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hardening: No LIKH model4.5 Multisurface hardening model for monotonic and cyclic response of metals; 4.6 Kinematic hardening rule with critical state of dynamic recovery; 4.7 Kinematic hardening rule for biaxial ratcheting; 4.8 Plasticity in large deformations; 4.9 Plasticity of polymers; 4.10 Rational phenomenology in dynamic plasticity; 4.11 Conditions for localization in plasticity and rate-independent materials; 4.12 An introduction to gradient plasticity; Chapter 5. Viscoplasticity;
5.1 Introduction to viscoplasticity
5.2 A phenomenological anisotropic creep model for cubic single crystals5.3 Crystalline viscoplasticity applied to single crystals; 5.4 Averaging of viscoplastic polycrystalline materials with the tangent self-consistent model; 5.5 Fraction models for inelastic deformation; 5.6 Inelastic compressible and incompressible, isotropic, small-strain viscoplasticity theory based on overstress (VBO); 5.7 An outline of the Bodner-Partom (BP) unified constitutive equations for elastic-viscoplastic behavior; 5.8 Unified model of cyclic viscoplasticity based on the nonlinear kinematic hardening rule
5.9 A model of nonproportional cyclic viscoplasticity5.10 Rate-dependent elastoplastic constitutive relations; 5.11 Physically based rate- and temperature-dependent constitutive models for metals; 5.12 Elastic-viscoplastic deformation of polymers; Chapter 6. Continuous damage; 6.1 Introduction to continuous damage; 6.2 Damage-equivalent stress-fracture criterion; 6.3 Micromechanically inspired continuous models of brittle damage; 6.4 Anisotropic damage; 6.5 Modified Gurson model; 6.6 The Rousselier model for porous metal plasticity and ductile fracture; 6.7 Model of anisotropic creep damage 6.8 Multiaxial fatigue damage criteria

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