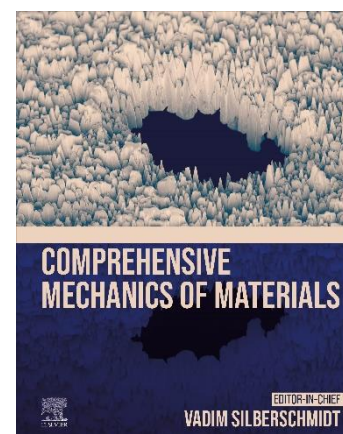


Comprehensive Mechanics of Materials

綜合材料力學

A complete guide to the mechanical behaviors of a wide range of materials, providing solutions to modern-day engineering problems.

《綜合材料力學》(四卷) 提供了大量有關常用材料的特性、性能和應用的實用資訊。它使讀者能夠清楚地了解變形、損傷和斷裂的主要機制，以及在部件和結構的分析、設計和優化中解釋這些機制的方法。本書提供了現代工程問題的解決方案，結合了材料力學高級主題的廣度和深度，包括最新類型的材料、機械行為、支撐其變形、損傷、斷裂行為的機制等。



Key features/ benefits

- Covers the properties, performance, and applied characteristics of a vast array of materials
- Provides experimental analysis, microstructural characterization, theoretical descriptions, and advanced numerical simulations of main classes of materials
- Outlines theoretical foundations, experimental methods, and numerical techniques for understanding, predicting, and mitigating deformation, damage, and fracture of various materials
- Unites various subtopics in mechanics of materials with relevant research methods, allowing readers to navigate essential topics with ease
- 涵蓋大量材料的特性、性能和應用特徵
- 提供主要材料類別的實驗分析、微觀結構表徵、理論描述和高階數值模擬
- 概述了理解、預測和減輕各種材料的變形、損傷和斷裂的理論基礎、實驗方法和數值技術
- 將材料力學中的各個子主題與相關研究方法結合起來，讓讀者輕鬆瀏覽重要主題

What problem does this MRW solve?

In Engineering today students and researchers are contending with materials and loading regimes well outside the traditional framework. They are therefore interested not only in linear behavior but also in large deformations, onset and evolution of damage, material performance in extreme conditions, as well as initiation, propagation, and arrest of cracks. This major reference provides solutions to modern-day engineering problems, combining both a breadth and depth of coverage of advanced topics of mechanics of materials, including the latest types of materials, their mechanical behaviors, the

mechanisms underpinning their deformation, damage, and fracture behaviors, and bridging analytical fundamentals with experimental methods.

Meet the Editors-in-Chief

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Important Areas of Coverage:

- Fundamentals of Mechanics of Materials
- Experimental and Computational Mechanics of Materials
- Mechanics of Fracture and Extreme States
- Mechanics of Structural Materials
- Mechanics of Microstructured Materials
- Mechanics of Functional Materials and Biomaterials



ISBN: 978-0-323-90647-0

<https://www.sciencedirect.com/referencework/9780323906470/comprehensive-mechanics-of-materials>

Reference Collection: Materials Science and Materials Engineering

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