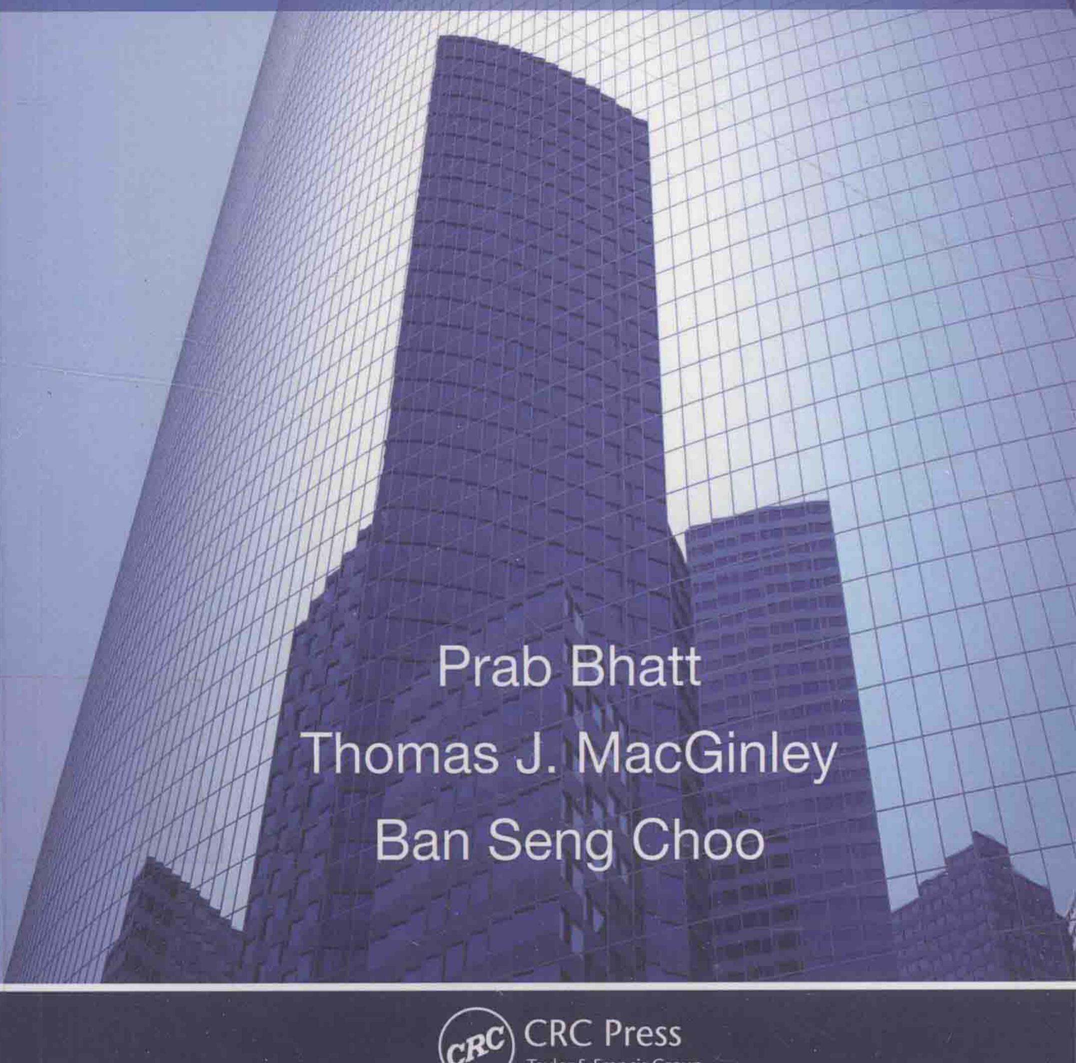
REINFORCED CONCRETE DESIGN TO EUROCODES

DESIGN THEORY AND EXAMPLES

FOURTH EDITION



Prab Bhatt
Thomas J. MacGinley
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A SPON BOOK

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Dedicated with love and affection to our grandsons

Veeraj Rohan Bhatt Verma

Devan Taran Bhatt

Kieron Arjun Bhatt

Preface

The fourth edition of the book has been written to conform to Eurocode 2 covering structural use of concrete and related Eurocode 1. The aim remains as stated in the first edition: to set out design theory and illustrate the practical applications of code rules by the inclusion of as many useful examples as possible. The book is written primarily for students in civil engineering degree courses to assist them to understand the principles of element design and the procedures for the design of complete concrete buildings. The book will also be of assistance to new graduates starting their careers in structural design and to experienced engineers coming to grips with Eurocodes.
The book has been thoroughly revised to conform to the Eurocode rules. Many new examples and sections have been added. Apart from referring to the code clauses, reference to the full code has been made easier by using the equation numbers from the code.

Grateful acknowledgements are extended to:

- The British Standards Institution for permission to reproduce extracts from Eurocodes. Full copies of the standards can be obtained from BSI Customer Services, 389, Chiswick High Road, London W4 4AL, Tel: +44(0)20 8996 9001. e-mail: cservices@bsi-global.com
- Professor Christopher Pearce, Deputy Head, School of Science and Engineering , University of Glasgow, Scotland for use of the facilities.
- Mr. Ken McColl, computer manager of School of Engineering, Glasgow University for help with computational matters.
- Dr. Lee Cunningham, Lecturer in Engineering, University of Manchester for reviewing Chapter 19.
- Sheila, Arun, Sujaatha, Ranjana and Amit for moral support.

P. Bhatt
2 October 2013 (Mahatma Gandhi's birthday)

ABOUT THE AUTHORS

Prab Bhatt is Honorary Senior Research Fellow at Glasgow University, UK and author or editor of eight other books, including *Programming the Dynamic Analysis of Structures*, and *Design of Prestressed Concrete Structures*, both published by Taylor & Francis.

He has lectured on design of reinforced and prestressed concrete structures and also on structural mechanics to undergraduate and postgraduate classes in universities in India, Canada and Scotland. He has also carried out research, theoretical and experimental, in the area of behaviour of concrete structures, and has also been extensively involved in design office work.

Tom MacGinley and **Ban Seng Choo**, both deceased, were academics with extensive experience of teaching and research in Singapore, Newcastle, Nottingham and Edinburgh.

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