

HANSER

Plastics Technology

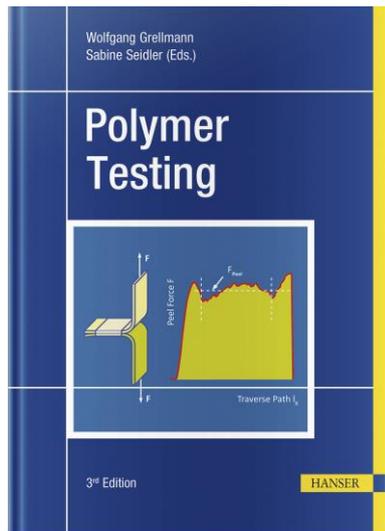
Books for Industry, Science and Education



Processing & Manufacturing
Design
Materials

RIGHTS GUIDE

Spring 2021



Polymer Testing 3/e

ISBN: [978-1-56990-806-8](https://www.hanser.de/978-1-56990-806-8)

780 pages. Hardcover, full color

Publication date: July 2021

A systematic and complete presentation of measuring and evaluation methods for polymer testing

Reliable and meaningful methods of polymer testing are necessary to support the plastics industry, being essential for understanding material and part properties, and evaluating materials for a part design, with important implications for product safety as well as operating conditions and lifetime. This book covers all the most important testing methods, from long-established basic techniques to recent developments, including the latest polymer testing standards.

By means of examples for the optimization of materials as well as for the evaluation of part properties, an insight into modern polymer testing and its interdisciplinary character is provided.

Included in this third edition is an all-new chapter on the testing of polymer films; additionally, many small updates and corrections have been made throughout the book.



Plastics knowledge for additive manufacturing

Properties, formulation and applications of thermoplastics

ISBN: [978-3-446-46488-9](https://www.hanser.de/9783446464889)

300 pages, Hardcover, full color

Publication date : **August 2021**

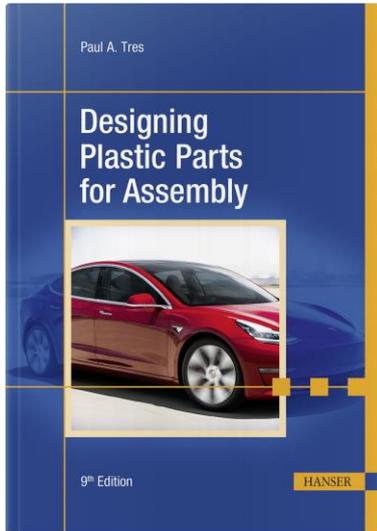
Plastics knowledge for additive manufacturing

This practical book is aimed at companies that want to integrate thermoplastic-based 3D printing into their manufacturing processes and need to build up know-how in the selection of suitable plastics. It presents the thermoplastics relevant for additive manufacturing and their process-specific characteristics.

The book is dedicated to the following topics:

- Functional principle and build-up strategy of thermoplastic-based additive manufacturing processes, in particular fused layer modeling (FLM) and selective laser sintering (SLS).
- Classification and formulation of thermoplastic polymer materials
- Mechanical, thermal and chemical properties of thermoplastics that must be considered for use in 3D printing
- Material, design and process specifics of thermoplastics for successful processing
- Support materials, multi-material processes, fiber-reinforced components
- Biobased or biodegradable thermoplastics, recycling of thermoplastics
- Recommendations for occupational safety, environmental protection and product safety

Numerous practical examples showing selected combinations of plastics and additive manufacturing methods make this book an indispensable guide for all those who use 3D printing and need sound knowledge of material selection for this purpose.



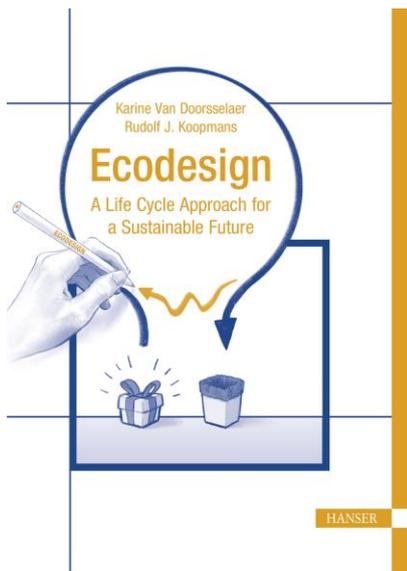
Designing Plastic Parts for Assembly 9/e

ISBN: 978-3-446-46286-1
460 pages. hardcover
Publication date: February 2021

Chinese Rights sold to CMP

The definitive book on plastic part design, now in its 9th edition.

- Practice-oriented and focused on everyday problems and situations
- Includes material selection, manufacturing techniques, and assembly procedures, as well as joint design and implementation, and geometry and nature of the component parts
- Numerous educative case studies, including illustrations of how dangerous and expensive errors have been made in the past, and how they should be avoided
- New case histories and much-expanded coverage of electromagnetic welding
- Various other updates and improvements throughout the book.



