

1. Record Nr.	UNINA9910665073803321
Autore	Newman John (John Brian), <1938->
Titolo	Advanced Concrete Technology [[electronic resource]] : Set
Pubbl/distr/stampa	Burlington, : Elsevier Science, 2003
ISBN	1-282-38133-4 9786612381331 0-08-052656-X
Descrizione fisica	1 online resource (1266 p.)
Altri autori (Persone)	ChooB S
Disciplina	624.1834
Soggetti	Concrete construction Concrete
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Front Cover; Advanced Concrete Technology: Constituent Materials; Copyright Page; Contents; Preface; List of contributors; Part 1: Cements; Chapter 1. Cements; 1.1 Introduction; 1.2 History of Portland cement manufacture; 1.3 Chemistry of clinker manufacture; 1.4 Cement grinding; 1.5 Portland cement hydration; 1.6 Portland cement types; 1.7 Cement production quality control; 1.8 Influence of cement quality control parameters on properties; 1.9 Relationship between laboratory mortar results and field concrete; 1.10 Applications for different cement types 1.11 Health and safety aspects of cement use References; Chapter 2. Calcium aluminate cements; 2.1 Introduction; 2.2 Chemistry and mineralogy of CACs; 2.3 Properties of fresh CAC concrete - setting, workability, heat evolution; 2.4 Strength development; 2.5 Other engineering properties; 2.6 Supplementary cementing materials; 2.7 Durability/resistance to degradation; 2.8 Structural collapses associated with CAC concrete; 2.9 Modern uses of CAC concrete; 2.10 Use of CACs in mixed binder systems; 2.11 Summary; References; Part 2: Cementitious Additions; Chapter 3. Cementitious additions 3.1 The pozzolanic reaction and concrete 3.2 Fly ash as a cementitious addition to concrete; 3.3 Fly ash in special concretes; 3.4 Natural pozzolanas; 3.5 The use of ggbs in concrete; 3.6 Silica fume for

concrete; 3.7 Metakaolin; 3.8 Limestone; References; Part 3: Admixtures; Chapter 4. Admixtures for concrete, mortar and grout; 4.1 Introduction; 4.2 Dispersing admixtures; 4.3 Retarding and retarding plasticizers/superplasticizing admixtures; 4.4 Accelerating admixtures; 4.5 Air-entraining admixtures; 4.6 Water resisting (waterproofing); 4.7 Corrosion-inhibiting admixtures 4.8 Shrinkage-reducing admixtures 4.9 Anti-washout/underwater admixtures; 4.10 Pumping aids; 4.11 Sprayed concrete admixtures; 4.12 Foamed concrete and CLSM; 4.13 Other concrete admixtures; 4.14 Mortar admixtures; 4.15 Grout admixtures; 4.16 Admixture supply; 4.17 Health and safety; Further reading; Part 4: Aggregates; Chapter 5. Geology, aggregates and classification; 5.1 Introduction; 5.2 Fundamentals; 5.3 Geological classification of rocks; 5.4 Sources and types of aggregates; 5.5 Classification of aggregates; 5.6 Aggregate quarry assessment; 5.7 Deleterious materials in aggregates References Chapter 6. Aggregate prospecting and processing; 6.1 Aims and objectives; 6.2 Introduction; 6.3 Extraction and processing of sand and gravel; 6.4 Processing; 6.5 Extraction and processing of limestone; 6.6 Summary; Further reading; Chapter 7. Lightweight aggregate manufacture; 7.1 Introduction, definitions and limitations; 7.2 Lightweight aggregates suitable for use in structural concrete; 7.3 Brief history of lightweight aggregate production; 7.4 Manufacturing considerations for structural grades of lightweight aggregate 7.5 Production methods used for various lightweight aggregates

Sommario/riassunto

Based on the Institute of Concrete Technology's advanced course, this new four volume series is 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 reference source. Each volume deals with different aspects of the properties, composition, uses and testing of concrete. With worked examples, case studies and illustrations throughout, this series will be a key reference for the concrete specialist for years to come.*
