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| Soggetti | Materials science<br>Engineering—Materials<br>Chemistry, Inorganic<br>Chemical engineering<br>Materials Science, general<br>Materials Engineering<br>Inorganic Chemistry<br>Industrial Chemistry/Chemical Engineering |
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| Nota di contenuto | Introduction -- Properties of Materials -- Ferrous Metals and Their Alloys -- Common Nonferrous Metals -- Less Common Nonferrous Metals -- Semiconductors -- Superconductors -- Magnetic Materials -- Insulators and Dielectrics -- Miscellaneous Electrical Materials -- Ceramics, Refractories and Glasses -- Polymers and Elastomers -- Minerals, Ores and Gemstones -- Rocks and Meteorites -- Soils and Fertilizers -- Cements, Concrete, Building Stones and Construction Materials -- Timbers and Woods -- Fuels, Propellants and Explosives -- Composite Materials -- Gases -- Liquids -- Food Materials -- Natural Oils, Fats, Resins and Waxes -- Nuclear Materials -- Materials Occupational Health and Safety -- Globally Harmonized System -- Appendices: Background Data for the Chemical Elements; Chart for Semi-Microchemical Qualitative Identification of Metal Cations; NIST Thermochemical Data for Pure Substances; Hydrogen-Like Atom Spectra; Hydrogen-like Atom Spectra; Crystal Field Theory; Transparent |

Materials for Optical Windows; Corrosion Resistance of Materials Towards Various Corrosive Media; Astonomical Data; Materials Societies -- Bibliography -- Index.

Sommario/riassunto

The unique and practical Materials Handbook (third edition) provides quick and easy access to the physical and chemical properties of very many classes of materials. Its coverage has been expanded to include whole new families of materials such as minor metals, ferroalloys, nuclear materials, food, natural oils, fats, resins, and waxes. Many of the existing families—notably the metals, gases, liquids, minerals, rocks, soils, polymers, and fuels—are broadened and refined with new material and up-to-date information. Several of the larger tables of data are expanded and new ones added. Particular emphasis is placed on the properties of common industrial materials in each class. After a chapter introducing some general properties of materials, each of twenty classes of materials receives attention in its own chapter. The health and safety issues connected with the useand handling of industrial materials are included. Detailed appendices provide additional information on subjects as diverse as crystallography, spectroscopy, thermochemical data, analytical chemistry, corrosion resistance, and economic data for industrial and hazardous materials. Specific further reading sections and a general bibliography round out this comprehensive guide. The index and tabular format of the book makes light work of extracting what the reader needs to know from the wealth of factual information within these covers. Dr. François Cardarelli has spent many years compiling and editing materials data. His professional expertise and experience combine to make this handbook an indispensable reference tool for scientists and engineers working in numerous fields ranging from chemical to nuclear engineering. Particular emphasis is placed on the properties of common industrial materials in each class. After a chapter introducing some general properties of materials, materials are classified as follows. ferrous metals and their alloys; ferroalloys; common nonferrous metals; less common metals; minor metals; semiconductors and superconductors; magnetic materials; insulators and dielectrics; miscellaneous electrical materials; ceramics, refractories and glasses; polymers and elastomers; minerals, ores and gemstones; rocks and meteorites; soils and fertilizers; construction materials; timbers and woods; fuels, propellants and explosives; composite materials; gases; liquids; food, oils, resin and waxes; nuclear materials. food materials.