic data for the quantification of the interrelationship between microstructure and macroscopic properties. Numerous examples for the optimization of polymers and their composites and the assessment of component properties provide a material science-focused insight into modern polymer testing.

Contents Preparation of Specimens. Determining Process-Related Properties. Mechanical Properties of Polymers. Fracture Toughness Measurements for Engineering Plastics. Testing of Physical Properties. Evaluating Environmental Stress Cracking Resistance. Non-Destructive Polymer Testing. Hybrid Methods of Polymer Diagnostics. Testing of Composite Materials. Testing of Micro-Components.

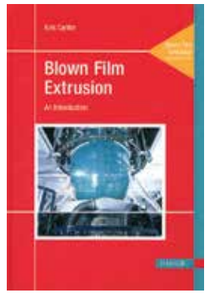


Structure and Rheology of Molten Polymers

By John M. Dealy and Ronald G. Larson
ISBN: 978-1-56990-381-0

2006, 516 pages, 150 figures, 15 tables
Hardcover: $129.95 SPI members $116.96

This book shows in detail how rheological properties are related to the molecular structure of polymers. As well, it explains how molecular models based on the tube concept can be used to predict the flow and viscoelastic properties of molten polymers. While data for specially-prepared polymers are vital for model development, the complexities of commercial polymers must be taken into account if these models are to be put to practical use. For this reason, the issues of polydispersity and long-chain branching are covered thoroughly. The information provided will be useful in determining molecular structure and for predicting how structure affects flow behavior during melt processing.



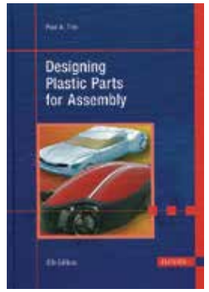
Blown Film Extrusion An Introduction

By Kirk Cantor
ISBN: 978-1-56990-396-4
Includes Simulator CD-ROM

2006, 165 pages, 90 figures, 12 tables
Hardcover: $89.95 SPI members $80.96

From hardware and materials through processing and properties, *Blown Film Extrusion* covers the process completely. The book provides a useful balance of both theory and practice. Readers will find the answers to *why* they encounter certain effects in the blown film process so that they are better able to troubleshoot and improve their operations. Current practices and equipment are emphasized to keep readers up-to-date with the most productive and efficient technology.

The companion CD-ROM, *The Blown Film Extrusion Simulator*, provides an enhanced learning process. This software was developed specifically to teach blown film extrusion equipment operation and processing principles. The realistic graphic interface and intuitive operating techniques emulate actual processing methods so that learners can quickly move from the simulator to real production equipment.



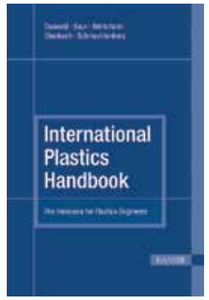
Designing Plastic Parts for Assembly 6th Edition

By Paul A. Tres
ISBN: 978-1-56990-401-5

2006, 290 pages, 270 figures, 45 tables
Hardcover: $89.95 SPI members $80.96

The sixth edition of this well received book provides a detailed yet accessible discussion of material selection, manufacturing techniques and assembly procedures to enable readers to evaluate plastic materials and design plastic parts for assembly. A noteworthy addition to this brand new sixth edition is a section on cutting-edge materials selection.

Designing Plastic Parts for Assembly describes good joint design and purpose, the geometry and nature of the component parts, the types of load involved and other indispensable tips for successful part design. It will help you design cost effective plastic parts and products that will hold up under use.



International Plastics Handbook The Resource for Engineers

By Osswald/Baur/Brinkmann/Schmachtenberg
ISBN: 978-1-56990-399-5

2006, 902 pages, 600 figures
Hardcover: $99.95 SPI members $89.96

The *International Plastics Handbook* covers virtually every facet of the state-of-the-art of plastics in a comprehensive, compact and well organized format. From material properties to machines, processing to applications, the book provides great detail on the successful implementation of new materials and technologies. Both the print and electronic versions include a current list of trade names and suppliers.

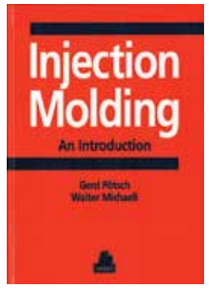
This concise, complete, modern reference explains basic facts and interrelationships and offers engineers to success in today's challenging industrial world.

