1. Record Nr. UNINA9910136915003321

Autore	Dormieux Luc
Titolo	Micromechanics of fracture and damage / / Luc Dormieux, Djimedo Kondo
Pubbl/distr/stampa	London, England ; ; Hoboken, New Jersey : , : iSTE : , : Wiley, , 2016 ©2016
ISBN	1-119-29218-2 1-119-29217-4
Descrizione fisica	1 online resource (251 p.)
Collana	Mechanical Engineering and Solid Mechanics Series
Disciplina	620.1186
Soggetti	Micromechanics Fracture mechanics
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	2.2. Green's function in two-dimensional conditions2.3. Green's function in three-dimensional conditions; 2.4. Eshelby's problems in linear microelasticity; 2.5. Hill tensor for the elliptic inclusion; 2.6. Hill's tensor for the spheroidal inclusion; 2.7. Appendix; 2.8. Appendix: derivation of the ij; 3 Two-dimensional Griffith Crack; 3.1. Stress singularity at crack tip; 3.2. Solution to mode I problem; 3.3. Solution to mode II problem; 3.4. Appendix: Abel's integral equation; 3.5. Appendix: Neuber-Papkovitch displacement potentials; 4 The Elliptic Crack Model in Plane Strains 4.1. The infinite plane with elliptic hole4.2. Infinite plane with elliptic hole: the anisotropic case; 4.3. Eshelby approach; 5 Griffith Crack in 3D; 5.1. Griffith circular (penny-shaped) crack in mode I; 5.2. Griffith circular (penny-shaped) crack under shear loading; 6 Ellipsoidal Crack Model: the Eshelby Approach; 6.1. Mode I; 6.2. Mode II; 7 Energy Release Rate and Conditions for Crack Propagation; 7.1. Driving force of crack propagation; 7.2. Stress intensity factor and energy release rate; PART 2: Homogenization of Microcracked Materials; 8 Fundamentals of Continuum Micromechanics 8.1. Scale separation8.2. Inhomogeneity model for cracks; 8.3. General results on homogenization with Griffith cracks; 9 Homogenization of Materials Containing Griffith Cracks; 9.1. Dilute estimates in isotropic