

Composite Materials: Science and Engineering (Materials Research and Engineering)

By Krishan K. Chawla



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The third edition of Krishan Chawla's widely used textbook, Composite Materials, offers integrated and completely up-to-date coverage of composite materials. The book focuses on the triad of processing, structure, and properties, while providing a well-balanced treatment of the materials science and mechanics of composites.

In this edition of Composite Materials, revised and updated throughout, increasing use of composites in industry (especially aerospace and energy) and new developments in the field are highlighted. There is a new chapter on nonconventional composites, which covers polymer, metal and ceramic matrix nanocomposites, self-healing composites, self-reinforced composites, biocomposites and laminates made of metals and polymer matrix composites. The third edition, featuring all figures in color, also includes new solved examples and problems as well as increased coverage of:

- Carbon/carbon brakes.
- Composites for civilian aircraft and jet engines.
- Second generation high-temperature superconducting composites.
- Composites for use in windmill blades.
- WC/metal particulate composites.

Examples of practical applications in various fields are given throughout the book, and extensive references to the literature are provided. The book is intended for use in graduate and upper-division undergraduate courses, and as a reference for the practicing engineers and researchers in industry and academia.

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Editorial Review

Review

From the reviews of the third edition:

"Composite Materials, certainly a good addition to any library, provides comprehensive coverage of this multidisciplinary subject. This new edition ... was thoroughly revised and includes information on advances in the field and additional problems and examples. ... The book can be used as a text for upper-division undergraduate and graduate courses Graduate students, researchers, and practitioners will find the last section very useful. ... Summing Up: Highly recommended. Upper-division undergraduates and above." (S. D. El Wakil, Choice, Vol. 50 (7), March, 2013)

From the Back Cover

This updated third edition of Krishan Chawla's widely used textbook, *Composite Materials*, offers integrated and completely up-to-date coverage of composite materials. The book focuses on the triad of processing, structure, and properties, while providing a well-balanced treatment of the materials science and mechanics of composites.

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Composites for use in windmill blades

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About the Author

Krishan K. Chawla has taught and done research at institutions in Switzerland, Brazil, Canada, and the United States and has served as a consultant to industry, national laboratories, and government agencies. He is currently at the University of Alabama at Birmingham.

Users Review

From reader reviews:

Christina Rogers:

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