Evercrete Co2 Resistant Cement System Schlumberger

This book introduces the scientific basis and engineering practice for CO2 storage, covering topics such as storage capacity, trapping mechanisms, CO2 phase behaviour and flow dynamics, engineering and geomechanics of geological storage, injection well design, and geophysical and geochemical monitoring. It also provides numerous examples from the early mover CCS projects, notably Sleipner and Snøhvit offshore Norway, as well as other pioneering CO2 storage projects. Biocompatibility of Dental Biomaterials details and examines the fundamentals of biocompatibililty, also including strategies to combat it. As biomaterials used in the mouth are subject to different problems than those associated with the general in vivo environment, this book examines these challenges, presenting the latest research and forward-thinking strategies. Explores the fundamentals of dental biomaterials and their compatibility Presents a thorough review of material specific issues

The Department of Energy's Office of Environmental Management

(DOE-EM) is responsible for cleaning up radioactive waste and environmental contamination resulting from five decades of nuclear weapons production and testing. A major focus of this program involves the retrieval, processing, and immobilization of waste into stable, solid waste forms for disposal. Waste Forms Technology and Performance, a report requested by DOE-EM, examines requirements for waste form technology and performance in the cleanup program. The report provides information to DOE-EM to support improvements in methods for processing waste and selecting and fabricating waste forms. Waste Forms Technology and Performance places particular emphasis on processing technologies for high-level radioactive waste, DOE's most expensive and arguably most difficult cleanup challenge. The report's key messages are presented in ten findings and one recommendation.

Proceedings of the International Conference on Stabilisation/Solidification Treatment and Remediation, 12-13 April 2005, Cambridge, UK

Rotary Kiln Technology

Geophysics and Geosequestration

How to Store CO2 Underground: Insights from early-mover CCS Projects

Geological Storage of CO2 – Long Term Security AspectsGEOTECHNOLOGIEN Science Report No. 22Springer

Andre Rival, at home in both Paris and Berlin, has created a fascinating project out of a relatively simple idea: 100 women taking photographs of themselves. The outcome is both startling and impressive. It is an expression of contemporary female identity - self-aware, distinctive and thoroughly positive, in a series of nude photographs that inexorably capture and hold our attention, revealing at the same time the artist's highly creative approach to the medium of photography and to the individual selves of the women portrayed. The author describes his project in this way: "We are inundated with pictures of women in the media. Ordinarily, the pictures we see seek to achieve a kind of 'sameness' based on unwritten ideals of beauty; physical perfection, total fitness become the determining factors. These images of women, provoked as they are by the media industry, awakened in me the urge to confront both that industry and myself with something else. I chose to set

aside my own ways of thinking and do a series of 100 women in which it was not I who would put together the photographs, but the women themselves. For this purpose, I gave them each a shutter-switch and left the room. That represented the beginning of the attempt to enable the women to become photographic subjects rather than objects; they were left to decide on their own which personal image of themselves they wanted to convey. The conditions were the same for all of the women: the same lighting, the same white background and the same unchanged camera position. It was essential to fix the location of the camera, so that the women did not perceive themselves as being pursued by an 'observer'; instead, they were able to establish distance and camera angle themselves with the aid of a video screen that showed them each camera exposure as a still photo." Sustainable Industrial Design and Waste Management was inspired by the need to have a text that enveloped awareness and solutions to the ongoing issues and concerns of waste generated from industry. The development of science and technology has increased human capacity to extract resources from nature and it is only recently that industries are being held accountable for

the detrimental effects the waste they produce has on the environment. Increased governmental research, regulation and corporate accountability are digging up issues pertaining to pollution control and waste treatment and environmental protection. The traditional approach for clinical waste, agricultural waste, industrial waste, and municipal waste are depleting our natural resources. The main objective of this book is to conserve the natural resources by approaching 100 % full utilization of all types of wastes by cradle – to - cradle concepts, using Industrial Ecology methodology documented with case studies. Sustainable development and environmental protection cannot be achieved without establishing the concept of industrial ecology. The main tools necessary for establishing Industrial Ecology and sustainable development will be covered in the book. The concept of "industrial ecology will help the industrial system to be managed and operated more or less like a natural ecosystem hence causing as less damage as possible to the surrounding environment. Numerous case studies allow the reader to adapt concepts according to personal interest/field Reveals innovative technologies for the conservation of natural

resources The only book which provides an integrated approach for sustainable development including tools, methodology, and indicators for sustainable development

