1. Record Nr. UNINA9910633977303321

Titolo	Corrosion : Fundamentals and Protection Mechanisms / / edited by Fahmina Zafar, Anujit Ghosal and Eram Sharmin
Pubbl/distr/stampa	London, United Kingdom : , : IntechOpen, , 2022
ISBN	1-83968-606-5
Descrizione fisica	1 online resource (144 pages)
Disciplina	620.11223
Soggetti	Corrosion and anti-corrosives
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Introductory Chapter: Corrosion -- 2. Corrosion: Favoured, Yet Undesirable - Its Kinetics and Thermodynamics -- 3. Copper, Iron, and Aluminium Electrochemical Corrosion Rate Dependence on Temperature -- 4. Applications of the Effectiveness of Corrosion Inhibitors with Computational Methods and Molecular Dynamics Simulation -- 5. Corrosion and Natural Corrosion Inhibitors: A Case Study for C. microphyllus -- 6. An Insight on Corrosion Resistance Ability of Biocompatible Dental Implants through Electrochemical Impedance Spectroscopy -- 7. Hot Corrosion and Oxidation Behaviour of TiAl Alloys during Fabrication by Laser Powder Bed Additive Manufacturing Process.
Sommario/riassunto	Corrosion in materials is responsible for huge direct as well as indirect losses around the world. To address corrosion, a combinational approach involving molecular simulations of natural inhibitors, pre-structural designs, and the development of traditional but functional polymeric nanocomposites is recommended. This book presents the basics of corrosion from thermodynamic and kinetic points of view, discusses the major driving force behind corrosion, and provides insight into possible remediation techniques.