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| 1. Record Nr. | UNINA990001071720403321 |
| Autore | Truesdell, Clifford |
| Titolo | Foundations of Elasticity Theory / Edited by C. Truesdell |
| Pubbl/distr/stampa | New York : Gordon and Breach, 1965 |
| Collana | Continuum Mechanics |
| Disciplina | 531.382 |
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| Collocazione | 24A-018.002
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| Lingua di pubblicazione | Inglese |
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| 2. Record Nr. | UNINA990004891450403321 |
| Autore | Stearn Davis, William |
| Titolo | A day in old Athens : A picture of athenian life / by William Stearn Davis |
| Pubbl/distr/stampa | Boston [etc.] : Allyn and Bacon, c1914 |
| Descrizione fisica | XII, 242 p., [2] tav. : ill. ; 19 cm |
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| Collocazione | XI F 15 |
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3. Record Nr.	UNINA9910458842403321
Autore	Taylor David
Titolo	The theory of critical distances [[electronic resource]] : a new perspective in fracture mechanics // David Taylor
Pubbl/distr/stampa	Amsterdam ; ; London, : Elsevier, c2007
ISBN	1-281-07670-8 9786611076702 0-08-055472-5
Descrizione fisica	1 online resource (307 p.)
Disciplina	620.1126
Soggetti	Fracture mechanics Fracture mechanics - Mathematical models Electronic books.
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	Front Cover; The Theory of Critical Distances: A New Perspective in Fracture Mechanics; Copyright Page; Contents; Preface; Nomenclature; Chapter 1. Introduction; 1.1 Stress-Strain Curves; 1.2 Failure Mechanisms; 1.3 Stress Concentrations; 1.4 Elastic Stress Fields for Notches and Cracks; 1.5 Fracture Mechanics; 1.6 The Failure of Notched Specimens; 1.7 Finite Element Analysis; 1.8 Concluding Remarks: Limitations and Challenges in Failure Prediction; Chapter 2. The Theory of Critical Distances: Basics; 2.1 Introduction; 2.2 Example 1: Brittle Fracture in a Notched Specimen 2.3 Example 2: Fatigue Failure in an Engineering Component 2.4 Relating the TCD to LEFM; 2.5 Finding Values for the Material Constants; 2.6 Some Other TCD Methods: The LM, AM and VM; 2.7 Example 3: Predicting Size Effects; 2.8 Concluding Remarks; Chapter 3. The Theory of Critical Distances in Detail; 3.1 Introduction; 3.2 History; 3.3 Related Theories; 3.4 What is the TCD? Towards a General Definition; Chapter 4. Other Theories of Fracture; 4.1 Introduction; 4.2 Some Classifications; 4.3 Mechanistic Models; 4.4 Statistical Models; 4.5 Modified Fracture Mechanics 4.6 Plastic-Zone and Process-Zone Theories 4.7 Damage Mechanics; 4.8

Concluding Remarks; Chapter 5. Ceramics; 5.1 Introduction; 5.2 Engineering Ceramics; 5.3 Building materials; 5.4 Geological Materials; 5.5 Nanomaterials; 5.6 Concluding Remarks; Chapter 6. Polymers; 6.1 Introduction; 6.2 Notches; 6.3 Size Effects; 6.4 Constraint and the Ductile-Brittle Transition; 6.5 Strain Rate and Temperature Effects; 6.6 Discussion; Chapter 7. Metals; 7.1 Introduction; 7.2 Predicting Brittle Fracture Using the TCD; 7.3 Discussion; Chapter 8. Composites; 8.1 Introduction
8.2 Early Work on the TCD: Whitney and Nuismer8.3 Does L Vary with Notch Size?; 8.4 Non-damaging Notches; 8.5 Practical Applications; 8.6 Other Theoretical Models; 8.7 Fracture of Bone; 8.8 Values of L for Composite Materials; 8.9 Concluding Remarks; Chapter 9. Fatigue; 9.1 Introduction; 9.2 Fatigue Limit Predictions; 9.3 Finite Life Predictions; 9.4 Multiaxial and Variable Amplitude Loading; 9.5 Fatigue in Non-Metallic Materials; 9.6 Other Recent Theories; 9.7 Concluding Remarks; Chapter 10. Contact Problems; 10.1 Introduction; 10.2 Contact Situations; 10.3 Contact Stress Fields
12.4 Failure Analysis of a Marine Component

Sommario/riassunto

Critical distance methods are extremely useful for predicting fracture and fatigue in engineering components. They also represent an important development in the theory of fracture mechanics. Despite being in use for over fifty years in some fields, there has never been a book about these methods - until now. So why now? Because the increasing use of computer-aided stress analysis (by FEA and other techniques) has made these methods extremely easy to use in practical situations. This in turn has prompted researchers to re-examine the underlying theory with renewed interest. The book be
