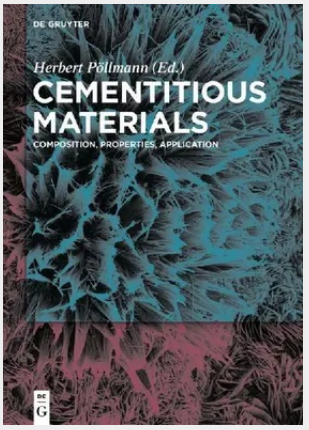
Pöllmann

Cementitious Materials

Composition, Properties, Application



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Aside from water the materials which are used by mankind in highest quantities arecementitious materials and concrete. This book shows how the quality of the technical product depends on mineral phases and their reactions during the hydration and strengthening process. Additives and admixtures infl uence the course of hydration and the properties. Options of reducing the CO2-production in cementitious materials are presented and numerous examples of unhydrous and hydrous phases and their formation conditions are discussed.

This editorial work consists of four parts including cement composition and hydration, Special cement and binder mineral phases, Cementitious and binder materials, and Measurement and properties. Every part contains different contributions and covers a broad range within the area.

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Diffraction and crystallography applied to anhydrous cements
Diffraction and crystallography applied to hydrating cements
Synthesis of highly reactive pure cement phases
Thermodynamic modelling of cement hydration: Portland cements – blended cements – calcium sulfoaluminate cements

Part II: Special cement and binder mineral phases
Role of hydrotalcite-type layered double hydroxides in delayed pozzolanic reactions and their bearing on mortar dating
Setting control of CAC by substituted acetic acids and crystal structures of their calcium salts
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