Record Nr.	UNISA996199396303316
Autore	Monk Paul M. S.
Titolo	Electrochromism : fundamentals and applications / / Paul M. S. Monk, Roger J. Mortimer, David R. Rosseinsky
Pubbl/distr/stampa	Weinheim, Germany : , : VCH, , 1995 ©1995
ISBN	1-281-84275-3 9786611842758 3-527-61537-7 3-527-61536-9
Descrizione fisica	1 online resource (241 p.)
Disciplina	620.11297
Soggetti	Electrochromic devices - Materials Inorganic compounds Organic compounds
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 at the end of each chapters and index.
Nota di contenuto	<ul> <li>Electrochrornism: Fundamentals and Applications; Contents; List of Tables; Symbols and Abbreviations; Part I Introduction; 1</li> <li>Electrochromism: Terminology, Scope, Colouration; 1.1 What is</li> <li>Electrochromism?; 1.2 Existing Technologies; 1.3 Electrochromic</li> <li>Displays and Shutters; 1.4 Terminology of Electrochromism; 1.4.1</li> <li>Primary and Secondary Electrochromism; 1.4.2 Colour and Contrast Ratio; 1.4.3 Colouration Efficiency; 1.4.4 Write-erase Efficiency; 1.4.5</li> <li>Response Time; 1.4.6 Cycle Life; 1.4.7 The Insertion Coefficient; 1.4.8</li> <li>ECD Appearanlx; References</li> <li>2 Electrochromic Systems: Electrochemistry, Kinetics and Mechanism2.1</li> <li>Introduction; 2.2 Equilibrium Electrochemistry; 2.3 Electrochromic</li> <li>Operation Exemplified; 2.4 Voltammetry; 2.4.1 Introduction to Dynamic</li> <li>Elecuochemisuy: The Three-Electrode Configuration; 2.4.2 The Use of</li> <li>Voltammetry; Cyclic Voltammetry; 2.5 Charge Transfer and Charge</li> <li>Transport; 2.5.1 The Kinetics of Electron Transfer; 2.5.2 The Use of</li> <li>Semiconducting Electrodes; 2.5.3 The Rate of Mass Transport; 2.5.3.1</li> </ul>

1.

	Migration; 2.5.3.2 Diffusion; 2.6 AC or RF Electrochemistry: Impedance or Complex Permittivity Studies 2.7 Electrodes: Classification of Electrochrome Type2.7.1 Type 1 Electrochromes: Always in Solution; 2.7.2 Type 2 Electrochromes: Solution-to-Solid; 2.7.3 Type 3 Electrochromes: All-Solid Systems; References; 3 Construction of Electrochromic Devices; 3.1 Introduction; 3.2 All-Solid Cells with Reflective Operation; 3.3 All-Solid Cells with Transmissive Operation; 3.4 Solid Electrolytes; 3.5 The Preparation of Solid Electrochromic Films; 3.6 Liquid Electrolytes; 3.7 Self-Darkening Electrochromic Rearview Mirror for Cars Employing Type 1 (Solution- phase) Electrochromes; References Part II Electrochromic SystemsGeneral Introduction; References; A Inorganic Systems; 4. Metal Oxide; 4.1 Introduction - Colour in Mixed- valence Systems; 4.2 Cobalt Oxide; 4.3 Indium Tin Oxide; 4.4 Iridium Oxide; 4.5 Molybdenum Trioxide; 4.6 Nickel Oxide; 4.7 Tungsten Trioxide; 4.7.1 Operation of WO3 ECDs; 4.7.2 Structure, Preparation and Diffusion Characteristics; 4.7.3 Spectroscopic and Optical Effects; 4.8 Vanadium Pentoxide; 4.9 Other Metal Oxide; 4.9.1 Cerium Oxide; 4.9.2 Iron Oxide; 4.9.3 Manganese Oxide; 4.9.4 Niobium Pentoxide; 4.9.7 Ruthenium Dioxide4.9.8 Titanium Oxide 4.9.7 Ruthenium Dioxide4.9.8 Titanium Oxide 4.9.7 Ruthenium Dioxide4.9.8 Titanium Oxide; 4.10 Mixed Metal Oxides; 4.10.1 Cobalt Oxide Mixtures; 4.10.2 Molybdenum Trioxide Mixtures; 4.10.5 Vanadium Oxide Mixtures; 4.10.6 Miscellaneous Metal Oxide Mixtures; 4.10.7 Ternary Oxide Mixtures; 4.11 Metal Oxide - Organic Mixtures; References; 5 Phthalocyanine Compounds; 5.1 Introduction; 5.2 Lutetium bis(Phthalocyanine); 5.3 Other Metal Phthalccyanines; 5.4 Related Species; References; 6 Prussian Blue: Its Systems and Analogues: 6.1 Introduction: Historical and Bulk Properties
	6.2 Preparation of Prussian Blue Thin Films
Sommario/riassunto	Electrochromic devices have a number of important commercial applications, for instance in displays, as optical shutters, and as modulators for mirrors, windows, and sun-glasses.Electrochromism - Fundamentals and Applications is the first in-depth treatise on the topic. Written by leading scientists in the field, it is a state-of-the-art account of all aspects of electrochromism, presented at a level accessible to chemists, physicists, materials scientists and engineers. Both the physical and chemical background of electrochromic phenomena are described and a comprehensive survey of bo