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Drawn from the second edition of the best-selling Phosphor Handbook, Practical Applications of Phosphors outlines methods for the production of various phosphors and discusses a broad spectrum of applications. Beginning with methods for synthesis and related technologies, the book sets the stage by classifying and then explaining practical phosphors according to usage. It describes the operating principle and structure of phosphor devices and the phosphor characteristics required for a given device, then covers the manufacturing processes and characteristics of phosphors. The book discusses research and development currently under way on phosphors with potential for practical usage and touches briefly on phosphors that have played a historical role, but are no longer of practical use. It provides a comprehensive treatment of applications including lamps and cathode-ray tubes, x-ray and ionizing radiation, and for vacuum fluorescent and field emission displays and covers inorganic and organic electroluminescence materials. The book also covers phosphors for plasma displays, organic fluorescent pigments, and phosphors used in a variety of other practical applications. Emphasizing the practical and cutting-edge nature of the material included, the editors round out their coverage with a discussion of solid-state and organic laser materials.

FRP Composites in Civil EngineeringProceedings of the International Conference on FRP Composites in Civil Engineering, 12-15 December 2001, Hong Kong, ChinaTaylor & Francis

Handbook of Surface Improvement and Modification contains information on several groups of additives and the modification processes which determine the surface properties of many materials. These additives can modify or improve scratch and mar resistance, improve gloss or

flatten the surface, increase or decrease tack and inhibit staining. The mechanisms of damage, protection and property improvements are also discussed, making this an essential handbook for engineers, researchers and technicians interested in using additives to modify and improve the surface properties of materials. A companion book entitled Databook of Surface Modification Additives has also been published. It contains information and data on the additives commercially available to improve materials by the above-listed modifications. Both books do not repeat information. In this book, the focus is on the methods and mechanisms which are known to be responsible for the enhancement of material properties with the use of additives. Focuses on the improvement of surface properties, with detailed coverage of the additives used, including the process of selection and examples of application Presents the mechanisms of damage, protection and property improvements based on research data Aids the user in formulating products that fit specific requirements and applications

Papers from international experts from 13 countries. Coverage includes, new developments in the theory and practice of polymer composites, studies of their performance, manufacturing techniques and the material selection process.

This book is a collection of the marketing/technical/regulatory sessions of the Composites Institute's International Composites EXPO '97 held at Nashville, Tennessee on January 27-29, 1997.

This Proceedings contains the papers presented at the International Conference on FRP Composites in Civil Engineering, held in Hong Kong, China, on 12-15 December 2001. The papers, contributed from 24 countries, cover a wide spectrum of topics and

demonstrate the recent advances in the application of FRP (Fibre-reinforced polymer) composites in civil engineering, while pointing to future directions of research in this exciting area.

Lacquer Chemistry and Applications explores the topic of lacquer, the only natural product polymerized by an enzyme that has been used for a coating material in Asian countries for thousands of years. Although the human-lacquer-culture, including cultivation of the lacquer tree, harvesting, and the use of lacquer sap, has a long history of more than thousand years, there is very little information available on the modern scientific methods to study lacquer chemistry. This book, based on the results of the authors' 30 years of research on lacquer chemistry, offers lacquer researchers a unique reference on the science and applications of this extremely important material. Covers the chemistry and properties of lacquer, including synthesis of its various components Provides up-to-date analytical techniques for lacquer identification and characterization Discusses possible toxicity effects Outlines new modification techniques for developing higher performance material Presents the history of this versatile coating material that has evolved from its origins in Asian countries over thousands of years

This standard is one of a series of standards dealing with the sampling and testing of paints, varnishes and related products. It specifies a method for determining the film hardness by pushing pencils of known hardness over the film. The test can be performed on a single coating of a paint, varnish or related product, or on the upper

layer of a multicoat system.

The level of research activity in the highway sector as a whole has declined precipitously in recent decades, whilst the challenges facing US state highway agencies have escalated. As a result, a Strategic Highway Research Program - SHRP) was initiated to establish collaboration with research bodies tackling similar highway problems in countries worldwide. This collection of reports from around the world presents SHRP`s progress towards providing research-based new products from which the international highway engineering community may benefit. SHRP concentrates on six high-priority research areas: asphaltic materials; pavement performance; cement and concrete; maintenance cost effectiveness; concrete bridge component protection systems and the chemical control of snow and ice.

Includes abstracts of Kagaku k?gaku, v. 31-

Magnesium, with its very rich reserves within the Earth, is an important engineering material, but has not yet been fully developed and utilized. Given its low density, magnesium has a higher specific strength and stiffness than many other engineering materials: including aluminum, steel and polymer-based composites. Magnesium also offers other attractive properties: such as a high damping capacity, electromagnetic shielding, dimensional stability, and good machinability and recyclability. As a relatively new structural material, magnesium and its alloys have demonstrated a significant potential for applications in many industries: including automobile, 3C (computer, communication and consumer) products, transportation, power-tools/equipment and new energy sources.

Concrete is arguably the major construction material used worldwide. It has generally served well, yet too often it has failed to achieve the required performance. Although developments in materials and practice have widened the scope for the use of concrete, they have also had effects on its performance. This book presents current thinking and future developments on means of protecting concrete and ensuring its adequate performance in the required application.

A benchmark publication, the first edition of the Phosphor Handbook set the standard for references in this field. Completely revised and updated, this second edition explores new and emerging fields such as nanophosphors, nanomaterials, UV phosphors, quantum cutters, plasma display phosphors, sol-gel and other wet phosphor preparation techniques, preparation through combustion, bioluminescence phosphors and devices, and new laser materials such as OLED. It also contains new chapters on the applications of phosphors in solid state lighting, photoionization of luminescent centers in insulating phosphors, and recent developments in halide-based scintillators. The handbook provides a comprehensive description of phosphors with an emphasis on practical phosphors and their uses in various kinds of technological applications. It covers the fundamentals, namely the basic principles of luminescence, the principle phosphor materials, and their optical properties. The authors describe

phosphors used in lamps, cathode-ray tubes, x-ray, and ionizing radiation detection. They cover common measurement methodology used to characterize phosphor properties, discuss a number of related items, and conclude with the history of phosphor technology and industry.