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Titolo	Fracture Mechanics : With an Introduction to Micromechanics / / by Dietmar Gross, Thomas Seelig
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Edizione	[3rd ed. 2018.]
Descrizione fisica	1 online resource (XV, 358 p. 208 illus.)
Collana	Mechanical Engineering Series, , 0941-5122
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Soggetti	Mechanics Mechanics, Applied Materials science Solid Mechanics Characterization and Evaluation of Materials
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Formato	Materiale a stampa
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Nota di contenuto	Elements of solid mechanics -- Classical failure hypotheses -- Micro and macro phenomena of fracture -- Linear fracture mechanics -- Elastic-plastic fracture mechanics -- Creep fracture -- Dynamic fracture mechanics -- Micromechanics and homogenization -- Damage mechanics -- Probabilistic fracture mechanics.
Sommario/riassunto	Concerned with the fundamental concepts and methods of fracture mechanics and micromechanics, this textbook primarily focuses on the mechanical description of fracture process. However, material specific aspects are also discussed. The presentation of continuum mechanical and phenomenological foundations is followed by an introduction into classical failure hypotheses. A major part of the book is devoted to linear elastic and elastic-plastic fracture mechanics. Further subjects are creep fracture, dynamic fracture mechanics, damage mechanics, probabilistic fracture mechanics, failure of thin films and fracture of piezoelectric materials. The book also contains an extensive introduction into micromechanics. The third edition is supplemented with various extensions, particularly with regard to the numerical treatment of fracture mechanical problems. Self-contained, well-

illustrated and with further reading suggestions, this text serves as a graduate-level text and reference.