Geopolymer Concrete An Eco Friendly Construction Material | ac1c0e7640596f0a91dea6f138abc946

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professionals working in the field of civil engineering and especially sustainable structures and green buildings. This volume focuses on research and practical issues linked to Calcined Clays for Sustainable Concrete. The main subjects are geology of clays, hydration and performance of calcined clays, binders, economics and performance of calcined clays, and the use of calcined clays as a concrete ingredient. This book include the following themes: - Influence of clay mineralogy on reactivity, geology of clay deposits, Portland-calcined clay systems, hydration, durability, performance, Portland-calcined clay-limestone systems, hydration, durability, performance, calcined clay-alkali systems, life cycle analysis, economics and environmental impacts of use of calcined clays in cement, concrete, and field applications. This book compiles the different contributions of the 1st International Conference on Calcined Clays for Sustainable Concrete, which took place in Lausanne, Switzerland, June, 23-25, 2015. The papers present the latest research in their fields. It contains nearly 80 papers and abstracts. Overall, this book gives a broad view of research on calcined clays in the field of construction and will stimulate further research on sustainable clcay-based materials. To support the Quaternary Blended Alkali-Activated Binder Ternary and Quaternary Blended Alkali-Activated Binder: Engineering Properties and Performance consolidates the findings in the process of the development of new classes of blended alkali-activated binder system by the author. He extensively covers on the synthetic and durability properties of the ternary and quaternary blended alkali-activated material. Some of the key advantages of these technologies elaborated in the following aspects: - Material design and formulation of ternary and quaternary blended alkali-activated binder system - Fabrication process to produce the materials - Key engineering properties and behaviour of materials - Fundamental concepts in the design and fabrication of the materials - Approaches of the reduction of the emissions carbon and alkali activation - Synergistic effect of alkali-activated binder through the synergistic activation method Cheah Chee Ban is a prominent researcher and author in the field of sustainable concrete materials and technology. He found that is it possible to produce new binder for the construction industry to replace the role of cement. The green binder material is produced from industrial by-products in the iron making and electrical power sectors that commonly face disposal problem. There is the production of binder material the alternative pathway for the recycling of waste materials. The technology being developed currently produces extract lime, slag, and by-products that research has identified can be used in the construction. The binder which has been granted for the concrete technology. Besides this, he has published over 49 research articles on the subject matter in the international scientific databases such as Scopus and ScienceDirect. Scientific and technological development has led to the formulation of tailor-made materials, which have given rise to materials with new structural and industrial applications. This book aims to analyze the synthetic, characterization, and applications of ceramic materials. This includes an introduction to traditional and advanced ceramics and the synthesis and characterization of ceramic materials. A special focus is made on the synthesis and characterization of ceramic materials that have been peer-reviewed and published in the 21st Australasian Conference on the Mechanics of Structures and Materials (ACMSM21, Victoria, University, Melbourne, Australia, 7th 10th of December 2010). The contributions from academics, researchers and practitioners on the production of geopolymers using recycled fine aggregate (RFA) generated from concrete waste has significant potential to be a sustainable construction material. In this article, the variable changes of the properties of recycled aggregate mortars are studied in terms of drying shrinkage up to 28 days. A reduction in the unit weight with respect to the conventional mortars is denoted. Today the primary application of geopolymers is seen in the synthesis and characterization of concreteBinders of Structures and Materials is a collection based on the creation of building materials. The book presents the technological processes involved, as well as the characterization and applications of the resulting ecocremals. Keywords: Geopolymerization, Industrial Waste Materials, Green Materials, Thermal Insulation, Fire-resistant Materials, Construction Materials, Refractory Cements and Concretes, Encapsulation of Radioactive Waste, Encapsulation of Toxic Waste, Thermal Plant Ash Paste, AluminoSilicate Recycling, Porous Geopolymers, Environmentally Friendly Concrete. This book highlights the current research, conceptual and practical utilization of waste in building materials. It examines the production of industrial and agricultural wastes that have been generated worldwide and have significant environmental impact. The book discusses how these incorporate wastes effectively with green technology and how to improve its environmental impact in production environmentally friendly and sustainable green products. This book will also capitalize on its practical, properties, performance and economic advantages. The topics covered include the physical, mechanical and environmental performance of geopolymeric binders, the variation in its properties and environmental impact. Geopolymers are used in a wide range of applications, such as construction materials, especially concrete. This book also points out the importance of sustainable development and innovation in construction materials, especially concrete. It covers the numerical analysis and mechanical performance of geopolymeric binders and their applications in the field of construction. This book is useful for students, researchers and professionals working in sustainable technologies in civil engineering. This book comprises select proceedings of the International Conference on Recent Developments in Sustainable Infrastructure (ICRDS 2019). The topics span over all disciplines of civil engineering with regard to sustainable development of infrastructure and innovation in construction materials, especially concrete. This book also points out the importance of sustainable development and innovation in construction materials, especially concrete. It covers the numerical analysis and mechanical performance of geopolymeric binders and their applications in the field of construction.
This book comprises select and peer-reviewed proceedings of the International Conference on Recent Trends in Construction Materials and Structures (ICON 2019). The contents cover various latest developments and emerging technologies in sustainable construction materials, utilization of waste materials in concrete, special concrete, maintenance of heritage structures, earthquake engineering, and structural dynamics. The book also provides effective and feasible solutions to current problems in sustainable construction materials and structures. This book is useful for students, researchers, and industry professionals interested in concrete technology and structures.