

# KEYWORDS AND ABSTRACTS

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**KEYWORDS:** apartments; buildings; cranes; design considerations; erection; multistory buildings; precast concrete; prestressed concrete.

**ABSTRACT:** This seventh paper in the series of articles on "Design Considerations for a Precast Prestressed Apartment Building" covers the design considerations for erection. The first part of the paper (appearing in this issue) discusses the design decisions regarding equipment and procedures that must be made prior to actual erection. The second part of the paper (to be published in the next issue) will include the detailed calculations.

**REFERENCE:** Yee, Alfred A., and Masuda, Fred R., "Design Considerations for a Precast Prestressed Apartment Building—Design for Erection Considerations," *Journal of the Prestressed Concrete Institute*, Vol. 19, No. 6, November-December 1974, pp. 16-27.

**KEYWORDS:** admixture; bleeding; cement grout; grouting; post-tensioning; prestressed concrete; research.

**ABSTRACT:** The bleed characteristics of neat cement grout are well known. With usual mixing procedures and grout admixtures it can be expected that water separation will occur due to sedimentation of the suspension of cement and admixture in water. This is particularly exaggerated with strand-type tendons.

To control this characteristic and the general pumping problems of grout blockages with dewatering, a grout admixture has been developed which can control the bleed as desired. The basic research in developing this admixture used short strand tendons to determine the different water retentive characteristic of admixtures. However, based on these tests, it was found that the vertical scale factor of pressure is important. Thus, a pressure filter test was also used to determine the water retentive characteristic of various grouts. Based on this research, a grout admixture was developed with the property of high water retentivity such that for instance no water loss will occur in the grout when the pressure is maintained at 10 atmospheres over 10 min. For shorter durations, water retentivity is fully maintained for even higher pressures.

**REFERENCE:** Schupack, Morris, "Admixture for Controlling Bleed in Cement Grout Used in Post-Tensioning," *Journal of the Prestressed Concrete Institute*, Vol. 19, No. 6, November-December 1974, pp. 28-39.

**KEYWORDS:** analysis; cement-dowel splice; driving; flexural strength; modulus of rupture; precast concrete; prestressed concrete; research; splices; splicing; tensile strength.

**ABSTRACT:** The first part of this report, published in the September-October 1974 PCI JOURNAL, presented a comprehensive review and evaluation of existing methods currently in use throughout the world for the splicing of prestressed concrete piles.

This second part of the report gives the results of the testing and analysis of one of the splicing methods described in the earlier report, namely the cement-dowel splice. In this investigation, the cement-dowel splice was field tested under conditions of both hard and soft driving.

The driven piles were then extracted from the soil, and subjected to tension and flexural testing.

It is concluded that the cement-dowel splice is an effective and acceptable method of splicing prestressed concrete piles.

**REFERENCE:** Bruce, Robert N. Jr., and Hebert, David C., "Splicing of Precast Prestressed Concrete Piles: Part 2—Tests and Analysis of Cement-Dowel Splice," *Journal of the Prestressed Concrete Institute*, Vol. 19, No. 6, November-December 1974, pp. 40-66.