Unlocking the Secrets of Failure, Distress, and Repair of Concrete Structures: A Comprehensive Guide
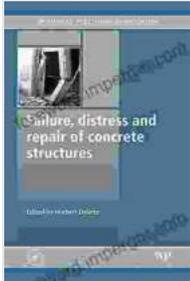
Failure, Distress and Repair of Concrete Structures (Woodhead Publishing Series in Civil and Structural Engineering) by Masataka Mogi

★★★★★ 5 out of 5

Language	:	English
File size	:	21490 KB
Text-to-Speech	:	Enabled
Screen Reader	:	Supported
Enhanced typesetting	:	Enabled
Print length	:	489 pages

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Overview

Concrete is a versatile and widely used construction material, but it is not impervious to failure. Understanding the causes, mechanisms, and consequences of concrete failure is crucial for ensuring the safety and durability of structures. This comprehensive book provides an in-depth analysis of failure, distress, and repair of concrete structures, offering practical guidance on assessment and remedial techniques.

Key Features

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* Explores the fundamental principles of concrete behavior under various loading conditions * Identifies common failure modes and distress mechanisms in concrete structures * Provides detailed guidance on the assessment of concrete structures for failure and distress * Presents advanced repair techniques and materials for restoring structural integrity * Includes case studies and real-world examples to illustrate key concepts

Target Audience

This book is an invaluable resource for:

* Civil engineers * Structural engineers * Contractors * Architects * Researchers * Students specializing in concrete structures and structural engineering

Content Highlights

Chapter 1: * Overview of concrete structures and their behavior * Importance of understanding failure, distress, and repair of concrete structures

Chapter 2: Concrete Behavior under Loading * Mechanical properties of concrete * Behavior of concrete under different types of loading * Effects of environmental factors on concrete performance

Chapter 3: Failure Modes in Concrete Structures * Common failure modes and their causes * Distress mechanisms associated with concrete failure * Factors affecting the severity of concrete failure

Chapter 4: Assessment of Concrete Structures * Visual inspection techniques * Non-destructive testing methods * Destructive testing methods * Data analysis and interpretation

Chapter 5: Repair Techniques for Concrete Structures * Principles of concrete repair * Different types of repair materials and techniques * Structural reinforcement and strengthening methods * Quality control and monitoring of concrete repairs

Chapter 6: Case Studies and Applications * Practical examples of concrete failure and repair * Real-world applications of assessment and repair techniques * Lessons learned from field experiences

This book provides a comprehensive understanding of the failure, distress, and repair of concrete structures, equipping readers with the knowledge and skills to assess and remediate concrete structures safely and effectively. It is a valuable resource for professionals and researchers in the field of concrete structures and structural engineering.

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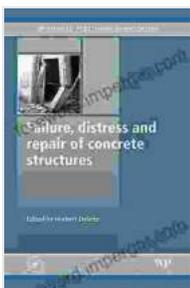
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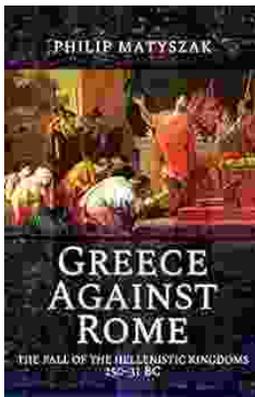
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