1. Record Nr. UNINA9910457667803321 Autore Chakrabarty J Titolo Theory of plasticity [[electronic resource] /] / J. Chakrabarty Amsterdam;; Boston;; Oxford,: Elsevier/Butterworth-Heinemann, Pubbl/distr/stampa 2006 1-281-05182-9 **ISBN** 9786611051822 0-08-048136-1 Edizione [3rd ed.] Descrizione fisica 1 online resource (895 p.) Disciplina 620.11233 Soggetti **Plasticity** Materials - Mechanical properties Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references and indexes. Nota di bibliografia Nota di contenuto Front Cover; Theory of Plasticity; Copyright Page; Table of Contents; Dedication; Preface to the third edition; Preface to the first edition; Chapter 1. Stresses and Strains; 1.1 Introduction; 1.2 The Stress-Strain Behavior: 1.3 Analysis of Stress: 1.4 Mohr's Representation of Stress: 1.5 Analysis of Strain Rate; 1.6 Concepts of Stress Rate; Problems; Chapter 2. Foundations of Plasticity; 2.1 The Criterion of Yielding; 2.2 Strain-Hardening Postulates; 2.3 The Rule of Plastic Flow; 2.4 Particular Stress-Strain Relations; 2.5 The Total Strain Theory; 2.6 Theorems of Limit Analysis 2.7 Uniqueness Theorems 2.8 Extremum Principles: Problems: Chapter 3. Elastoplastic Bending and Torsion; 3.1 Plane Strain Compression and Bending; 3.2 Cylindrical Bars Under Torsion and Tension; 3.3 Thin-Walled Tubes Under Combined Loading; 3.4 Pure Bending of Prismatic Beams; 3.5 Bending of Beams Under Transverse Loads; 3.6 Torsion of Prismatic Bars; 3.7 Torsion of Bars of Variable Diameter; 3.8 Combined Bending and Twisting of Bars: Problems: Chapter 4. Plastic Analysis of Beams and Frames; 4.1 Introduction; 4.2 Limit Analysis of Beams; 4.3

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Sommario/riassunto

Plasticity is concerned with the mechanics of materials deformed beyond their elastic limit. A strong knowledge of plasticity is essential for engineers dealing with a wide range of engineering problems, such as those encountered in the forming of metals, the design of pressure vessels, the mechanics of impact, civil and structural engineering, as well as the understanding of fatigue and the economical design of structures. Theory of Plasticity is the most comprehensive reference on the subject as well as the most up to date -- no other significant Plasticity reference has been

8.9 Bending of Double-Notched Bars