Joining of Plastics Handbook for Designers and Engineers, 2nd Edition

By Jordan I. Rotheiser, Rotheiser Design, Inc.
ISBN: 978-1-56990-354-4

2004, 565 pages, 335 figures, 20 tables
Hardcover: $129.95 SPI members $116.96

This comprehensive state-of-the-art user's guide emphasizes the relationship between assembly methods, materials and plastics manufacturing processes. *Joining of Plastics* is a practical and thorough "how-to" book that gives designers and engineers hard-to-find, detailed information to help them identify the best design/assembly method for a given application.



Injection Molding, 2.A

By Poetsch, Michaeli
ISBN: 978-1-56990-419-0

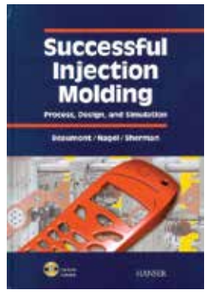
2007, 250 pages, 275 figures, 25 tables
Price: $79.95 SPI members $71.96

NEW

This introductory text provides an overview of the injection molding process and all its related aspects, including material behavior and machine and mold design.

Although the book is highly useful to advanced professionals, it is written in clear, simple language to enable beginners understand injection molding technology. Emphasis is placed on practical ways of processing and using plastics in various operations related to the injection molding process. The second edition has been expanded to include all relevant special injection molding techniques developed since the publication of the first edition.

Contents Introduction to the Technology of Injection Molding, Injection Molding Materials, The Injection Molding Machine, The Injection Mold, Course of Process and Process Control in Injection Molding, Automation, Quality Assurance, Special Injection Molding Techniques.



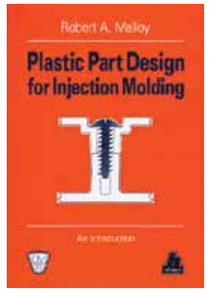
Successful Injection Molding Process, Design, and Simulation

By John Beaumont, Robert Nagel, and Robert Sherman
ISBN: 978-1-56990-291-2

2002, 361 pages, 316 figures, 16 tables
Hardcover: $129.95 SPI members $116.96

This book addresses successful injection-molded product development and the practical application of injection molding simulation. It places a strong emphasis on establishing a clear understanding of the complex interaction between materials, process, mold design and part design, and how injection simulation can be used to evaluate this interaction.

Contents Successful Development and Production of Injection Molded Parts. Understanding Thermoplastic Materials. Injection Molding. Part Design. Mold Design. Mold Filling and Related Product Issues. Mold Design and Process Strategies. Prototyping. Introduction to Computer Aided Engineering. The Process of Performing CAE Analyzes. Characterization of Thermoplastic Materials for CAE. Modeling for Injection Molding Analysis. Filling and Packing Analysis. Boundary Element Method Cooling Analysis. Shrinkage/Warpage Analysis.



Plastic Part Design for Injection Molding An Introduction

By Robert A. Malloy, University of Massachusetts, Lowell
ISBN: 978-1-56990-129-8

1994, 460 pages, 427 figures, 11 tables
Hardcover: $79.95 SPI members $71.96

Learn proactive strategies to prevent potentially costly problems associated with product design with *Plastic Part Design for Injection Molding*. This book goes into great detail on design for manufacturability, with special emphasis on how the various phases of the injection molding process can impact a part design. It examines common problems, such as weld lines, warpage and ejection difficulties and offers potential solutions to them. It also covers the fundamentals of plastic material performance and structural design, as well as plastic part prototyping. The last section of the book reviews the various assembly methods that can be used for injection molded plastic parts. This book has achieved best-seller status and is used by thousands in both industry and academia.

Industrial Polymers

Edited by E. A. Campo
ISBN: 978-1-56990-409-1

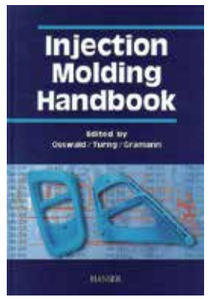
2007, 193 pages, 280 figures, 5 tables
Price: $99.00 SPI members $89.10

NEW

Industrial Polymers provides a comprehensive and very practical overview of the various plastic materials used in today's industrial applications. It focuses on material properties and areas of application. All industrially significant plastic families and grades are introduced following a unified approach: chemical constitution, manufacturing, properties, processing, and end-use applications. This consistency in presentation allows readers to easily compare different materials and helps them identify suitable plastic materials for a given end-use.

Ample full-color illustrations provide vivid testimony to the fact that plastic materials are the ultimate tribute to man's creativity and inventiveness.

