1. Record Nr. UNINA990003872190403321

Titolo	Introduzione all'economia monetaria internazionale / Barbara Rindi
Pubbl/distr/stampa	Milano : EGEA, 2000
ISBN	88-238-0645-3
Disciplina	O/2.111 O/2.32
Locazione	SE S
Collocazione	O/2.111 RIN
Lingua di pubblicazione	Italiano
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9910437905003321

Autore	Dvorak George J. <1933->
Titolo	Micromechanics of composite materials / / George J. Dvorak
Pubbl/distr/stampa	New York, : Springer, 2013
ISBN	9781283935869 1283935864 9789400741010 9400741014
Edizione	[1st ed.]
Descrizione fisica	1 online resource (454 p.)
Collana	Solid mechanics and its applications, , 0925-0042 ; ; v. 186
Disciplina	620.1 620.1/1892 620.11892
Soggetti	Composite materials - Mechanical properties Micromechanics
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	From the Content: History and overview -- Elastic constitutive relations

-- Tensor component and matrix notations -- Decomposition of elastic constitutive relations -- Anisotropic elastic solids -- Elastic strain energy density -- Material symmetries -- Elements of material symmetry -- Triclinic materials -- Monoclinic materials -- Orthotropic material.-Trigonal and tetragonal materials -- Transversely isotropic or hexagonal materials -- Cubic materials -- Isotropic materials -- Transversely isotropic composite materials -- Engineering and Hill's moduli -- Walpole's notation -- Cylindrically orthotropic materials -- Young’s modulus.

Sommario/riassunto

This book presents a broad exposition of analytical and numerical methods for modeling composite materials, laminates, polycrystals and other heterogeneous solids, with emphasis on connections between material properties and responses on several length scales, ranging from the nano and microscales to the macroscale. Many new results and methods developed by the author are incorporated into a rich fabric of the subject, which has been explored by several researchers over the last 40 years. The first part of the book reviews anisotropic elasticity theory, and then it describes the frequently used procedures and theorems for bounding and estimating overall properties, local fields and energy changes in elastic inhomogeneities, heterogeneous media, fiber composites and functionally graded materials. Those are caused by mechanical loads and by phase eigenstrains, such as thermal, transformation and inelastic strains, and also by cavities and cracks. Worked examples show that the eigendeformations may contribute a major part of the overall response and of interior stress and strain fields in the constituents. Separate attention is given to perfect and imperfect interfaces, and to evaluation of interface stresses induced by mechanical and transformation loads. Micromechanical methods are extended to analysis of symmetric laminates. Applications include design of laminate configurations for pressure vessels, for dimensionally stable and auxetic laminates, for laminates with reduced free edge stresses and with fiber prestress, and for those sustaining damage by transverse cracking and fiber breaks. A review of the incremental theory of plasticity, of the transformation field analysis method, and of modeling and experimental results for metal matrix composites, are extensively described in the closing chapters. This volume is intended for advanced undergraduate and graduate students, researchers and engineers interested and involved in analysis and design of composite structures. .