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Nota di contenuto	1 Introduction to Ductile Fracture Modelling -- 2 Averaging Methods for Computational Micromechanics -- 3 Anisotropy -- 4 Void Growth to Coalescence: Unit Cell and Analytical Modelling -- 5 Two-Dimensional (2D) Damage Percolation Modeling -- 6 Two-Dimensional (2D) Damage Percolation/Finite Element Modeling of Sheet Metal Forming -- 7 Two Dimensional (2D) Damage Percolation with Stress State -- 8 Three-Dimensional Particle Fields -- 9 Estimation of the Stress State within Particles and Inclusions and a Nucleation Model for Particle Cracking -- 10 Modelling Void Growth to Coalescence in a 3-D Particle Field -- 11 Application of the Complete Percolation Model -- References.
Sommario/riassunto	This book summarizes research advances in micromechanics modelling of ductile fractures made in the past two decades. The ultimate goal of this book is to reach manufacturing frontline designers and materials engineers by providing a user-oriented, theoretical background of micromechanics modeling. Accordingly, the book is organized in a unique way and presents a vigorous damage percolation model developed by the authors over the last ten years. This model overcomes almost all difficulties of the existing models and can be used to completely accommodate ductile damage development within a single, measured microstructure frame. Related void damage criteria including nucleation, growth and coalescence are then discussed in detail: how they are improved, when and where they are used in the model, and

how the model performs in comparison with the existing models. Sample forming simulations are provided to illustrate the model's performance.