Ecodesign

A Life Cycle Approach for a Sustainable Future

ISBN: [978-1-56990-862-4](https://www.hanser.de/978-1-56990-862-4)

269 pages. Hardcover, full color

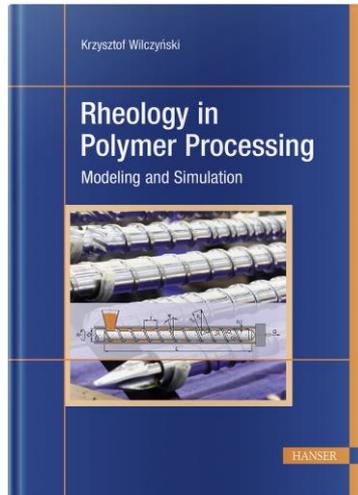
Publication date: **December 2020**

Ecodesign means integrating environmental factors into the design process of all types of products, from toys, packaging, household appliances to industrial products like compressors. It requires life cycle thinking, with the environmental impact minimized at all stages of the product cycle, from the extraction of raw materials to end of use. Ecodesign is also a key to success in the transition to a circular economy model. The ecodesign rules of thumb are a guide to develop products that fit in the circular economy.

This unique book serves as a key guide for designers, organizations, governments, companies, or anybody else with an interest in a sustainable future, by addressing three main topics: First, ecodesign is explained for what it is and how it fits with the necessity for a sustainable planet. Second, ecodesign is shown to be a coherent and practical process with a plan and tools that can be used to provide solutions for the environmental challenges the world faces. Third, the impact of the ecodesign approach is elaborated for enterprises, governments, and consumers. Both legislation and consumer pressure for more sustainable goods and services require industry and academia to come up with meaningful solutions that consider economic, societal, and environmental aspects alike. This book provides the necessary clarity and tools to assess current products and support and inspire design of new ones to minimize the environmental impact and improve the circularity.

Contents:

- * Necessity of Ecodesign
- * Emergence of Ecodesign and the Circular Economy Model
- * Design for X
- * Ecodesign Tools
- * Ecodesign in the Product Development Process
- * Stimulating Ecodesign
- * Ecodesign and Entrepreneurship
- * Ecodesign and Governance and Consumers



Rheology in Polymer Processing Modeling and Simulation

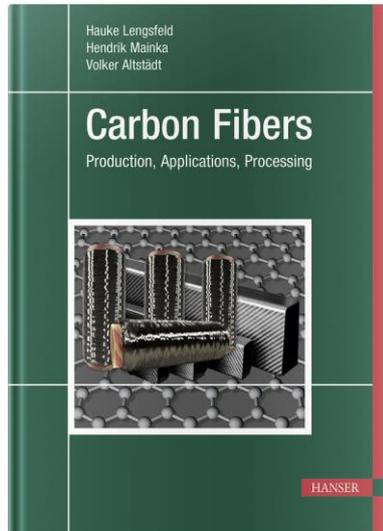
ISBN: 978-1-56990-660-6
392 pages. Hardcover, full color
Publication date: **December 2020**

“Rheology in Polymer Processing” introduces the fundamentals of rheology and rheometry as the basis for modeling and computer-aided design in plastics processing. The logically structured content enables the reader to intelligently use the tools of computer-aided design and modeling of plastics processing, with correct interpretation of the results.

The book presents difficult and complex issues of rheology and modeling in an accessible way, with particular emphasis on the practical engineering aspects. The software described in the book allows modeling all the important problems of plastics processing.

Particular attention is paid to the extrusion process, which is fundamentally important as a processing technology in mass manufacture of plastic parts, and the basis of compounding processes (blending, filling, granulation, and reinforcement).

This book is aimed equally at engineers, researchers, and scientists, as well as intermediate students, for whom it will serve as an ideal course book.



Carbon Fibers

Production, Applications, Processing

ISBN: 978-1-56990-828-0

219 pages. Hardcover

Publication date: **December 2020**

This useful guide provides a hands-on approach to making carbon fibers and their composites for those who need to use these materials.

The book begins with a brief history of carbon fiber development, with definition of the terminology for all forms of solid carbon, and the properties of elemental carbon and its allotropic forms. Various carbon fiber precursors, surface treatments, and sizes for a range of carbon fiber types available on the world market are presented. The book gives an excellent overview of the chemical and physical properties of carbon fibers and their composites. In addition, common test and analysis methods for demonstrating these properties are presented.

Several chapters describe typical processing methods for carbon fibers with dry and also impregnated semi-finished products in applications such as aerospace, wind, and automotive, as well as the construction industry. The advantages and disadvantages of various manufacturing processes based on application examples are shown.

Considerations regarding C-fiber recycling and sustainability (environmental footprint) as well as new developments in the field of carbon fiber manufacturing are intended to assist the reader in the selection and understanding of material, process, and design to achieve successful implementation.