

REVIEWS OF CURRENT PUBLICATIONS

Offshore Structures in Prestressed Concrete

Ben C. Gerwick, Jr.

Under strong earthquake excitation the typical concrete sea structure will experience unacceptably high forces and moments. However, alternative configurations and concepts can be developed to adequately meet these criteria, provided primary consideration is given to seismic requirements.

Some potential concepts and developments are described which appear to offer significant advantages for the New Zealand area, and which may well be capable of extension, even export, to adjoining seas.

(N. Z. Concrete Construction (Wellington), V. 20, No. 10, Nov. 1976, pp. 7-10.)

Present and Future of Structural Concrete

Russell S. Fling

Examines the status of concrete construction today, trends for the future, challenges facing concrete construction, and the future of structural concrete. Advantages of concrete over competing materials and suggestions for design engineers are also discussed.

(Proceedings, Third Symposium on Modern Concrete Technology (Caracas, Nov. 1976), Asociacion Venezolana de Productores de Cementos/American Concrete Institute, 1976, 22 pp.)

CNR Starts Program to Install Concrete Ties on Sharper Curves

The Canadian National Railway has established a policy of inserting precast prestressed concrete ties in curves of 4 deg or more, replacing wood ties. Steadily increasing shipment of bulk commodities such as coal and grain, greater train lengths, and higher individual car capacities are placing

great physical demands on the railway. Although the concrete ties are more expensive than the wood ties, they are expected to last longer and to cost less to maintain.

(Railway Track and Structures (29 E. Madison Street, Chicago, Illinois 60602), V. 72, No. 12, Dec. 1976, pp. 14-16)

Design for a Precast Column Connection

Peter G. Stephan

Describes the development of a special connection for an office building. The six-story reinforced concrete building is roughly rectangular in plan and comprises flat slabs supported by perimeter and internal precast concrete columns and internal shearwalls. The article covers analysis of the connection, manufacturing and erection tolerances, tests, and erection techniques and sequences.

(Concrete (London), V. 10, No. 11, Nov. 1976, pp. 14-17)

Ultimate Moment of Resistance of Unbonded Partially Prestressed Reinforced Concrete Beams

A. Tam and F. N. Pannell

Existing theories for the ultimate moment of resistance of partially prestressed unbonded concrete beams are unsatisfactory on two counts: either they are too tedious to be used (involving lengthy iterations at times) or they fail to take into consideration the span-depth ratio, which is an important factor.

After reporting the results of tests on eight such beams, the paper puts forward a revised theory leading to a simple design method for the ultimate load analysis of beams of this kind. It is shown that the theory gives an accurate prediction of the ultimate strength of the test beams.

(Magazine of Concrete Research (London), V. 28, No. 97, Dec. 1976, pp. 203-208)