1. Record Nr. UNINA9910484154403321

Titolo	Advances in hydrogen embrittlement study / / Vladimir A. Polyanskiy, Alexander K. Belyaev, editors
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-66948-3
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XII, 213 p. 121 illus., 58 illus. in color.)
Collana	Advanced structured materials ; ; ; Volume 143
Disciplina	669.94
Soggetti	Metals - Hydrogen embrittlement
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Short-range-ordering effects on hydrogen embrittlement of austenitic steels - a review -- The effect of hydrogen charging on TDS and bond energies -- The key role of dedicated experimental methodologies in revealing the interaction between hydrogen and the steel microstructure -- A contribution on the hydrogen diffusion controlled failure of notched samples -- Establishing elastic-diffusion properties interrelation for a material with microstructure typical of HIC -- Influence of linear elastic stresses on hydrogen diffusion into metals -- Effect of hydrogen concentration and strain rate on hydrogen embrittlement of ultra-fine grained low carbon steel -- Acoustoelasticity due to hydrogen embrittlement and skin effects -- Characterization of hydrogen trapping systems and HIC susceptibility of X60 steel by traditional and innovative methodologies -- Hydrogen charging of samples printed on 3D, against samples of conventional materials.
Sommario/riassunto	The book presents a collection of chapters on the current problems associated with hydrogen damage. It discusses the effect of hydrogen on material properties and its interaction with the material microstructure, physical features of hydrogen transport in metals and alloys, as well as applicable methods of measuring concentration of hydrogen in solid media.