ACI 355.2: What’s It All About?
Richard E. Klingner

This article reviews the purpose behind the American Concrete Institute’s provisional standard on anchorage, ACI 355.2-00, and its commentary, ACI 355.2R-00. It also summarizes the principal aspects of the standard and predicts possible consequences of it. The two principal types of anchor discussed are: cast-in-place anchors, including headed and bent-bar anchors; and post-anchored anchors, classified either as adhesive anchors or mechanical anchors. The author delves into design provisions and anchor-qualification criteria, as well as provisions regarding anchorage in ACI 318-02.

*Structure*, V. 8, No. 8, October 2001, pp. 28-32, Black Squirrel Communications, One E. Wacker Dr., Suite 2122, Chicago, IL 60601.

Modern Building Construction in Precast Concrete
Kim S. Elliott

Architectural and structural precast concrete components are being used on an increasing number of prestigious commercial buildings. The construction industry is calling for multi-functional design, where the optimum use of all components forming the building must be maximized. This paper concentrates on skeletal type structures and shows that the precast concrete industry is ideally placed to accommodate these higher demands by using experienced design teams and skilled labor in a quality controlled environment. The conclusion is that the requirement for off-site fabrication will continue to increase as the rapid growth in management contracting, with its desire for reduced on-site occupancy and high quality workmanship, will favor controlled fabrication methods.

*Elite*, Issue 4, 2001, pp. 16-33, Techno S.r.l., Via Falcone, 24050 Zanica (BG), Italy.

Prestressing Reinforcement in the New Millennium
Morris Schupack

The future of prestressing reinforcement for both steel and fiber-reinforced polymer (FRP) tendons promises to be challenging both technically and in application. The market and the need exist for improving the performance of prestressing tendons. Improvement in the time tested steel tendons are likely to continue and the same is even more so for FRP tendons. This article discusses the history, usage, corrosion behavior, and protection of prestressing reinforcement, and it presents possible future innovations in conventional steel and FRP systems, including higher strength tendons and more corrosion resistant systems.


Crack-Width Prediction for High-Strength Concrete Fully and Partially Prestressed Beam Specimens Containing Steel Fibers
S. K. Padmaraajaiah and Ananth Ramaswamy

This paper describes an experimental and analytical comparison of crack widths in eight fully and seven partially prestressed high strength concrete beam specimens containing fibers. The variables considered in the experimental program were the magnitude of prestressing, the volume fraction of fiber ranging from zero to 1.5 percent and the location of the fibers. The analytical model proposed in this study to compute the crack width includes the effect of fiber content expressed in terms of its volume fraction and aspect ratio, magnitude of the longitudinal steel strain, and the interfacial bond stress between the concrete and steel (prestressing wires, deformed bar, and fibers). It has been found that the analytical model is able to predict the crack width satisfactorily, when compared with the measured crack width, for each of the 15 beams tested in this study.


2001-2002 U.S. Markets Construction Update

This report from FMI Corporation, management consultants to the construction industry, provides a comprehensive look at the health of the construction industry, including regional and sector-by-sector analyses of critical economic issues in construction. The document is intended to give a thorough understanding of the issues affecting the industry and to serve as a starting point for developing a strategic plan. Topics include: the state of the economy, construction volume by sector, residential construction, private nonresidential construction, public building construction, infrastructure construction, and regional summaries.

FMI Corporation, Suite 100, 5151 Glenwood Avenue, Raleigh, NC 27612, 70 pp.

The Engineer and Liability for Job-Site Personal Injury
Mohammad Iqbal

This article explores the topic of lawsuits arising from bodily injuries and fatalities at the job site. The construction industry considers job sites inherently unsafe, exposing the construction team to a heavy risk of liability. According to the Bureau of Labor Statistics, thousands of construction workers suffer bodily injuries and fatalities every year. The issue often litigated in courts is who had the duty to keep the workplace safe but did not. For the courts, the question of whether a duty exists to keep the site safe in a particular case is a question of fairness and policy that takes many factors into consideration.

*Concrete International*, V. 23, No. 11, November 2001, pp. 45-49.