Major Topics Covered in the Contents Polymeric Materials, Thermoplastic Polymers, Thermoplastic Elastomers (TPE), Liquid Injection Molding Silicone (LIM®), Thermoset Polymers, Appendices.



Injection Molding Handbook

Edited by Tim A. Osswald, Lih-Sheng (Tom) Turng, and Paul J. Gramann
ISBN: 978-1-56990-318-6

2001, 748 pages, 582 figures, 62 tables
Hardcover: $149.95 SPI members $134.96

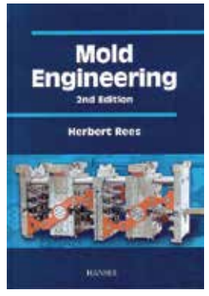
The *Injection Molding Handbook* thoroughly covers the latest components of injection molding processing equipment and techniques. Topics directly affecting injection molding, such as material selection, process control, simulation, design and troubleshooting, complete this reference book. The *Injection Molding Handbook* presents a well-rounded overview of the underlying theory and physics that control the various injection molding processes, as well as practical, hands-on information. The authors, who are leading practitioners and researchers in both industry and academia, offer a wide range of experience and perspective on the injection molding process.

Thermal Analysis of Plastics Principles and Practice

By G. W. Ehrenstein
ISBN: 978-1-56990-362-9

2004, 368 pages, 300 figures, 35 tables
Hardcover: $99.95 SPI members $89.96

Thermal Analysis of Plastics examines important properties of plastic materials, such as nucleation, crystallization, degree of crystallinity, recrystallization, melting and solidification, glass transition, curing and postcuring, thermal stability, thermal expansion, relaxation of orientation and internal stresses, pvT-data, and others. Different test methods and their variations are described in detail. Using practical examples, a variety of approaches to problem solving are presented with a focus on the interpretation of experimental results. This book is a must for everyone involved in material and product development, testing, processing, quality assurance or failure analysis in industry and laboratories.



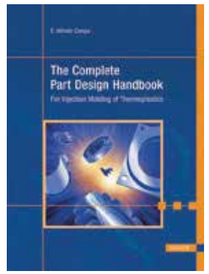
Mold Engineering 2nd Edition

By Herbert Rees
ISBN: 978-1-56990-322-3

2002, 688 pages, 554 figures
Hardcover: $129.95 SPI members $116.96

The updated and revised second edition of *Mold Engineering* is geared to students of mold design, molding machine technicians and design engineers. Its 688 pages cover injection molds for thermoplastic molding materials and their performance in detail. Step-by-step guidelines are supplied for the design of molds, from product drawing to complete mold assembly drawing.

Partial Contents Engineering. Basic Functions. Requirements. General Guidelines. Plastics Identification. Layout. Operation Sequences. Shrinkage. Surface Tolerances. Gates and Runners. Venting. Ejection. Cooling. Heat Expansion. Stack Molds. Materials Specifications. Plates. Metal Fatigue. Screws. Parts Handling. Air and Oil Hydraulic Actuators. Rules and Calculations for Designers. Mold Performance and Life. Frequent Questions. Cycle Time. Wall Thickness. Product Size.



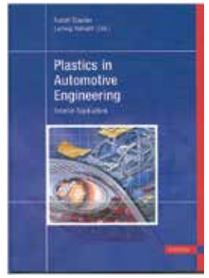
The Complete Part Design Handbook For Injection Molding of Thermoplastics

By E. Alfredo Campo
ISBN: 978-1-56990-375-9

2006, 870 pages, 900 figures
Hardcover: $299.00 SPI members $269.10

This must-have, all-inclusive reference guide to plastic part design was written for the product designer who is looking for comprehensive, detailed information on plastic resins, the rules and geometries underlying their use in product design, and the advantages and limitations of their use in industrial applications. The designer will also find valuable advice on resin and tool selection and processing parameters that will allow fast and successful product development and manufacture.

Thousands of hours of research and cross-referencing have gone into the completion of this expansive reference. In addition, the "hands-on" knowledge of a plastics expert with more than 35 years experience is incorporated inti this handbook, making it an invaluable tool for any product designer facing the challenges of our global plastics industry.



Plastics in Automotive Engineering Exterior Applications

Edited by Rudolf Stauber and Ludwig Vollrath
ISBN: 978-1-56990-406-0

2007, 407 pages, 600 figures, 15 tables
Price: $129.95 SPI members $116.96

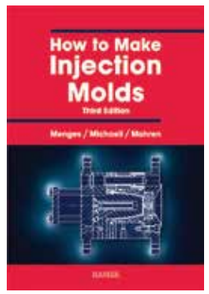
NEW

Today's automotive industry is challenged by ever more stringent demands to reduce fuel consumption and exhaust emissions. Lightweight design and increased use of advanced plastic components will be essential for the next generation of cars to comply with legislation.

