

Prestressed Concrete — A Fundamental Approach (Third Edition)

Edward G. Nawy

This is the Third Edition of this highly respected book on prestressed concrete. The book reflects the latest provisions in ACI 318-99 and the International Building Code. The book is ideally suited for a one-semester course at the senior or graduate level. In addition to updating the chapters of the Second Edition, the following new features in the book have been included:

- A detailed chapter on the design of statically indeterminate prestressed beams and portal frames.
- A revised chapter containing the latest ACI and AASHTO Provisions on the design of post-tensioned beam anchorage end blocks using the strut-and-tie approach.
- A revised chapter on slender columns including a simplified load-contour biaxial bending method.
- A new chapter, with comprehensive design examples on LRFD and standard design of bridge deck members for flexure, shear and torsion, conforming to the latest AASHTO Specifications.
- A new chapter on seismic design of ductile prestressed concrete frames and shear walls in high seismicity zones conforming to the latest IBC 2000 and ACI 318-99.
- A comprehensive chapter on the design of prestressed concrete tanks and shell roofs.

Prentice Hall, Upper Saddle River, NJ 07458, 1999, 938 pp., \$105.00.

Architecture in Precast Concrete

This Handbook identifies the various available architectural precast concrete

components and demonstrates that precast building systems can be used in private residential housing construction. Shapes, forms, and color in precast concrete can easily be adapted to suite a particular project. This guide provides architects with a useful reference for exploring various concepts in prefabrication design. This is the fourth handbook published in a series of documents intended to promote the use of precast concrete in the building industry. The earlier handbooks were "Guide to Precast Concrete and Prefabricated Reinforcement for Buildings," "Prefabricated Reinforcement Handbook" and the "Structural Precast Concrete Handbook."

Building and Construction Authority and Singapore Institute of Architects, Singapore, December 1999, 108 pp.

Behavior of Low-Rise Reinforced Concrete Buildings

Santiago Pujol, Julio Ramirez, and Alberto Saria

This article presents observations on the damage suffered by low-rise reinforced concrete buildings in cities of Armenia and Pereira, Columbia, as a result of the January 25, 1999, earthquake of Magnitude 6.2. The observations presented are part of a study based on data collected during a five-day visit to these cities. Recommendations given are intended to help avoid the most commonly observed structural problems that can occur in such earthquakes.

Concrete International, V. 22, No. 1, January 2000, pp. 40-44.

Canadian Bridge Design Code Provisions for Fiber-Reinforced Structures

Baidar Bakht, George Al-Bazi, Nemy Banthia, Moe Cheung, Marie-Anne Erki, Martin Faoro, Atsuhiko Machida,

Aftab A. Mufti, Kenneth W. Neale, and Gamil Tadros

This paper presents a synthesis of the design provisions of the Canadian Highway Bridge Design Code for fiber-reinforced structures. These include structures reinforced with fiber-reinforced polymer and fiber-reinforced concrete (FRC). The provisions apply to fully, or partially, prestressed concrete beams and slabs, non-prestressed concrete beams, slabs, and deck slabs. FRC deck slabs of slab-on-girder bridges, stressed wood decks, and barrier walls. Test methods to confirm the tensile strength of fiber-reinforced polymer and the post-cracking strength of FRC are given.

Journal of Composites for Construction, ASCE, V. 4, No. 1, February 2000, pp. 3-15.

Design of Reinforced Concrete Beams with Small Openings Under Combined Loading

M. A. Mansur

A method is presented for strength design of reinforced concrete beams that contain a small opening and are subjected to combined torsion, bending, and shear. The proposed method recognizes two different types of failure, labeled as beam-type and frame-type failures. The design for the beam-type failure is accomplished on the basis of the familiar skew-bending theory for torsion in concrete beams. Using the Australian approach, the problem of combined loading is reduced to the usual flexural and shear design procedures. For frame-type failure, recommendations are given on the basis of available information to achieve a satisfactory design. The method is illustrated by a numerical example.

ACI Structural Journal, V. 96, No. 5, September-October 1999, pp. 675-682.