

Polymeric Nanocomposites

Theory and Practice

Bearbeitet von
Sati N. Bhattacharya, Musa R. Kamal, Rahul K. Gupta

1. Auflage 2007. Buch. XIV, 384 S. Hardcover

ISBN 978 3 446 40270 6

Format (B x L): 17,5 x 25,1 cm

Gewicht: 853 g

Weitere Fachgebiete > Technik > Verfahrenstechnik, Chemieingenieurwesen,
Lebensmitteltechnik > Technologie der Kunststoffe und Polymere

schnell und portofrei erhältlich bei

The logo for beck-shop.de features the text 'beck-shop.de' in a bold, red, sans-serif font. Above the 'i' in 'shop' are three red dots of increasing size. Below the main text, 'DIE FACHBUCHHANDLUNG' is written in a smaller, red, all-caps, sans-serif font.

beck-shop.de
DIE FACHBUCHHANDLUNG

Die Online-Fachbuchhandlung beck-shop.de ist spezialisiert auf Fachbücher, insbesondere Recht, Steuern und Wirtschaft. Im Sortiment finden Sie alle Medien (Bücher, Zeitschriften, CDs, eBooks, etc.) aller Verlage. Ergänzt wird das Programm durch Services wie Neuerscheinungsdienst oder Zusammenstellungen von Büchern zu Sonderpreisen. Der Shop führt mehr als 8 Millionen Produkte.

HANSER

Sati N. Bhattacharya, Musa R. Kamal, Rahul K. Gupta

Polymeric Nanocomposites

Theory and Practice

ISBN-10: 3-446-40270-5

ISBN-13: 978-3-446-40270-6

Vorwort

Weitere Informationen oder Bestellungen unter
<http://www.hanser.de/978-3-446-40270-6>
sowie im Buchhandel

Preface

Nanostructured multi-phase polymers have generated great interest with promise to produce a new generation of materials displaying enhanced physical, mechanical, thermal, electrical, magnetic, and optical properties. The key to the success of nanocomposites hinges on the ability to exploit the potential of nano-structuring in the final product. Therefore, it is important to develop practical and economical formulations and processing methods for tailoring a sustainable material configuration at the nanoscale level. Recently, much progress has been made in meeting this challenge and in developing a wide range of commercial processes, products, and devices as a result of the research efforts and advances by many scientists, engineers, and technologists. While a large number of scientific papers and some books on polymer nanocomposites have been published, there is a clear need to bring together the scientific knowledge and the engineering developments relating to these materials in terms of synthesis, characterisation, production, and application. This book deals with clay-based polymer nanocomposites, which have been the subject of extensive research in the last decade. Besides its low cost, clay has a plate-like geometry, which could impart excellent product properties under optimum nanostructuring conditions.

The book provides an overview of the compositionprocessingproductapplication relationships in the field of polymer nanocomposites. It deals with the fundamental principles that govern the synthesis and behavior of polymer/clay nanocomposites, such as thermodynamics, kinetics, rheology, and morphology. Other chapters cover practical aspects, such as processing, performance, and some commercial applications of polymer/clay nanocomposites in selected industries, such as packaging, automotive, electronic, and telecommunications. It is hoped that the book will serve as a reference and guide for those who work in various aspects of the nanocomposite industry and technology or wish to learn about these promising new materials.

The preparation of this book has been possible due to the active support and help received from many colleagues, research staff and graduate students. The authors would like to express their sincere thanks to all these individuals for the direct and indirect efforts and contributions to the preparation of this book: Dr. S. Raha, Mr. M. Reddy, Mr. M. Pannirselvam and Mr. S. Bhattacharya, Dr F Cser, Dr R Prasad, Dr. M. Al-Wohoush, Dr. L. Ionescu Vasii, Dr. N. Borse, Dr. K. Kim, Dr. L. Feng, Mr. J. Uribe-Calderon, Ms. O. Tavichai, Mr. C. Lungu, and Mr. N. Nassar. We also wish to express our appreciation to our respective universities, RMIT and McGill, and the various granting agencies in Australia and Canada for material and moral support that made it possible to produce this book.

Sati N. Bhattacharya
Rahul K. Gupta
Musa R. Kamal