CEMENT AND CONCRETE RESEARCH

DESCRIPTION

The aim of Cement and Concrete Research is to publish the best research on cement, cement composites, concrete and other allied materials that incorporate cement. In doing so, the journal will present: the results of research on the properties and performance of cement and concrete; novel experimental techniques; the latest analytical and modelling methods; the examination and the diagnosis of real cement and concrete structures; and the potential for improved materials. The fields which the journal aims to cover are:

• **Processing**: Cement manufacture, mixing and rheology, admixtures and hydration. While the majority of articles will be concerned with Portland cements, we encourage articles on other cement systems, such as calcium aluminate.
• **Structural and Microstructural Characterisation** of the unhydrated components and of hydrated systems including: the chemistry, crystal structure, pore structure of cement and concrete, characterisation techniques, and structural and microstructural modelling.
• The **properties** of cement and concrete, including: fundamental physical properties; transport, mechanical and other properties, the processes of degradation of cement and concrete; and the modelling of properties, both as a means of predicting short and long performance, and as a means of relating a material's structure to its properties.
• **Applications** for cement and concrete, including: concrete technology, fibre reinforcement, waste management, and novel concretes.

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INTRODUCTION
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List of keywords
A. PROCESSING
   Acceleration
   Bleeding
   Calorimetry
   Curing
   Dispersion
   Drying
   Fineness
   Fresh Concrete
   Grinding
   Humidity
   Hydration
   Kinetics
   Microwave Processing
   Mixture Proportioning
   pH
   Reaction
   Retardation
   Rheology
   Temperature
   Thermal Treatment
   Vibration
   Workability

B. STRUCTURE, MICROSTRUCTURE, CHARACTERIZATION
   Amorphous Material
   Backscattered Electron Imaging
   Calcium-Silicate-Hydrate (C-S-H)
   Characterization
   Crack Detection
   Crystal Size
   Crystal Structure
   EDX
   Glass
   Hydration Products
   Image Analysis
   Interfacial Transition Zone
   Mercury Porosimetry
   Microcracking
   Microstructure
   Particle Size Distribution
   Petrography
   Pore Size Distribution
   Pore Solution
SEM  
Small-Angle X-Ray Scattering  
Spectroscopy  
Surface Area  
Surface Layer  
TEM  
Thermal Analysis  
Thermodynamic Calculations  
X-Ray Diffraction

C. PROPERTIES  
Adsorption  
Aging  
Alkali-Aggregate Reaction  
Bending Strength  
Bond Strength  
Carbonation  
Compressive Strength  
Corrosion  
Creep  
Cycles  
Degradation  
Delayed Ettringite Formation (DEF)  
Diffusion  
Durability  
Elastic Moduli  
Electrical Properties  
Electrochemical Properties  
Expansion  
Fatigue  
Finite Element Analysis  
Fracture Toughness  
Freezing and Thawing  
Long-Term Performance  
Magnetic Properties  
Mechanical Properties  
Micromechanics  
Permeability  
Physical Properties  
Pull-Out Strength  
Shrinkage  
Stability  
Strain Effect  
Sulfate Attack  
Tensile Properties  
Transport Properties

D. COMPOSITION  
Admixture  
Aggregate  
Alkali Activated Cement  
Alkalis  
BaO  
Blended Cement  
CdO  
Ca3Al2O6  
Calcium Aluminate Cement  
Calcium Aluminoferrite  
CaO  
Ca2SiO4
Ca(OH)2
Ca3SiO5
3CaO?3Al2O3?CaSO4
CaCO3
Cement
Cement Paste
Chemically Bonded Ceramics
Chloride
Chromium
Clinker
Cobalt
Ettringite
Filler
Fly Ash
Fluoride
Fluxes
Granulated Blast-Furnace Slag
Heavy Metals
High-Range Water Reducers
Hydrogarnet
Lead
Lithium Compounds
Metakaolin
MgO
Mineralizers
Monosulfate
Nitrate
Organic Acids
Organic Materials
Polymers
Portland Cement
KOH
Pozzolan
Reinforcement
Silica Fume
Sulfate
Sulfate Resistant Cements
Sulfoaluminate
Toxic Metal
Zinc

E. APPLICATIONS, SPECIAL TREATMENT
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