Engineers and manufacturers who develop and produce polymer-based components for automotive applications are under pressure to reduce development time and to optimize production processes for quality and economic viability. The tools of choice are computer-aided selection of polymers in combination with mathematical simulation for both, material properties and production processes. These aids provide crucial help in finding innovative and economical solutions when designing polymer applications for modern cars.

This unique and timely book provides both theoretical and practical reviews of novel polymer applications for automotive engineering, covering materials selection, simulation, prototyping and manufacturing. Nineteen industrial case studies illustrating current polymer applications for the exterior of passenger cars and commercial vehicles complete this book.

Contents Automotive Concepts and Lightweight Design, Material Concepts and Process Technologies, Modeling and Rapid Prototyping, Joining, Industrial Case Studies, Appendix. Subject Index.



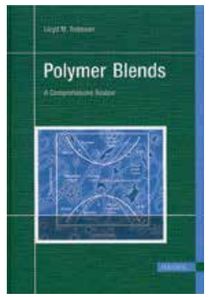
How to Make Injection Molds 3rd Edition

Edited by Georg Menges, Walter Michaeli, and Paul Mohren
ISBN: 978-1-56990-282-0

2001, 612 pages, 608 figures, 62 tables
Hardcover: $149.95 SPI members $134.96

Now in its third edition, this classic, comprehensive handbook for the design and manufacture of injection molds covers all aspects of how to successfully make injection molds in both theory and practice. It is an indispensable reference tool for anyone involved in mold making.

Contents Materials for Injection Molds. Mold Making Techniques. Procedure for Estimating Mold Costs. The Injection Molding Process. Design of Runner Systems. Design of Gates. Venting of Molds. The Heat Exchange System. Shrinkage. Mechanical Design of Injection Molds. Shifting of Cores. Ejection. Alignment and Changing of Molds. Computer-Aided Mold Design and the Use of CAD in Mold Construction. Maintenance of Injection Molds. Measuring in Injection Molds. Mold Standards. Temperature Controllers for Injection and Compression Molds. Steps for the Correction of Molding Defects During Injection Molding. Special Processes–Special Molds. Index.



Polymer Blends Introduction and Review

Edited by L.M. Robeson
ISBN: 978-1-56990-408-4

2007, 480 pages, 140 figures, 15 tables
Price: $199.95 SPI members $179.96

NEW

Polymer blends offer a well-recognized solution to emerging application requirements. The ability to combine existing polymers into new, commercially useful compositions offers the advantage of reduced research and development expense over the development of new monomers and polymers with similar properties. Polymer blends also significantly reduce capital expenditures involved with scale-up and commercialization. And, polymer blends often offer property profile combinations not easily obtained with new polymeric structures. In today's rapidly evolving technology landscape, polymer blend technology can provide fast, effective solutions to your customers' needs.

This book offers a comprehensive overview of this important field, including unique, extensive literature research on all aspects of this technology. It is suitable for use both as a reference as well as a textbook for a graduate level course on polymer blends.

Contents Fundamentals of Polymer Blends, Compatibilization Methods for Polymer Blends, Types of Polymer Blends, Characterization of Polymer Blends, Properties of Polymer Blends, Commercial Applications of Polymer Blends, Future Perspectives in Polymer Blends.

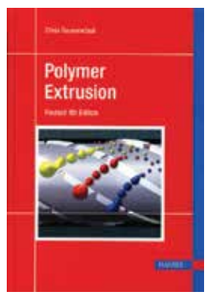
Plastics Packaging Properties, Processing, Applications, Regulations, 2nd Edition

By Susan E.M. Selke, John Culter, and Ruben Hernandez
ISBN: 978-1-56990-372-8

2004, 448 pages, 300 figures, 35 tables
Hardcover: $79.95 SPI members $71.96

It is increasingly important for everyone in the packaging industry to have a basic understanding of the properties of plastics commonly used in packaging.

The second edition of this well received book provides that essential knowledge to students and packaging professionals alike. *Plastics Packaging: Properties, Applications, Regulations* covers material properties and how they relate to the chemical structure of the polymers, common processing methods for packaging applications, help with writing specifications, designing, fabricating, testing and controlling the quality of the plastic materials. Expanded and updated information on PET bottle production, retort pouches, polylactides and plastic recycling among other topics make the second edition an indispensable resource.



