



On Polymer/Nano-particle Composites

By Wang, Gong-Tao

Book Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Characterization and Numerical Modeling of Mechanisms about Fracture Toughness and Fatigue Resistance of Epoxy/Nano-silica/Nano-rubber Composites | Over decades, nanotechnology thrived through science and technology. For polymer nanocomposites, radical changes in many properties were seen. If successfully exploited, it will achieve the critical requirement of multi-functional properties from single material. However, previous explanations are mostly plausible or inconclusive. Besides, results are mixed specially on toughness. Thence, it is in this book that a systematic investigation is provided for the understanding of structure-deformation-property relationships. Two aspects, fracture toughness and fatigue resistance, are analysed with aids of microscopic techniques and analytical tools. Deformation sequences and underlying mechanisms are unveiled to establish a quantitative modeling arriving at toughness. Moreover, thermal softening and fatigue crack propagation are browsed. The book is of direct interests to postgraduates, researchers and practitioners, who work with polymers, material characterization, fracture mechanics, fatigue and modeling of PNCs. More generally, mechanical engineers, polymer modifiers, material chemists and physicists can also find useful information. | Format: Paperback | Language/Sprache: english | 414 gr | 280 pp.



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