1. Record Nr. UNINA9910830197003321

Titolo	Structural components [[electronic resource]] : mechanical tests and behavioral laws / / edited by Dominique Francois
Pubbl/distr/stampa	London, : ISTE Hoboken, NJ, USA, : Wiley, : ISTE, 2008
ISBN	1-282-25392-1 9786613814579 0-470-61103-0 0-470-39361-0
Descrizione fisica	1 online resource (343 p.)
Collana	ISTE ; ; v.18
Altri autori (Persone)	FrancoisDominique <1948->
Disciplina	620.1/123 624.1
Soggetti	Materials - Mechanical properties Deformations (Mechanics)
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	Structural Components; Table of Contents; Chapter 1. Introduction; Chapter 2. Constitutive Equations; 2.1. Introduction; 2.2. Fundamental concepts; 2.2.1. Domain of elasticity; 2.2.2. Hardening; 2.2.3. Normality rules; 2.3. Unified theory of viscoplasticity; 2.3.1. General form of the constitutive law; 2.3.2. Choice of viscosity law; 2.3.3. Isotropic hardening laws; 2.3.4. Kinematic hardening laws; 2.3.5. Cyclic hardening and softening; 2.3.6. Static recovery; 2.3.7. Time-independent limit case; 2.3.8. Methods of determination 2.3.8.1. Determination of hardening laws within independent time-scheme2.3.8.2. Determination of the viscosity law; 2.3.8.3. Determination of static recovery effects; 2.3.9. Other unified approaches; 2.4. Other types of modeling; 2.4.1. Plasticity-creep partition; 2.4.2. Methods by means of micro-macro transposition; 2.4.3. More advanced hardening laws; 2.4.4. Aging; 2.4.5. Damage; 2.5. Conclusion; 2.6. Bibliography; Chapter 3. Measurement of Elastic Constants; 3.1. Elastic constants; 3.1.1. The perfect crystal - elastic constants; 3.1.2. Isotropic solid - elastic moduli

Sommario/riassunto

The mechanical tests presented in this book are essential for determining the basic properties of the materials used. Areas covered include elasticity, tensile and compression tests, hardness, endurance tests and dynamic tests.