

Guide to the Use of the Wind Load Provisions of ASCE 7-95

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This guide is designed to assist professionals in the use of the wind load provisions of the American Society of Civil Engineers Standard ASCE 7-95. The guide is a completely new document because the wind load provisions underwent major changes from the previous Standard ASCE 7-88. Included are six example problems worked out in detail that can provide direction to practicing professionals in assessing wind loads on a variety of structures.

ASCE Press, 1801 Alexander Bell Drive, Reston, Virginia 20191-4400, 1998, 106 pp.

Manual on Control of Air Content in Concrete

This manual is a new publication from the Portland Cement Association that addresses the mechanism and measurement of entrained air and its effect on concrete properties. The manual reviews concrete materials, production procedures, construction practices, and field conditions, and the effect of these factors on air content. Technical service and field personnel will find this publication useful for answering questions and solving problems relating to air content. A CD ROM version is included.

Portland Cement Association, 5420 Old Orchard Road, Skokie, Illinois 60077, 1998, 42 pp., \$20.00.

Guidance on Radar Testing of Concrete Structures

Ground probing radar (GPR) can non-destructively analyze variations in the construction detail and condition of hardened concrete, including thickness, moisture content, reinforcement position, layer quality and layer thick-

ness. This report explains the benefits and limitations of GPR, including the basic theory and contractual aspects of radar surveys.

The Concrete Society, 3 Eatongate, 112 Windsor Road, Slough, SL1 2JA, United Kingdom, 1998, 88 pp.

Maximum Strength of P/C Wall Panel with Horizontal Joint Using Prestressing for the Joint of Wall to Beam

Manabu Yanagisawa et al.

Describes an experimental study on the strength of precast wall panels that are connected with the upper and lower beams using prestressing while not connected with the columns of both sides. The experimental parameters were magnitude of prestressing, sizes of openings in the center of the wall panel for fastening prestressed concrete steel bars, joining prestressed concrete steel bars or not, and filling the openings up with prestressed concrete grout or not. The ultimate strength of the wall panels is investigated using several failure mechanisms.

Concrete Research and Technology, V. 8, No. 2, Japan Concrete Institute, Tokyo, Japan, 1997, pp. 91-100.

High-Performance Concrete in the Confederation Bridge

Laszlo Dunaszegi

High-performance concrete was used extensively in the construction of Canada's Confederation Bridge to meet a stringent set of project requirements. The design concept for the bridge was a gravity-based precast, prestressed concrete structure consisting of approach spans at each end, in conjunction with typical marine span frames crossing the Northumberland Strait. The typical concrete strength specified by the designer was 55 MPa (8000 psi) at 28 days and 60 MPa

(8700 psi) at 91 days. In addition, the high-performance concrete possesses a low chloride ion permeability and high electrical resistivity, increasing durability by protecting the embedded reinforcement from corrosion.

Concrete International, V. 20, No. 4, April 1998, pp. 66-68.

Guide to Surface Treatments for Protection and Enhancement of Concrete

After a general introduction to surface treatments, this guide presents a categorization and approach to selection of treatments and guidelines for application and workmanship. Maintenance and performance assessment are dealt with in two sections, followed by guidance on health, safety and environmental aspects.

The Concrete Society, 3 Eatongate, 112 Windsor Road, Slough, SL1 2JA, United Kingdom, 1998, 87 pp.

ACI Shear and Torsion Provisions for Prestressed Hollow Girders

Thomas T. C. Hsu

New torsion design provisions have been proposed for the 1995 ACI Building Code. As compared to the 1989 provisions, these generalized 1995 provisions have three advantages: (1) they are applicable to closed cross sections of arbitrary shapes; (2) they are applicable to prestressed concrete; and (3) they are considerably simplified by deleting the torsional concrete contribution and its interaction with shear. This paper discusses the background of the new code provisions, suggests modifications to code formulas, and illustrates the application of the code provisions to prestressed hollow girders by way of a guideway example.

ACI Structural Journal, V. 94, No. 6, November-December 1997, pp. 787-804.