Sustainable Industrial Design and Waste Management

100 Women

JPT. Journal of Petroleum Technology

Environmental Aspects of Construction with Waste Materials

The Materials Research Society's Symposium EE, entitled 'Scientific Basis for Nuclear Waste Management XXXVIII', was held from 30 November to 5 December 2014, at the MRS Fall Meeting in Boston, Massachusetts. The symposium discussed the key scientific challenges for the safe and effective management of spent nuclear fuel and radioactive waste and provided an overview of the international research and waste management programs around the world. Waste forms and engineered barrier system properties, interactions between engineered and geological systems, radiation effects, chemistry and transport of radionuclides, and long-term predictions of repository performance were just some of the topics presented at the symposium by internationally renowned speakers and leading researchers in the field. The symposium attracted 85 abstracts. This proceedings volume contains 31 papers from the meeting.

Materials for the Direct Restoration of Teeth focuses on the important role teeth play in our lives and how biomaterials scientists are ensuring that new dental materials are functional and esthetic. As research in the field is shifting away from traditional materials like metal,

and towards more advanced materials, such as resins and ceramics, this book on the subject of modern materials for the direct repair of teeth provides readers with a comprehensive reference. The most pertinent modern dental materials and their properties and applications for the direct restoration of teeth are presented, along with case examples and guidance notes making this book an essential companion for materials scientists and clinicians. Provides comprehensive coverage of conventional and modern materials for direct restoration of teeth Includes guidance notes and case examples to support dental clinicians in decision-making Authored by a scientist and a clinician, the book provides a balanced and complete treatise of the subject

This book explores the industrial use of secure, permanent storage technologies for carbon dioxide (CO2), especially geological CO2 storage. Readers are invited to discover how this greenhouse gas could be spared from permanent release into the atmosphere through storage in deep rock formations. Themes explored here include CO2 reservoir management, caprock formation, bio-chemical processes and fluid migration. Particular attention is given to groundwater protection, the improvement of sensor technology, borehole seals and cement quality. A collaborative work by scientists and industrial partners, this volume presents original research, it investigates several aspects of innovative technologies for medium-term use and it includes a detailed risk analysis. Coal-based power generation, energy consuming industrial processes (such as steel and cement) and the burning of biomass all result in carbon dioxide. Those involved in such industries who are considering geological storage of CO2, as well as earth scientists and engineers will value this book and the innovative monitoring methods described. Researchers in the field of computer imaging

and pattern recognition will also find something of interest in these chapters.
Cement Evaluation
Self-images
Proceedings of the World Congress Geopolymer 2005
Testing and Quality

What makes this book so different and valuable to the engineer is the accompanying software, used by reservoir engineers all over the world every day. The new software, IFLO (replacing WINB4D, in previous editions), is a simulator that the engineer can easily install in a Windows operating environment. IFLO generates simulations of how the well can be tapped and feeds this to the engineer in dynamic 3D perspective. This completely new software is much more functional, with better graphics and more scenarios from which the engineer can generate simulations. BENEFIT TO THE READER: This book and software helps the reservoir engineer do his or her job on a daily basis, better, more economically, and more efficiently. Without simulations, the reservoir engineer would not be able to do his or her job at all, and the technology available in this product is far superior to most companies internal simulation software.- Chemistry and Microstructure of Solidified Waste Forms presents a

