REFERENCE CARDS

KEYWORDS: architecture; bridges; buildings; construction; design (structural); PCI Awards Program; precast concrete; prestressed concrete.

ABSTRACT: The purpose of the PCI Awards Program is to recognize excellence in design using precast, prestressed, and architectural precast concrete, alone or in combination. The awards this year include three bridges, two office buildings, a library, a post office, a vocational center and a floating breakwater structure. This article gives brief descriptions of the projects with jury comments on all the award winning structures.

REFERENCE: "Eighteenth Annual PCI Awards Program Winners," PCI JOURNAL, V. 25, No. 5, September-October 1980, pp. 13-22.

KEYWORDS: bridges; precast concrete; prestressed concrete; production; segmental construction.

ABSTRACT: Based on federal statistical data and his many years of experience in the bridge field, the author contends that the time is ripe for producers to make the quantum jump to precast concrete segmental construction.

REFERENCE: Wilkes, W. Jack, "Segmental Bridge Construction—The Wave of the Future," PCI JOURNAL, V. 25, No. 5, September-October 1980, pp. 24-30.

KEYWORDS: civil engineering; education; precast concrete; prestressed concrete.

ABSTRACT: Discusses the role universities play in educating civil engineering students in prestressed concrete and suggests ways in which the situation may be improved.

REFERENCE: Kahn, Lawrence F., "Civil Engineering Education and the Prestressed Concrete Industry," PCI JOURNAL, V. 25, No. 5, September-October 1980, pp. 126-131.

KEYWORDS: beams; buildings; columns; design (structural); double-tees; erection; industrial plants; precast concrete; prestressed concrete; spandrels; Y-beams.

ABSTRACT: A total of 550 precast prestressed concrete elements, comprising double-tees, Y-beams, spandrel beams, and columns were used effectively to frame a 200,000 sq ft battery manufacturing plant in Winston-Salem, North Carolina.

REFERENCE: "Giant Battery Plant Framed With Precast Components," PCI JOURNAL, V. 25, No. 5, September-October 1980, pp. 136-142.

KEYWORDS: compressions tests; connections; corrosion tests; design (structural); flexural tests; piles; precast concrete; research; shear tests; splices; tension tests; wedge-type splice.

ABSTRACT: This paper summarizes the results of a comprehensive laboratory investigation of the structural integrity of a wedge-type splice for prestressed and concrete piles.

A series of tests were conducted in tension, compression, bending, and shear. In addition, tests were made to determine the corrosion rate of the splice.

Conclusions from the test results indicate that the splice has the structural characteristics required for spliced precast concrete piles. Design recommendations are made for the use of the splice in buildings and bridges.

REFERENCE: Venuti, William J., "Efficient Splicing Technique for Precast Prestressed Concrete Piles," PCI JOURNAL, V. 25, No. 5, September-October 1980, pp. 102-124.

KEYWORDS: Abeles; engineering; history; partially prestressed concrete; prestressed concrete.

ABSTRACT: It has been just over three years now since Paul W. Abeles died. Now the true magnitude of his contributions to engineering and to prestressed concrete in particular can be more fully appreciated. Today, Dr. Abeles is recognized as the pioneer in the development of partially prestressed concrete, a field which currently is being intensively pursued on both sides of the Atlantic. In this article, Jan Bobrowski (with whom Dr. Abeles was affiliated during his later years) recounts some of his experience with Dr. Abeles and gives an assessment of the man's accomplishments and a tribute to this extraordinary engineer.

REFERENCE: Bobrowski, Jan, "A Tribute to Abeles the Engineer," PCI JOURNAL, V. 25, No. 5, September-October 1980, p. 132-134.

KEYWORDS: axial load; beams, building codes; compression field theory; design (structural); diagonal cracking; flexure; precast concrete; prestressed concrete; reinforced concrete; reinforcement; research; shear; torsion; truss model.

ABSTRACT: Shear and torsion design recommendations which are believed to be more rational and more general than current code provisions are presented. The use of the design recommendations is illustrated by means of several design examples. Comparisons with the results of other design methods are made.

REFERENCE: Collins, Michael P., and Mitchell, Denis, "Shear and Torsion Design of Prestressed and Non-Prestressed Concrete Beams," PCI JOURNAL, V. 25, No. 5, September-October 1980, pp. 32-100.
