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Titolo	Mechanics of Nanomaterials and Polymer Nanocomposites // edited by Hind Abdellaoui, Sanjay M. R., Suchart Siengchin
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Collana	Smart Nanomaterials Technology, , 3004-8281
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Nota di contenuto	Introduction to Mechanics of Nanomaterials and Polymer Nanocomposites -- Nanoclay: processing, mechanical properties and applications -- Carbon nanotubes particles: processing, mechanical properties and applications -- Mechanical characterization of Graphene nanoparticles -- Nanostructured metals: optical, electrical and mechanical properties -- Elasticity of nanocomposites -- Dynamic mechanical behaviors of nanocomposites -- Laminate theory -- Plate sandwiches theory -- Beam, plate and shell theories -- Micro mechanic of polymer nanocomposites -- Nanocomposites: homogenization and kinematic relations -- Fatigue and durability of polymer nanocomposites -- Stability of polymer nanocomposites -- Viscoelasticity behavior of polymer nanocomposites -- Fracture Toughness of polymer nanocomposites -- Finite Déformations of polymer nanocomposites -- Green nanomaterials: processing, characterization and applications -- Nanocellulose : extraction, mechanical properties and applications -- Green nanomaterials based polymer nanocomposites: mechanical properties.
Sommario/riassunto	This book delves into the mechanical analysis of the nanomaterials and polymer nanocomposite materials by shedding light on the mechanical performance of nanomaterials, elasticity and viscoelasticity behaviors

of polymer nanocomposites, the laminate and sandwich theories, durability and fatigue behaviors. The chapters in this book bring together leading experts in the field to provide an update of the latest scientific results and a fully holistic understanding of the mechanical performance of these materials. The book interests the academic and industrial researchers, R&D managers and engineers working in material and nanomaterial sciences, polymer science and technology, automotive and aerospace engineering, construction and sporting goods, etc. The book also targets the readers that may have no prior knowledge about composite and nanocomposite materials.

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