Polymer Extrusion 4th Edition

By Chris Rauwendaal, Rauwendaal Extrusion Engineering Inc.
ISBN: 978-1-56990-321-6

2001, 777 pages, 597 figures, 49 tables
Hardcover: $99.95 SPI members $89.96

Polymer Extrusion provides the theoretical and the practical tools for successful extrusion operations and incorporates many new developments in extrusion theory and machinery. This book demonstrates how extrusion theory can be applied to actual extrusion problems such as screw design, die design and troubleshooting. Extensive changes and additions to this edition make it a must-have for professors and students. A large number of illustrations, tables and graphs are included as an aid to the reader.

Contents *Chapter 1:* Introduction. *Part I:* Extrusion Machinery. *Chapter 2:* Different Types of Extruders. *Chapter 3:* Extruder Hardware. *Chapter 4:* Instrumentation and Control. *Part II:* Process Analysis. *Chapter 5:* Fundamental Principles. *Chapter 6:* Important Polymer Properties. *Chapter 7:* Functional Process Analysis. *Part III:* Practical Applications. *Chapter 8:* Extruder Screw Design. *Chapter 9:* Die Design. *Chapter 10:* Twin Screw Extruders. Chapter 11: Troubleshooting Extruders. *Chapter 12:* Modeling and Simulation of the Extrusion Process. Index.

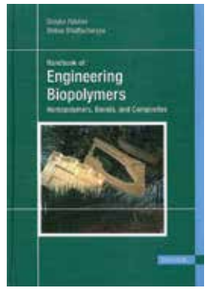
Adhesion and Adhesives Technology 2nd Edition

By A. V. Pocius, 3M Company
ISBN: 978-1-56990-319-3

2002, 319 pages, 162 figures, 33 tables
Hardcover: $89.95 SPI members $80.96

This updated book provides a broad view of the field, covering adhesion and adhesives technology in a stepwise fashion to facilitate an understanding of the science. Most chapters include problems for the reader to develop a firm grasp on the information presented in the text.

The text assumes that the reader has little or no knowledge of the science of adhesion. The emphasis is on understanding the science rather than a complete and detailed exposition on any single part of it. Each section or chapter starts with a simple review of the subject at the same point an entry-level textbook would begin. More detail is given in each section or chapter for the reader who is or wants to be a practitioner of the art and science of adhesion.



Handbook of Engineering Biopolymers Homopolymers, Blends, and Composites

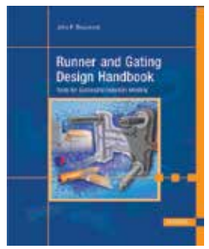
Edited by Stoyko Fakirov and Debes Bhattacharyya
ISBN: 978-1-56990-405-3

2007, 896 pages, 300 figures, 15 tables
Price: $199.95 SPI members $179.96

This volume presents the results of numerous worldwide studies focusing on the implementation of natural polymers as engineering plastics and their inherent properties. It discusses the processing and, more extensively, the application of natural materials (cellulose- and protein-based) as reinforcements for polymer composites.

The structural, morphological and thermal characteristics, as well as the mechanical behavior of the obtained materials are covered comprehensively. In addition, the book includes case studies and results of commercial relevance. All natural polymers used in the blending or reinforcement of synthetic polymers are discussed in an attempt to cover the isolation, pretreatment, blending and manufacturing of the respective materials.

Contents Polysaccharide-Based Materials, Protein-Based Materials, Wood- and Lignin-Based Blends and Composites, Biodegradability Through Blending and Bioplastics (All-Green Plastics).



Runner and Gating Design Handbook Tools for Successful Injection Molding

By John P. Beaumont
ISBN: 978-1-56990-347-6

2004, 286 pages, 285 figures, 20 tables
Hardcover: $129.95 SPI members $116.96

The *Runner and Gating Design Handbook* is a comprehensive source for successful injection molding. It presents the critical features in hot runner design and how to determine what type of design is best for an application. It also provides methods to successfully solve engineering and processing issues and helps the processor in developing profitable strategies for molding better products.

Runner and Gating Design Handbook will help determine the optimum design, when to use what type of runner systems and how to isolate molding problems generated from the gate and runner versus other molding issues. Full color 3-D graphics, illustrations and photographs as well as charts, checklists, troubleshooting guides and contributions from the industry's leading expert John Bozzelli complete this handbook.

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