Record Nr. UNINA9910785746503321 Autore Whittle Robin **Titolo** Failures in concrete structures: case studies in reinforced and prestressed concrete / / Robin Whittle Boca Raton, Fla.:,: Talylor and Francis,, 2012 Pubbl/distr/stampa **ISBN** 0-429-20654-2 1-135-17173-4 0-203-86127-2 Descrizione fisica 1 online resource (145 p.) Classificazione TEC009020 Disciplina 624.1834 Soggetti Concrete construction Reinforced concrete construction Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references. Front Cover; Contents; Foreword; Acknowledgements; Introduction; Nota di contenuto Chapter 1 - Failures due to Design Errors; Chapter 2 - Problems and Failures due to Errors in Structural Modelling; Chapter 3 - Failures due to Inappropriate Extrapolation of Code of Practice Clauses; Chapter 4 -Failures due to Misuse of Code of Practice Clauses; Chapter 5 -Problems and Failures due to Inadequate Assessment of Critical Force Paths: Chapter 6 - Problems and Failures due to Poor Detailing: Chapter 7 - Problems and Failures due to Inadequate Understanding of Materials' Properties Chapter 8 - Problems and Failures due to Poor ConstructionChapter 9 -Problems and Failures due to Poor Management; Chapter 10 - Problems and Failures due to Poor Construction Planning; Chapter 11 - Problems and Failures due to Deliberate Malpractice; Chapter 12 - Problems Arising from the Procurement Process; Chapter 13 - Contributions of Research and Development toward Avoidance of Failures; References; **Back Cover** Sommario/riassunto Foreword Errare humanum est. We structural engineers are human and so have made a number of errors over the years resulting in narrow

> escapes, badly performing structures, and even fatal collapses. But as Seneca continues. sed perseverare diabolicum, we must not repeat our

errors. To avoid this means that we must learn from our past mistakes; we must know what went wrong and why. Some of the lessons from our past errors get embodied in clauses in codes of practice, but many do not, and the collective memory of the profession tends to fade as the generation of engineers who learnt from the mishaps and catastrophes retires. Past books on the subject of structural failures tended to deal with the general causes of failures and methods of investigation, illustrated with the more spectacular examples. However, details of some failures that have not made the headlines, but nevertheless hold important lessons, are hard to find or may not even be in the public domain. In the past, Robin Whittle and I worked together at Arup R&D on a variety of problems of concrete structures. Some of these arose from failures, and others were encountered when forestalling undesirable outcomes of the enthusiasm--untempered by experience--of some of our younger colleagues. Robin was also in close contact with researchers at the now sadly defunct Cement & Concrete Association, the Polytechnic of Central London, and the universities of Leeds, Durham, and Birmingham, and so was privy to much of the background for the initial draft and subsequent revisions