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Sommario/riassunto	An exploration of the processing of composite materials, this book covers fiber reinforcements, production of various fibers and properties, and the processing of polymer matrix, metal matrix, and ceramic matrix composites. It then discusses topics illustrating advanced composites, carbon-carbon composites and nanocomposites, processing of polymer-clay nanocomposites, carbon nanotube-reinforced composites, and nanoparticle-reinforced composites. The book also includes a chapter on practical instructions for processing composites-- Preface The use of composite materials, because of their light weight and high performance, has increased manifold over the years, starting from aerospace to building applications. Composite materials can be made to suit any property requirements for any application. A proper selection of reinforcement, matrix material, and composition will result in the formation of composites with specific properties. Many conventional materials are currently being replaced with composite

materials. The wide use has also been facilitated by the development of new materials, improvements in manufacturing processes, and the availability of new analytical tools. The processing of composites will also play a major role in achieving the specific properties. Since the composites are made of two or more heterogeneous materials, the conventional processing methods used for the respective matrix materials may not be suitable. To realize the full potential of a composite material, an appropriate processing method should be selected and optimum processing conditions be followed. Moreover, it is necessary to understand the science behind the processing method so that appropriate processing parameters can be selected. Hence, the aim of this book is to provide comprehensive information about the science of processing various composites using different processing methods. The basis for the performance of different reinforcements and matrix materials is described. The technological advancements in various processing methods are also highlighted. Different processing methods can be selected depending on the cost and quality of the final products--