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Titolo	Bio-based composites for high-performance materials : from strategy to industrial application / / edited by Wirasak Smitthipong, Rungsima Chollakup, Michel Nardin
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Nota di contenuto	Front Cover; Contents; Preface; Editors; Contributors; Chapter 1: Bio-Based Composites: An Introduction; Chapter 2: Bio-Based Strategy: Food and Non-Food Markets; Chapter 3: Strategy of Bio-Based Resources: Material versus Energy; Chapter 4: Bio-Inspired Materials; Chapter 5: Natural Fiber Surface Treatments and Coupling Agents in Bio-Based Composites; Chapter 6: Reinforcement of Polymers by Flax Fibers: Role of Interfaces; Chapter 7: Effects of Reinforcing Fillers and Coupling Agents on Performances of Wood-Polymer Composites Chapter 8: Natural Fiber Polyolefin Composites: Processing, Melt Rheology, and PropertiesChapter 9: Polysaccharide Bio-Based Composites: Nanofiber Fabrication and Application; Chapter 10: Recent Advances in Cellulose Nanocomposites; Chapter 11: Improvement of Damage Resilience of Composites; Chapter 12: Lifetime Durability of Bio-Based Composites; Chapter 13: Mechanical Properties of Natural Fiber-Reinforced Composites; Chapter 14: Characterization and Strength Modeling of Laminated Bio-Based Composites; Chapter 15:

	Micromechanical Modeling of Bio-Based Composites Chapter 16: Life Cycle Assessments of Bio-Based Composites: A ReviewChapter 17: Bio-Based Composites: Future Trends and Environmental Aspects; Back Cover
Sommario/riassunto	This timely text integrates disciplines such as materials science, polymer chemistry, plant science, chemical engineering, and nanotechnology to provide comprehensive coverage of the state of the art in bio-based composite materials, as well as their biological feedstocks, basic design principles, properties, industrial applications, environmental friendliness, and life cycles. It presents a strategic and policy-oriented view of bio-based composites, addressing the competing needs for plants as food versus plants as manufacturing feedstocks, while considering the costs of retrofitting existing chemical production plants for bio-based composite manufacture. --