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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Solid Solution -- Hydrogen Trapping and Its Detection -- Interactions of Hydrogen with Lattice Defects -- Diffusion and Transport of Hydrogen -- Deformation Behaviors -- Manifestations of Hydrogen Embrittlement -- Characteristic Features of Deformation and Fracture in Hydrogen Embrittlement -- Effects of Microstructural Factors on Hydrogen Embrittlement -- Mechanistic Aspects of Fracture I – Brittle Fracture Models -- Mechanistic Aspects of Fracture II – Plasticity-dominated Fracture Models.
Sommario/riassunto	This book is the first comprehensive treatment of hydrogen embrittlement of metallic materials, mainly of steels. The subject is increasingly important with regard to recent requirements for hydrogen energy equipment. Recent progress in revealing the nature of hydrogen embrittlement is remarkable, and this book provides students and researchers engaging in hydrogen problems with a comprehensive view of hydrogen embrittlement covering basic behaviors of hydrogen in materials and their various manifestations in degradation of mechanical properties. Previous studies are critically reviewed and recent advances including new ideas on the mechanism of embrittlement are presented. Emphases are put on experimental facts, but their meanings rather than phenomenological appearance are given particular attention. Experiments are noted on adopted conditions since the operating

mechanism of hydrogen might differ by materials and environments. For theories, assumptions and premises employed are noted so as to examine their versatility. Because of the interdisciplinary nature of the subject, brief descriptions of fundamental ideas are presented when necessary.