

1. Record Nr.	UNINA9910782676903321
Autore	Li Zongjin
Titolo	Structural Renovation in Concrete / / Zongjin Li, Christopher Leung, Yunping Xi
Pubbl/distr/stampa	Boca Raton, FL : , : CRC Press, , 2014
ISBN	0-429-08301-7 1-4822-6597-4 1-281-97763-2 9786611977634 0-203-93136-X
Edizione	[First edition.]
Descrizione fisica	1 online resource (362 p.)
Disciplina	624.1/8340288
Soggetti	Concrete construction - Maintenance and repair Buildings, Reinforced concrete - Maintenance and repair
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Book Cover; Title; Copyright; Contents; Figures; Tables; Preface; 1 Introduction; 2 Degradation of reinforced concrete structures; 3 Inspection and evaluation; 4 Conventional repair and strengthening techniques; 5 Glass fiber reinforced plastics components for bridge deck replacement; 6 Strengthening of reinforced concrete structures with fiber reinforced polymers; Bibliography; Index
Sommario/riassunto	"The mechanisms by which buildings and infrastructures degrade are complex, as are the procedures and methods for inspection and for rehabilitation. This book examines the various problems caused by non-uniform deformation changes, poor durability, and natural and human disasters such as earthquakes and fire. Attention is given to the causes and mechanisms of the deterioration. General procedures and commonly used techniques for inspection and evaluation of existing infrastructures are introduced. The desk study, destructive test, and non-destructive test are discussed in particular the newly developed non-destructive methods for deterioration monitoring. The book then moves on to conventional renovation techniques such as patch and steel plate strengthening, which meet the requirements of normal

practice. Special attention is paid to compatibility between repair materials and degraded materials. Fibrous composite materials are then introduced as a basis for innovative repair techniques, and different fibre and matrix properties are outlined, as are newly developed inorganic binders as a matrix for fibrous composites. Finally, advanced rehabilitation techniques using fibrous composite are described. Fundamental issues such as bonding and failure mechanisms are then discussed in detail. Fibrous composite strengthening techniques for beam, wall, column and slabs are covered, including shear strengthening, flexural strengthening, and fillet winding, as are codes of practice for retrofitting with fibrous composites. This caters to students and academics world-wide and serves as a "tool book" for concrete and structural engineering professionals."--Provided by publisher.

---