comprehensive summary of mechanisms of immobilization in cementitious waste forms and the effect of waste species on cement chemistry and morphology. The book introduces the well-known chemistry and microstructure of cement pastes, in addition to common mechanisms of immobilization of waste species in cementitious waste forms. The fundamental chemical and microstructural fate of waste species is reviewed, and a technique for studying cementitious waste forms using scanning transmission electron microscopy (STEM) is described with examples of its application. Chemistry and Microstructure of Solidified Waste Forms also presents evidence to prove that chromium in waste becomes part of the cement matrix, and the potentially harmful effect of this process is discussed. Data for interpretations are included so that other researchers can analyze the data and draw their own conclusions. The book also discusses how solubility and solubility theory can be combined with leach theory and diffusion theory to predict the leaching performance of cementitious waste forms. Chemistry and Microstructure of Solidified Waste Forms will prove invaluable to hazardous waste professionals, engineers, environmental engineers, chemical engineers, waste disposal

managers, waste form developers and researchers, and regulators. Based on the Institute of Concrete Technology's Advanced Concrete Technology Course, these four volumes are a comprehensive educational and reference resource for the concrete materials technologist. An expert international team of authors from research, academia and industry has been brought together to produce this unique series. Each volume deals with a different aspect of the subject: constituent materials, properties, processes and testing and quality. With worked examples, case studies and illustrations throughout, the books will be a key reference for the concrete specialist for years to come. Expert international authorship ensures the series is authoritative Case studies and worked examples help the reader apply their knowledge to practice Comprehensive coverage of the subject gives the reader all the necessary reference material

Cradle-to-Cradle for Sustainable Development

Educational Forum : Papers

Scientific Basis for Nuclear Waste Management XXXVIII:

Principles of Applied Reservoir Simulation

Nuclear power issues have long been controversial, and often

discussed from an inadequate or mistaken understanding. This book is a factual description of the whole fuel cycle, with individual chapters on specific topics from uranium mining, through the manufacture and use of fuel, to recycled products, waste disposal and progress towards a cleared site. Basic principles, environmental radioactivity (both natural and artificial) and provisions for safety are also covered. The level is pitched at a general scientific readership not necessarily familiar with the concepts, and although the viewpoint is naturally pro-nuclear, the aim is to inform rather than persuade. Where options are disputed, as whether used fuel should br reprocessed or discarded directly, both are described. The account is mainly of current practices, with the reasons for them. A final chapter suggests possible changes in the near or more distant future.

There are many UNESCO World Heritage Sites in Germany. Most of them are built with natural stones. These sites are commonly presented to the public with a lot of information

regarding historical, cultural and artistic aspects. Mostly, there is no focus on the main building material if it concerns natural stones. This work aims to show that it is precisely the natural stone that lends the sites their distinctive character. The used stones demonstrate the context and the interaction with the geology of the surrounding countryside as well as possibilities of transport and treatment. They reflect the culture and society at the time of the building phases. The second part of the work presents the most important stones that were used at these sites, along with their occurrences, aspects of quarrying in historical times and of course their petrographical, mineralogical and technical features. It is shown how these features influence the weathering of the stones and how restoration of stones is carried out. The book will serve as a useful source book for geologists, archaeologists, architects, representatives of the natural stone industry, historians and cultural heritage management professionals specifically, and for academic and nonacademic

communities, travelers and tourism industry operators in general.

The concept of Sustainable Development, implicating the protection of soil and groundwater, the limitation of waste production and the re-use of soild waste materials is still the leading theme of WASCON '94. Although it is clearly recognized in most countries that products derived from solid waste materials can be applied as construction materials, research is still needed to assess various environmental problems.

