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| Descrizione fisica      | 1 online resource (283 p.)   |
| Altri autori (Persone)  | NewmanJohn <1938-> (John Brian)<br>ChooB. S  |
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| Nota di contenuto       | <ul> <li>Front Cover; Advanced Concrete Technology: Constituent Materials;<br/>Copyright Page; Contents; Preface; List of contributors; Part 1:<br/>Cements; Chapter 1. Cements; 1.1 Introduction; 1.2 History of Portland<br/>cement manufacture; 1.3 Chemistry of clinker manufacture; 1.4<br/>Cement grinding; 1.5 Portland cement hydration; 1.6 Portland cement<br/>types; 1.7 Cement production quality control; 1.8 Influence of cement<br/>quality control parameters on properties; 1.9 Relationship between<br/>laboratory mortar results and field concrete; 1.10 Applications for<br/>different cement types</li> <li>1.11 Health and safety aspects of cement useReferences; Chapter 2.<br/>Calcium aluminate cements; 2.1 Introduction; 2.2 Chemistry and<br/>mineralogy of CACs; 2.3 Properties of fresh CAC concrete - setting,<br/>workability, heat evolution; 2.4 Strength development; 2.5 Other<br/>engineering properties; 2.6 Supplementary cementing materials; 2.7</li> </ul> |

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|                    | Durability/resistance to degradation; 2.8 Structural collapses<br>associated with CAC concrete; 2.9 Modern uses of CAC concrete; 2.10<br>Use of CACs in mixed binder systems; 2.11 Summary; References; Part<br>2: Cementitious Additions; Chapter 3. Cementitious additions<br>3.1 The pozzolanic reaction and concrete3.2 Fly ash as a cementitious<br>addition to concrete; 3.3 Fly ash in special concretes; 3.4 Natural<br>pozzolanas; 3.5 The use of ggbs in concrete; 3.6 Silica fume for<br>concrete; 3.7 Metakaolin; 3.8 Limestone; References; Part 3:<br>Admixtures; Chapter 4. Admixtures for concrete, mortar and grout; 4.1<br>Introduction; 4.2 Dispersing admixtures; 4.3 Retarding and retarding<br>plasticizers/superplasticizing admixtures; 4.4 Accelerating admixtures;<br>4.5 Air-entraining admixtures<br>4.8 Shrinkage-reducing admixtures<br>4.8 Shrinkage-reducing admixtures<br>4.12 Foamed concrete and CLSM; 4.13 Other concrete admixtures; 4.14<br>Mortar admixtures; 4.15 Grout admixtures; 4.16 Admixture supply;<br>4.17 Health and safety; Further reading; Part 4: Aggregates; Chapter 5.<br>Geology, aggregates and classification of rocks; 5.4 Sources and<br>types of aggregates; 5.5 Classification of nocks; 5.4 Sources and<br>types of aggregates; 5.5 Classification of aggregates; 6.6 Aggregate<br>quary assessment; 5.7 Deleterious materials in aggregates<br>ReferencesChapter 6. Aggregate prospecting and processing of sand<br>and gravel; 6.4 Processing; 6.5 Extraction and processing of sand<br>and gravel; 6.4 Processing; 6.5 Extraction and processing of limestone;<br>6.6 Summary; Further reading; Chapter 7. Lightweight aggregate<br>manufacture; 7.1 Introduction, definitions and limitations; 7.2<br>Lightweight aggregates suitable for use in structural concrete; 7.3 Brief<br>history of lightweight aggregate production; 7.4 Manufacturing<br>considerations for structural grades of lightweight aggregates |
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| Sommario/riassunto | BBased on the Institute of Concrete Technology's advanced course, the<br>Advanced Concrete Technology series is a comprehensive educational<br>and reference resource for the concrete materials technologist. An<br>expert international team of authors from research, academia, and<br>industry have come together to produce this unique reference source.<br>This first volume deals with the constituent materials of concrete. With<br>worked examples, case studies and illustrations throughout, the book<br>will be a key reference for the concrete specialist for years to come.*<br>Expert international auth   |