Record Nr.	UNINA9910457419403321
Titolo	Durability Design of Concrete Structures / / editors, A. Sarja, E. Vesikari
Pubbl/distr/stampa	Boca Raton, FL : , : CRC Press, , 2014
ISBN	0-429-07862-5 1-4822-7169-9 1-280-14016-X 9786610140169 0-203-62733-4
Edizione	[First edition.]
Descrizione fisica	1 online resource (93 p.)
Collana	RILEM report ; ; 14
Disciplina Soggetti	624.1834 Reinforced concrete construction Concrete construction Electronic books.
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; Half-Title; Title; Copyright; Contents; Preface; 1 Introduction; 1.1 BACKGROUND; 1.2 AIM OF THE WORK; 2 Definitions and explanation of durability concepts; 2.1 DEFINITIONS; 2.2 EXPLANATION OF SOME DURABILITY CONCEPTS; 3 Methods of durability design; 3.1 GENERAL; 3.2 THEORY OF FAILURE PROBABILITY AND SERVICE LIFE; 3.3 BASIC FORMULATION OF DURABILITY DESIGN; 4 Examples of durability design by stochastic methods; 4.1 GENERAL; 4.2 DESIGN WITH PERFORMANCE PRINCIPLE WHEN R AND S ARE NORMALLY DISTRIBUTED; 4.3 DURABILITY DESIGN WITH LOG-NORMAL SERVICE LIFE DISTRIBUTION 5 Determination of lifetime safety factors5.1 THE MEANING OF LIFETIME SAFETY FACTOR; 5.2 LIFETIME SAFETY FACTORS AS DETERMINED BY STOCHASTIC METHODS; 5.3 DETERMINATION OF LIFETIME SAFETY FACTORS FOR STRUCTURAL DURABILITY DESIGN; 6 Structural durability design; 6.1 FORMULATION OF LOAD-BEARING CAPACITY WITH TIME; 6.2 PROPOSED PROCEDURES FOR STRUCTURAL DURABILITY DESIGN; 7.1 TYPES OF DURABILITY MODELS; 7.2 DEVELOPMENT OF DURABILITY MODELS

1.

	FOR DURABILITY DESIGN; 8 Durability models for some degradation processes
	8.1 ABOUT THE MODELS8.2 FROST ATTACK; 8.3 SURFACE
	DETERIORATION; 8.4 ABRASION OF CONCRETE BY ICE; 8.5 CORROSION
	OF REINFORCEMENT; 9 Summary and conclusions; 9.1 DURABILITY
	DESIGN IN THIS DESIGN GUIDE; 9.2 NEEDS FOR FURTHER
	DEVELOPMENT OF DURABILITY DESIGN; Appendix Stochastic modelling
	of degradation by the Markov chain method; Bibliography; RILEM; Index
Sommario/riassunto	"Concrete structures can be designed for durability by applying the principles and procedures of reliability theory combined with traditional structural design. This book is the first systematic attempt to introduce into structural design a general theory of structural reliability and existing calculation models for common degradation processes. It covers both the theoretical background and practical design for service life and includes worked examples which highlight the application of the design procedure and methods."Provided by publisher.