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Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Front Cover; Contents; List of Figures; List of Tables; Preface; About the author; Chapter 1: Introduction; Chapter 2: AAR Constitutive Model; Chapter 3: Constitutive Model; Concrete; Chapter 4: Validation; Chapter 5: Parametric Study; Chapter 6: Material Properties; Chapter 7: Applications; Chapter 8: Micro Model; Chapter 9: Prediction of Residual Expansion; Chapter A: Numerical Benchmark for the Finite Element Simulation of Expansive Concrete; Chapter B: Merlin; Chapter C: Brief Review of Reaction Rate; Back Cover
Sommario/riassunto	This reference book presents the theory and methodology to conduct a finite element assessment of concrete structures subjected to chemically induced volumetric expansion in general and alkali aggregate reaction in particular. It is limited to models developed by the author, and focuses on how to best address a simple question: if a structure suffers from AAR, how is its structural integrity jeopardized, and when would the reaction end. Subjects treated are: Brief overview of AAR: nature of the chemical reactions, AAR in both dams and nuclear power plants, and how does it impact the mechanical