1. Record Nr. UNINA9910298621803321

| | |
|---|---|
| Autore | Park Soo-Jin |
| Titolo | Carbon Fibers / / by Soo-Jin Park |
| Pubbl/distr/stampa | Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2015 |
| ISBN | 94-017-9478-2 |
| Edizione | [1st ed. 2015.] |
| Descrizione fisica | 1 online resource (337 p.) |
| Collana | Springer Series in Materials Science, , 0933-033X ; ; 210 |
| Disciplina | 54<br>541.2254<br>547<br>620.11 |
| Soggetti | Polymers<br>Materials science<br>Ceramics<br>Glass<br>Composite materials<br>Chemical engineering<br>Chemistry, Organic<br>Polymer Sciences<br>Materials Science, general<br>Ceramics, Glass, Composites, Natural Materials<br>Industrial Chemistry/Chemical Engineering<br>Organic Chemistry |
| 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 and index. |
| Nota di contenuto | 1 History and Structure of Carbon Fibers -- 2 Precursors and Manufacturing of Carbon Fibers -- 3 Matrices for Carbon Fiber Composites -- 4 Surface Treatment and Sizing of Carbon Fibers -- 5 Testing of Carbon Fibers and Their Composites -- 6 Manufacture of Carbon Fiber Composites -- 7 Recent Uses of Carbon Fibers -- 8 Carbon Fibers and Their Composites -- Index. |
| Sommario/riassunto | This book contains eight chapters that discuss the manufacturing methods, surface treatment, composite interfaces, microstructure- |

property relationships with underlying fundamental physical and mechanical principles, and applications of carbon fibers and their composites. Recently, carbon-based materials have received much attention for their many potential applications. The carbon fibers are very strong, stiff, and lightweight, enabling the carbon materials to deliver improved performance in several applications such as aerospace, sports, automotive, wind energy, oil and gas, infrastructure, defense, and semiconductors. However, the use of carbon fibers in cost-sensitive, high-volume industrial applications is limited because of their relatively high costs. However, its production is expected to increase because of its widespread use in high-volume industrial applications; therefore, the methods used for manufacturing carbon fibers and carbon-fiber-reinforced composites and their structures and characteristics need to be investigated.