

1. Record Nr.	UNINA9910808713103321
Titolo	Processing and properties of nanocomposites // Suresh G. Advani, [editor]
Pubbl/distr/stampa	Singapore ; ; Hackensack, NJ, : World Scientific Pub., c2007
ISBN	1-281-37316-8 9786611373160 1-61344-777-9 981-277-247-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (463 p.)
Altri autori (Persone)	AdvaniSuresh G
Disciplina	294.3657
Soggetti	Nanostructured materials Nanotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Contents ; Preface ; Chapter 1 Carbon Nanotube/Nanofibre Polymer Composites ; 1. Introduction ; 2. Carbon Nanotubes and Nanofibres ; 3. Carbon Nanotube/Nanofibre-reinforced Polymer Composites ; 4. Conclusions ; 5. Outlook ; References Chapter 2 Dispersion Bonding and Orientation of Carbon Nanotubes in Polymer Matrices 1. Introduction ; 2. CNT Dispersion in Polymer ; 3. Interfacial Bonding; 4. CNT Orientation State ; Acknowledgements ; References Chapter 3 SWNT Buckypaper Nanocomposites: High Nanotube Loading and Tailoring Nanostructures 1. Introduction ; 2. Raw Materials ; 3. Fabrication of Randomly Oriented and Magnetically Aligned SWNT Buckypapers ; 4. Resin Infiltration of the Buckypapers 5. Nanostructures of SWNT Buckypaper/epoxy Nanocomposites 6. Dynamic Property of SWNT Buckypaper/epoxy Nanocomposites ; 7. Effect of SWNT Rope Formation on Mechanical Properties of SWNT-reinforced Nanocomposites

; 8. Conclusions ; 9. Future Work ;
Acknowledgements ; References
Chapter 4 Processing and Mechanical Properties Characterization of
Hybrid Thermoset Polymer Composites with Micro-Fiber and Carbon
Nano-Fiber Reinforcements
1. Introduction ; 2. Background
3. Use of Carbon Nanotube and Carbon Nanofiber in Micro-fiber
Reinforced Thermoset Polymer Composites

Sommario/riassunto

Nanotechnology is progressing very rapidly. This book focuses on carbon nanotubes and nano clays and explore their importance and roles in composites. Hence, the chapters address processing, rheology, mechanical properties and their interaction with fiber composites. Written by renowned researchers, this book is a collection of nine chapters which embrace the role of nano particles in composites. The first three chapters focus on the use of carbon nanotubes in composites. Chapter 4 explores the interaction between traditional fiber composites and the use of nano particles in terms of benefit
