Record Nr. UNINA9910784561903321 Handbook of materials behavior models . Volume 1 Deformations of **Titolo** materials [[electronic resource] /] / editor Jean Lemaitre Pubbl/distr/stampa San Diego, CA,: Academic, c2001 **ISBN** 1-281-04671-X 9786611046712 0-08-053363-9 Descrizione fisica 1 online resource (1231 p.) Altri autori (Persone) LemaitreJ <1934-> (Jean) Disciplina 620.1/1/015118 21 620.11015118 620.112 Soggetti Materials Materials - Simulation methods Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Front Cover; Handbook of Materials Behavior Models; Copyright Page; Contents; Chapter 1. Background on mechanics of materials; 1.1 Background on modeling; 1.2 Materials and process selection; 1.3 Size effect on structural strength; Chapter 2. Elasticity, viscoelasticity; 2.1 Introduction to elasticity and viscoelasticity; 2.2 Background on nonlinear elasticity; 2.3 Elasticity of porous materials; 2.4 Elastomer models; 2.5 Background on viscoelasticity; 2.6 A nonlinear viscoelastic model based on fluctuating modes; 2.7 Linear viscoelasticity with damage; Chapter 3. Yield limit 3.1 Introduction to yield limits 3.2 Background on isotropic criteria; 3.3 Yield loci based on crystallographic texture; 3.4 Anisotropic yield conditions; 3.5 Distortional model of plastic hardening; 3.6 A

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Sommario/riassunto

This first of a kind reference/handbook deals with nonlinear models and properties of material. In the study the behavior of materials' phenomena no unique laws exist. Therefore, researchers often turn to models to determine the properties of materials. This will be the first book to bring together such a comprehensive collection of these models. The Handbook deals with all solid materials, and is organized first by phenomena. Most of the materials models presented in an applications-oriented fashion, less descriptive and more practitioner-geared, making it useful in the daily w