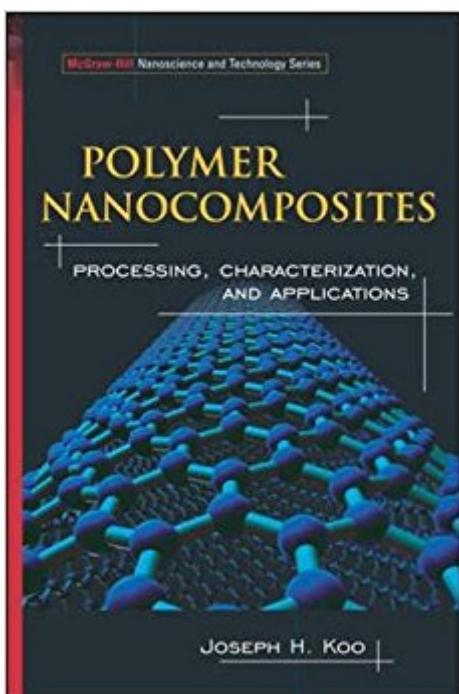


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# Polymer Nanocomposites: Processing, Characterization, And Applications (McGraw-Hill Nanoscience And Technology)



## Synopsis

Understand the principles, applications, and limitations of a cutting-edge material Based on the author's 26 years of experience in the field of Nanotechnology, this reference offers researchers and materials scientists a complete reference to the physical concepts, techniques, applications and principles underlying one of the most researched materials. Keeps you abreast of the latest trends, developments, and commercial applications

## Book Information

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## Customer Reviews

A State-of-the-Art Guide to the Principles, Applications, and Limitations of the Material Components of Polymer Nanostructured Materials Polymer Nanocomposites: Processing, Characterization, and Applications offers researchers an invaluable tool for understanding and utilizing the special chemical and material principles underlying these cutting-edge polymer nanocomposites. This rigorous guide presents detailed information on the physical concepts, techniques, and applications of such nanomaterials as nanoclays, nanosilicas, carbon nanofibers, polyhedral oligomeric silsesquioxanes (POSS®), and carbon nanotubes. With this essential resource, readers can: Get expert descriptions of the types of nanoparticles commonly used in polymeric matrices Discover methods for transforming polymer matrix resins into nanocomposites used for coatings, adhesives, fire-retardant, ablative, and structural materials Examine chemical and thermal properties of various nanoparticles such as nanoclays, nanosilicas, POSS®, carbon nanofibers, and carbon nanotubes

Capitalize on new breakthroughs and commercial uses of polymer nanocomposites Explore Every Aspect of Today's Widely Used Polymer Nanocomposites: An overview of nanoparticles Selecting resin matrix and nanoparticles for applications Processing of nanomaterials Characterization of polymer nanomaterials Properties of polymer nanostructured materials Polymer nanostructured materials for high-temperature applications Current status, trends, future directions, and opportunities

Joseph H. Koo is currently a senior research fellow and director of Solid Freeform Fabrication Consortium in the Department of Mechanical Engineering at the University of Texas at Austin, Austin, TX. He is chairman of the newly established SAMPE Nanotechnology Committee and immediate past chairman of the AIAA Materials Technical Committee. Dr. Koo has 30 years of industrial and academic experience in program and engineering management and has published over 200 papers on thermal, material, and optical sciences in a variety of science journals and conference proceedings.

Dr. Joseph Koo's Polymer Nanocomposites text is an outstanding reference for the study and utilization of polymer nanocomposite materials. This book covers a wide range of topics including polymer types, processing and characterization of nanomaterials, and special applications. It includes up to date information on current trends and ongoing research in this emerging field of nanoscience. The general theme of this work is on the utility afforded by polymer nanocomposites in dynamic and demanding applications.

This is a good book, it covers all various types of polymer nanocomposites (from nano-clays, carbon black, CSCNTs (CNFs), CNTs) in sufficient detail to grasp an understanding of what each is all about. One of the better reference texts on the subject, especially given its wide range material covered.

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