Nuclear Waste Disposal

From Ore to Wastes

Crafting and Decorating Made Simple

Materials for the Direct Restoration of Teeth

Drawing together a multinational team of authors, this second edition of Structure and Performance of Cements highlights the latest global advances in the field of cement technology. Three broad categories are covered: basic materials and methods, cement extenders, and techniques of examination. Within these categories consideration has been given to environmental issues such as the use of waste materials in cement-burning

as supplementary fuels and new and improved methods of instrumentation for examining structural aspects and performance of cements. This book also covers cement production, mineralogy and hydration, as well as the mechanical properties of cement, and the corrosion and durability of cementitious systems. Special cements are included, along with calcium aluminate and blended cements together with a consideration of the role of gypsum in cements. Structure and Performance of Cements is an invaluable key reference for academics, researchers and practitioners alike.

An overview of the geophysical techniques and analysis methods for monitoring subsurface carbon dioxide storage for researchers and industry practitioners.

Contains 28 of the papers presented to a US-Japan symposium in Honolulu, November 1993, covering the formation and properties of clinker and cement, the chemistry of hydration and hydrated products, varistors and conductors, the microstructure and properties of hydrated products, and novel and non-P

Cement Technology

Geological Storage of CO2 – Long Term Security Aspects

UNESCO Sites in Germany

Advanced Concrete Technology 4

Nuclear energy is the energy released by the powerful forces that hold atoms together. This energy is used to produce electricity in nuclear power stations. But during nuclear reactions a type of pollution, called radioactivity is produced. Radioactivity can be dangerous to living things, and

remains harmful for thousands of years. The nuclear waste that is produced now, needs to be stored very safely. Grades 3-6.

Carbon Capture and Storage, Second Edition, provides a thorough, non-specialist introduction to technologies aimed at reducing greenhouse gas emissions from burning fossil fuels during power generation and other energy-intensive industrial processes, such as steelmaking. Extensively revised and updated, this second edition provides detailed coverage of key carbon dioxide capture methods along with an examination of the most promising techniques for carbon storage. The book opens with an introductory section that provides background regarding the need to reduce greenhouse gas emissions, an overview of carbon capture and storage (CCS) technologies, and a primer in the fundamentals of power generation. The next chapters focus on key carbon capture technologies, including absorption, adsorption, and membrane-based systems, addressing their applications in both the power and non-power sectors. New for the second edition, a dedicated section on geological storage of carbon dioxide follows, with chapters addressing the relevant features, events, and processes (FEP) associated with this scenario. Non-geological storage methods such as ocean storage and storage in terrestrial ecosystems are the subject of the final group of chapters. A chapter on carbon dioxide transportation is also included. This extensively revised and expanded second edition will be a valuable resource for power plant engineers, chemical engineers, geological engineers, environmental engineers, and industrial engineers seeking a concise, yet authoritative one-volume overview of this field. Researchers, consultants, and policy makers entering this discipline also will benefit from this reference. Provides all-inclusive and authoritative coverage of the major technologies under consideration for carbon capture and storage Presents information in an approachable format, for those with a scientific or

engineering background, as well as non-specialists Includes a new Part III dedicated to geological storage of carbon dioxide, covering this topic in much more depth (9 chapters compared to 1 in the first edition) Features revisions and updates to all chapters Includes new sections or expanded content on: chemical looping/calcium looping; life-cycle GHG assessment of CCS technologies; non-power industries (e.g. including pulp/paper alongside ones already covered); carbon negative technologies (e.g. BECCS); gas-fired power plants; biomass and waste co-firing; and hydrate-based capture

Stabilisation/Solidification Treatment and Remediation - Advances in S/S for Waste and Contaminated Land contains 39 papers, summaries of the four keynote lectures and the seven State of Practice reports presented at the International Conference organized by the EPSRC-funded network STARNET (Stabilisation/solidification treatment and remediation).

Geopolymer, Green Chemistry and Sustainable Development Solutions

Structure and Performance of Cements, Second Edition

Carbon Capture and Storage

Chemistry and Microstructure of Solidified Waste Forms