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Nota di contenuto	Cements and Supplementary Cementitious Materials -- Aggregates for Concrete -- Admixtures for Concrete -- Concrete Mixture Proportions Design -- Mixing, transporting and Placing -- Strength and Elastic Properties -- Concrete Durability -- Mitigating Shrinkage and Cracking of concrete -- Enhancing concrete diffusivity and permeability -- Mitigating Alkali-aggregate Reactivity -- Concrete Mixtures for Cold weather Conditions -- Concrete for 100-year service life -- Quality control during Production -- Concrete Degradation Mechanism and Resolution.
Sommario/riassunto	This book provides practicing engineers with a step by step approach for making durable concrete with optimum use of the local materials available within the various regions of the United States. It further includes actual concrete mixture proportions for high performance concrete for strength and durability under various aggressive environments based on the author’s experience in the field, and support this with illustrative case studies. Examples for concrete mixture proportions, based on the current industry practice and standards, are highlighted to assist engineers in meeting the intended performance requirements (for specific environment conditions) for durable concrete. Covering an important topic for the construction and building materials industries, this book delivers the most up-to-date

industry practices and advances in concrete construction from the perspective of a practicing engineer with over 40 year experience. Maximizes practicing engineers' understanding of best design and construction practices in fabricating, delivery, and installation of concrete, consistent with current knowledge on concrete durability Discusses quality control and testing requirements during design and construction, including mixing, production, and placement of concrete and tolerances for slump and air content Emphasizes real-world examples of optimal concrete mixtures, suitable for selected service conditions and applications, based on prior successful records of projects within the US Addresses the role of innovative admixtures in concrete placement in cold weather conditions below 32F and meeting the strength and durability requirements Serves as a valuable resource for students in graduate programs.