

Design Manual: Precast and Prestressed Concrete, Third Edition

Since the Second Edition of the Canadian Prestressed Concrete Institute's Metric Design Manual was published in 1987, there have been significant changes in the state-of-the-art for precast, prestressed concrete, particularly the changes to CSA Standard A23.3-94 "Design of Concrete Structures." This new edition features chapters on: Methods and Materials; Analysis and Design of Precast and Prestressed Concrete Structures; Design of Elements; Design of Connections; Related Considerations; Architectural Precast Concrete; Product Information and Capability; General Design Information; and CSA Standard A23.4.

Canadian Prestressed Concrete Institute, 196 Bronson Avenue, Ottawa, Ontario, Canada K1R 6H4, 1997, \$75.00.

Design of Concrete Structures with Stress Fields

A. Muttoni, J. Schwartz and
B. Thürlimann

This book includes chapters on Stress Fields for Simple Structures; Material Strengths and Other Properties; Additional Considerations for the Development of Stress Fields; Plane Stress, Plate and Shell Elements; and an overview of useful computer programs as well as a bibliography.

Birkhäuser Boston, P.O. Box 19386, Newark, New Jersey 07195, 1997, 143 pp., \$58.00.

Earthquake Spectra

William T. Holmes and Peter Somers
(Editors)

The large team of scientists and engineers, dispatched by the Earthquake Engineering Research Institute (EERI) to investigate the effects of the Northridge earthquake

collected an extensive amount of data. This publication, the second of two volumes, presents a reconnaissance report of information gathered on the performance of building structures in the earthquake.

Earthquake Engineering Research Institute, 499 14th Street, Oakland, California 94612, 1996, 278 pp.

Composite Construction Design for Buildings

Ivan M. Viest, Joseph P. Colaco,
Richard W. Furlong, Lawrence G.
Griffis, Roberto T. Leon and Loring A.
Wyllie, Jr. (Editors)

Produced by 24 experts in composite construction and based on the latest LRFD codes and strength design procedures, this book serves as a reference that examines recent developments in composite columns and walls, load and resistance factor design, and elastoplastic analyses. The text is augmented with nearly 200 illustrations and 450 references as well as a historical review of composite construction and numerous informative case histories. The design of composite elements is illustrated with step-by-step examples.

American Society of Civil Engineers,
345 E. 47th Street, New York, New
York 10017, 1997, 421 pp.

Modification of the ACI Rectangular Stress Block for High Strength Concrete

Hisham H. H. Ibrahim and
J. G. MacGregor

Most concrete codes do not explicitly cover concrete with strengths above 50 to 60 MPa (7000 to 9000 psi). Compression stress blocks from three current codes that do allow design for high strength concrete sections are presented. Comparisons of test data from the literature to strengths calculated using the current ACI rectangular stress block indicate it is

not conservative for high strength concrete column sections failing in compression. New equations for the parameters that define the ACI rectangular stress block are suggested and compared to tests.

ACI Structural Journal, V. 94, No. 1,
January-February 1997, pp. 40-48.

Properties and Uses of Polymers in Concrete

Jack J. Fontana, Al O. Kaeding and
Paul D. Krauss (Editors)

This volume contains the papers presented at the 10th and 11th symposia sponsored by ACI Committee 548 on the use of polymers in concrete. These symposia were held in 1993 and 1994 and included sessions on: Polymer Concrete Overlays; Recent Innovations in Polymer Concrete Technology; and Structural Properties of Polymer Concrete, Parts 1 and 2.

Special Publication (SP-166), American Concrete Institute, P.O. Box 9094, Farmington Hills, Michigan 48333, 1996, 274 pp., \$51.50.

Assurance of Structural Safety — Priority Issue for Structural Engineers

Frank J. Heger

The characteristics of several commonly used project delivery systems and the reasons for safety concerns about current practices are described. Changes that are required in the present practices are suggested, including developing better owner perception of the essential need for and value of competent structural design services and new provisions in building codes that define requirements for project quality assurance of both design and construction.

Practice Periodical on Structural Design and Construction, V. 1, No. 4,
November 1996, pp. 113-118.