1. Record Nr. UNINA9911006869103321

Titolo	Handbook of thermal analysis of construction materials / / by V.S. Ramachandran ... [et al.]
Pubbl/distr/stampa	Norwich, N.Y., : Noyes Publications/William Andrew Pub., c2003
ISBN	1-282-75528-5 0-08-094701-8 9786612755286 1-282-01088-3 9786612010880 0-8155-1775-0
Descrizione fisica	1 online resource (703 p.)
Collana	PDL handbook series Handbook of thermoplastic elastomers
Altri autori (Persone)	RamachandranV. S (Vangipuram Seshachar)
Disciplina	691/.028/7
Soggetti	Building materials - Thermal properties
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Handbook of Thermal Analysis of Construction Materials; Copyright Page; Table of Contents; Chapter 1. Thermoanalytical Techniques; 1.0 INTRODUCTION; 2.0 CLASSICAL TECHNIQUES; 3.0 MODERN TECHNIQUES; REFERENCES; Chapter 2. Introduction to Portland Cement Concrete; 1.0 PRODUCTION OF PORTLAND CEMENT; 2.0 COMPOSITION; 3.0 INDIVIDUAL CEMENT COMPOUNDS; 4.0 RELATIVE BEHAVIORS OF INDIVIDUAL CEMENT MINERALS; 5.0 HYDRATION OF PORTLAND CEMENT; 6.0 PROPERTIES OF CEMENT PASTE; 7.0 PERMEABILITY OF CEMENT PASTE; 8.0 DIMENSIONAL CHANGES; 9.0 MODELS OF HYDRATED CEMENT; 10.0 MATHEMATICAL MODELS 11.0 CONCRETE PROPERTIES12.0 DURABILITY OF CONCRETE; 13.0 ALKALI-AGGREGATE EXPANSION; 14.0 FROST ACTION; 15.0 SEA WATER ATTACK; 16.0 CORROSION OF REINFORCEMENT; 17.0 CARBOBATION OF CONCRETE; 18.0 DELAYED/SECONDARY ETTRINGITE FORMATION; REFERENCES; Chapter 3. Formation and Hydration of Cement and Cement Compounds; 1.0 INTRODUCTION; 2.0 RAW MATERIALS; 3.0 CLINKERIZATION; 4.0 SYNTHESIS OF CEMENT PHASES; 5.0

POLYMORPHISM IN SILICATES; 6.0 HYDRATION; 7.0 PORTLAND CEMENT; 8.0 CaO-SiO2,-Al2O3-H2O AND RELATED SYSTEMS; 9.0 DURABILITY ASPECTS; REFERENCES; Chapter 4. Introduction to Concrete Admixtures
1.0 INTRODUCTION2.0 ACCELERATORS; 3.0 WATER REDUCERS AND RETARDERS; 4.0 SUPERPLASTICIZERS; 5.0 AIR-ENTRAINING AGENTS; 6.0 MINERAL ADMIXTURES; 7.0 MISCELLANEOUS ADMIXTURES; REFERENCES; Chapter 5. Accelerating Admixtures; 1.0 INTRODUCTION; 2.0 CALCIUM CHLORIDE; 3.0 NON-CHLORIDE ACCELERATORS; REFERENCES; Chapter 6. Retarding and Water Reducing Admixtures; 1.0 INTRODUCTION; 2.0 LIGNOSULFONATES; 3.0 SUGAR-FREE LIGNOSULFONATE; 4.0 HYDROXYCARBOXYLIC ACIDS; 5.0 SUGARS; 6.0 PHOSPHONATES; 7.0 CONDUCTION CALORIMETRIC ASSESSMENT OF RETARDERS; 8.0 SLUMP LOSS; 9.0 ABNORMAL SETTING; 10.0 READY-MIX CONCRETE
11.0 OTHER ADMIXTURES12.0 INDENTIFICATION OF WATER REDUCERS/RETARDERS; REFERENCES; Chapter 7. Superplasticizing Admixtures; 1.0 INTRODUCTION; 2.0 TRICALCIUM ALUMINATE; 3.0 TRICALCIUM ALUMINATE -GYPSUM SYSTEM; 4.0 TRICALCIUM SILICATE; 5.0 CEMENT; 6.0 THERMAL ANALYSIS OF SUPERPLASTICIZERS; REFERENCES; Chapter 8. Supplementary Cementing Materials and Other Additions; 1.0 INTRODUCTION; 2.0 FLY ASH; 3.0 SILICA FUME; 4.0 SLAGS; 5.0 RICE HUSK ASH; 6.0 METAKAOLINITE; 7.0 NATURAL POZZOLANS; 8.0 RELATIVE EFFECTS OF POZZOLANS AND THEIR MIXTURE; 9.0 MISCELLANEOUS ADDITIVES; REFERENCES
Chapter 9. Introduction to Non-Portland Cement Binders and Concrete1.0 INTRODUCTION; 2.0 MAGNESIUM OSYCHLORIDE CEMENT; 3.0 MAGNESIUM OXYSULFATE CEMENT; 4.0 CALCIUM ALUMINATE CEMENTS; 5.0 PORTLAND CEMENT-CALCIUM ALUMINATE CEMENT BLENDS; 6.0 PHOSPHATE CEMENT SYSTEMS; 7.0 MAGNESIA PHOSPHATE CEMENT BINDERS; 8.0 REGULATED-SET CEMENT; 9.0 MECHANICAL PROPERTIES AND DURABLITY OF JET SET-BASSED CEMENT SYSTEMS; REFERENCES; Chapter 10. Non-Portland Rapid Setting Cements; 1.0 INTRODUCTION; 2.0 CALCIUM ALUMINATE CEMENTS; 3.0 JET SET (REGULATED-SET) CEMENT
4.0 MAGNESIUM OXYCHLORIDE AND MAGNESIUM OXYSULFATE CEMENT SYSTEMS

Sommario/riassunto

This comprehensive book containing essential information on the applicability of thermal analysis techniques to evaluate inorganic and organic materials in construction technology should serve as a useful reference for the scientist, engineer, construction technologist, architect, manufacturer, and user of construction materials, standard-writing bodies, and analytical chemists. The material scientists at the National Research Council of Canada have established one of the best thermal analysis laboratories in the world. Various types of thermal analysis techniques have been applied success