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Titolo	Early-age Cracking Control on Modern Concrete / / by Dejian Shen
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	9789819714957 9789819714940
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (447 pages)
Disciplina	620.1366
Soggetti	Civil engineering Hydraulic engineering Building materials Civil Engineering Hydraulic Engineering Structural Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction Techniques and methods for evaluating the early-age cracking resistance of modern concrete Evaluation on early-age cracking resistance of concrete Early-age cracking control on concrete with fly ash Early-age cracking control on concrete with ground granulated blast furnace slag Early-age cracking control on concrete with silica fume Early-age cracking control on concrete with 3D hooked-end steel fiber Early-age cracking control on concrete with 5D hooked-end steel fiber Early-age cracking control on concrete with polypropylene fiber Early-age cracking control on high strength concrete with polypropylene fiber Early-age cracking control on high strength concrete with polyvinyl alcohol fibers Early-age cracking control on high strength concrete with Crystalline admixture Early-age cracking control on concrete with shrinkage reducing admixture Early-age cracking control on high strength concrete with shrinkage reducing admixture Early-age cracking control on high strength concrete with shrinkage reducing admixture Early-age cracking control on concrete with reinforcing bars Early-age cracking control on high strength concrete with shrinkage reducing admixture Early-age cracking control on concrete with reinforcing bars Early-age cracking control on high strength concrete with shrinkage reducing admixture Early-age cracking control on concrete with reinforcing bars Early-age cracking control on high strength concrete with reinforcing bars Early-age cracking control on high strength concrete with reinforcing bars Early-age cracking control on high strength concrete with reinforcing bars Early-age cracking control on high strength concrete with reinforcing bars Early-age cracking control on concrete with reinforcing bars Early-age cracking control on concrete with internal curing.

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Sommario/riassunto

This monograph is written based on the author's extensive research over the last decade on the assessment and control of cracking of early-age concrete. The technique of crack control of modern concrete at early age is further developed through experimental and theoretical research, such as mitigating the drop of IRH, controlling the hydration process, decreasing the shrinkage, and increasing the tensile strength. It indicates the innovative findings and establishes prediction models on early-age internal relative humidity, autogenous shrinkage, tensile creep of modern concrete considering water-to-cement ratio, curing temperature., etc; reveals the variation law and mechanism of early-age cracking resistance of modern concrete with different kinds of fibers, supplementary cementitious materials, chemical admixtures, and internal curing agents under circumferential or uniaxial restrained condition. It is designed as a reference work for professionals or practitioners and a textbook for undergraduates or postgraduates. .