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	Autore	Öchsner Andreas
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	Nota di contenuto	Intro -- Preface -- Contents -- Symbols and Abbreviations -- Latin Symbols (Capital Letters) -- Latin Symbols (Small Letters) -- Greek Symbols (Small Letters) -- Mathematical Symbols -- Special Matrices -- Indices, Superscripted -- Indices, Subscripted -- Abbreviations -- 1 Fundamentals -- 1.1 Comments on the Stress Matrix -- 1.2 Graphical Representation of Yield Conditions -- References -- 2 Experimental Realization of Multiaxial Stress States -- 2.1 Thin-Walled Tubes Under Internal/External Pressure and Additional Loads -- 2.2 Loading Devices with Two or Three Axes -- 2.3 Hydrostatic Pressure Due to a Pressure Chamber and Additional Loads -- References -- 3 Yield Conditions -- 3.1 Fundamentals -- 3.2 Mises Yield Condition -- 3.3 Tresca Yield Condition -- 3.4 Drucker-Prager Yield Condition -- 3.5 Willam-Warnke Three-Parameter Yield Condition -- 3.6 Additional Components of the Constitutive Law -- 3.6.1 Flow Rule -- 3.6.2 Hardening Rule -- References -- 4 Elasto-Plastic Finite Element Simulations -- 4.1 Approach for One-Dimensinal Problems -- 4.1.1 Integration of the Material Equations -- 4.1.2 Derivation of the Fully Implicit Backward-Euler Algorithm for Isotropic Hardening -- 4.1.3 Derivation of the Fully Implicit Backward-Euler Algorithm for Kinematic Hardening -- 4.1.4 Derivation of the Fully Implicit Backward-Euler Algorithm for Combined Hardening -- 4.1.5 Derivation of the Semi-Implicit Backward-Euler Algorithm for Isotropic Hardening -- 4.2 Approach for Three-

Dimensional Problems -- 4.2.1 Differentiation of the Yield Conditions -- 4.2.2 Derivation of the Fully Implicit Backward Euler Algorithm for Isotropic Hardening -- References -- Index.

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	Autore	Ellenberger J. Phillip
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	Nota di contenuto	Half title page; Title page; Copyright page; Dedication; Table of contents; Preface; Part I: Introduction; Chapter 1: Major Codes and Standards; Overview; Structure of Codes; Code Categories; Chapter 2: Metric versus U.S. Customary Measurement; Overview; Hard versus Soft Metric Conversion; SI System of Measurement; Methods of Conversion from One System to the Other; Challenges for Converting from One System to the Other; Chapter 3: Selection and Use of Pipeline Materials; Overview; Selection of Materials; ASTM and Other Material Specifications; Listed and Unlisted Materials Allowed Stress Criteria for Time-Dependent StressesStress Criteria for Nonmetals; Corrosion and Other Factors; Part II: Construction and Design Fabrication; Chapter 4: Piping and Pipeline Sizing, Friction Losses, and Flow Calculations; Overview; Fluid Mechanics Classes; Viscosity; Reynolds Number; Friction Factor; Equivalent Pipe Lengths; Hydraulic Radius; Compressible Flow; Pipe Sizing; Chapter 5: Piping and Pipeline Pressure Thickness Integrity Calculations; Overview; Basic Wall Thickness Calculations; Basic Code Equations; Pipe Turns or Bends;

Miter Bends; External Pressure

Chapter 6: Straight Pipe, Curved Pipe, and Intersection CalculationsOverview; Code Standards; Asme Standards; Chapter 7: Piping Flexibility, Reactions, and Sustained Thermal Calculations; Overview; Expansion and Stress Range; Flexibility Analysis; Linear Expansion Due to Heat; Required Flexibility Analysis; SIF Development Methodology and B31-J; Chapter 8: Pipe-Supporting Elements and Methods Calculations; Overview; Support Design; Nonrigid Hangers; Riser Support; Chapter 9: Specialty Components; Expansion Joints; Anchor Flanges

Chapter 10: High-Frequency versus Low-Frequency Vibration CalculationsOverview; Severe Cyclic Service; Types of Vibration; Working With Vibration; Vibration Severity; Chapter 11: Occasional Loads Calculations; Earthquake Occasional Loads; Ice and Snow Occasional Loads; Wind Occasional Loads; Reactions; Chapter 12: Slug Flow and Fluid Transients Calculations; Overview; Water Hammer; Other Transients; Chapter 13: Fabrication and Examination Elements Calculations; Overview; Hydrotest; Pneumatic Testing; Dissimilar Metal Welds; Corrosion Assessment; Pipe Denting or Flattening

Chapter 14: Valves and Flow Control CalculationsOverview; Closure Tests; Incompressible Flow; Compressible Flow; Other Valve Issues; Appendix; Contents of Appendix; Bibliography; Index

| Sommario/riassunto | This book is a ""no nonsense"" guide to the principle intentions of the codes or standards and provides advice on compliance. After using this book the reader should come away with a clear understanding of how piping systems fail and what the code requires the designer, manufacturer, fabricator, supplier, erector, examiner, inspector, and owner to do to prevent such failures. The focus of the book is to enhance participants' understanding and application of the spirit of the code or standard and form a plan for compliance. The book is enhanced by a multitude of calculations to assist in proble |