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| Disciplina              | 620.197   |
| Soggetti                | Ceramics<br>Glass<br>Composite materials<br>Polymers<br>Chemical engineering<br>Chemistry, Organic<br>Ceramics, Glass, Composites, Natural Materials<br>Polymer Sciences<br>Industrial Chemistry/Chemical Engineering<br>Organic Chemistry  |
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| Nota di contenuto       | Chapter 1 History and Structure of Carbon Fibers -- Chapter 2 Precursors and Manufacturing of Carbon Fibers -- Chapter 3 Matrices for Carbon Fiber Composites -- Chapter 4 Surface Treatment and Sizing of Carbon Fibers -- Chapter 5 Testing of Carbon Fibers and Their Composites -- Chapter 6 Manufacture of Carbon Fiber Composites -- Chapter 7 Recent Uses of Carbon Fibers -- Chapter 8 Carbon/Carbon Composites -- Chapter 9 Novel Carbon Fibers and Their Composites -- Chapter 10 Prospectives and Outlook of Carbon Fibers -- Index. |
| Sommario/riassunto      | The updated and expanded second edition of this book explores the physical and mechanical properties of carbon fibers and their composites, their manufacture and processing, and their current and emerging applications. Over 10 chapters, the book describes   |

manufacturing methods, surface treatment, composite interfaces, and microstructure-property relationships with underlying fundamental physical and mechanical principles. It discusses the application of carbon materials in delivering improved performance across a diverse range of fields including sports, wind energy, oil and gas, infrastructure, defence, and the aerospace, automotive and semiconductor industries. This new edition introduces chapters related to the manufacturing of carbon/carbon composites (C/C composites), antioxidation characteristics of C/C composites, and their applications. Furthermore, it addresses the effect of graphene and carbon nanotubes on the physical and chemical properties of carbon fibers. A final chapter looks at the emerging and future prospects for carbon fiber technology.

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