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Sommario/riassunto	This book is dedicated to "High-Performance Eco-Efficient Concrete" and concrete fatigue behavior, more sustainable construction materials, capable of complying with quality standards and current innovation policies, aimed at saving natural resources and reducing global pollution. The development of self-compacting concretes with electric arc furnace slags is a further achievement. In addition, the technical and economic viability of using coarse recycled aggregates from crushed concrete in shotcrete, enhanced quality and reduced on-site construction time are the basic features of prefabricated bridge elements and systems, biomass bottom ash as aluminosilicate precursor and phosphogypsum were discussed. On the other hand, basalt fiber improving the mechanical properties and durability of reactive powder concrete, alkali-activated slag and high-volume fly ash and the potential of phosphogypsum as secondary raw material in construction industry, the effects of fly ash on the diffusion, bonding, and microproperties of chloride penetration in concrete were studied. Increasing amounts of sustainable concretes are being used as society becomes more aware of the environment. Finally, the circular economy as an economic model of production and consumption that involves reusing, repairing, refurbishing, and recycling materials after their service life are presented in this book.