

## Designing Precast Concrete School Buildings

**Program Number Authorized:** SCH07 & SCH07a

After attending this presentation, participants will be able to: Discuss how different Precast/Prestressed components are used in school designs; Use the aesthetic features of precast to create structures to meet the unique needs of schools; understand the precast design process.

**Credit:** 1.00 HSW & 1.50 HSW

## Designing with Precast/Prestressed Hollow-Core Concrete

**Program Number Authorized:** HLCR06

This course instructs participants about hollow-core products and how to design and build utilizing hollow-core floors and walls. Participants also learn about the inherent fire resistance of hollow-core, a major life-safety consideration. After this program, participants will be able to: Identify the different precast, prestressed hollow-core concrete systems; explain the benefits of using precast, prestressed hollow-core concrete; discuss the benefits of using hollow-core concrete with owners and other designers.

**Credit:** 1.00 HSW

## Parking Garage Design and Construction

**Program Number Authorized:** PRK07 & PRK07a

In this course, participants are instructed in improving security and lighting in parking structures and the inherent safety issues. They are also instructed in architectural treatment options for facades which can make garages more aesthetically pleasing. Participants will also discuss ways to avoid parking structure leakage. From this course, they will be able to use a construction procedure to avoid this leakage.

**Credit:** 1.00 HSW & 1.50 HSW

## Precast Bridge Design & Construction

**Program Number Authorized:** BRID07

In this program, owners and designers will learn about the low initial cost, low maintenance requirements, and long life expectancy of prestressed concrete bridges. Precast bridges have also proven to be high in long-term durability and fire resistance and have excellent riding characteristics.

**Credit:** 1.00 HSW

## Precast Industrial Structures Design & Construction

**Program Number Authorized:** IND07

Box lunch attendees will learn the key benefits of precast, prestressed components and see the advantages of an integrated design approach.

**Credit:** 1.00 HSW

## Precast Housing Structures

**Program Number Authorized:** HOUS07

In this program, participants will discuss precast, prestressed concrete in the housing market. Precast, prestressed concrete provides long clear spans, shallow cross sections, high load capacities, high durability, compatibility with block, steel and cast-in-place concrete, and attractive appearance. Also learn how owners and residents benefit



from low maintenance, two- or four-hour fire ratings, lower fire insurance rates, and strong acoustical control. After this program, participants will be able to: Identify the different precast concrete systems used in housing; Explain the benefits of using precast concrete in housing structures; Utilize precast concrete structures to benefit clients with fire suppression and environmental issues.

**Credit:** 1.00 HSW

### **Precast Stadiums Design & Construction**

**Program Number Authorized:** STAD07 & STAD07a

Box lunch attendees will learn how working with your precast, prestressed specialist at the earliest stages of design can mean a winning combination of advantages for your next stadium. These include flexibility of design, including long spans; high quality of manufactured products; versatility; high-performance, durable materials; and speed of construction because precast components can be erected quickly once they arrive at the site. After attending this program, participants will be able to: Identify the different precast, prestressed concrete systems used in stadium designs; Explain the benefits of using precast, prestressed concrete in stadiums; Discuss the benefits of PCI-certified precast producers.

**Credit:** 1.00 HSW & 1.00 HSW

### **Sustainable Building Design Using Precast Concrete**

**Program Number Authorized:** SUST09 & SUST10

After this presentation, participants will understand the following concepts: (1) The key to sustainable building lies in long-life, adaptable, low-energy design. (2) The earth's resources are best conserved if the service life of a building is prolonged. (3) Using precast concrete in buildings conserves energy and resources during and after construction because of the following characteristics of precast concrete: (a) The materials used in precast buildings are natural, renewable, and locally available. (b) Water and materials used in precast buildings are often recyclable and recycled. (c) Indoor and outdoor air quality are improved in precast buildings because less (or no) VOC-based preservatives and paints are required, and because of the thermal mass qualities of precast concrete.

**Credit:** 1.00 SD / HSW & 1.50 SD / HSW

### **Architectural Precast Production & Application**

**Program Number Authorized:** AP007

In this program, students will learn about the practical application of a wide variety of architectural precast solutions. The discussion will include design choices and cost considerations.

**Credit:** 1.00

### **Precast/Prestressed Plant Tour**

**Program Number Authorized:** PT004

Attendees will observe firsthand how designs and engineering details are executed in the precast manufacturing process. They will also observe the entire precast and prestressed manufacturing process from engineering and connections, forms set-up, casting and finishing. Attendees will gain a better understanding of precast and prestressed capabilities and related quality issues. Attendees will learn how precast fits within the entire building system and how to specify precast concrete accurately and safely.

**Credit:** 2.00



## Total Precast Structures

**Program Number Authorized:** TOPRST

After this program, participants will be more familiar with what a total precast concrete structure is, how a total precast structure can benefit a project, and what components are used to construct a total precast structure. Participants will also learn how to manage a successful project.

**Credit:** 1.00

## Designing with Precast Concrete Enclosure Technologies

**Program Number Authorized:** ALTCE100

**Credit:** 1.00 HSW

## Sustainable Design and Precast Enclosure Systems

Shares how LEED and IgCC apply to precast enclosures, explores the best insulation for precast wall assemblies and presents how precast affects heat flow and can mitigate moisture flow in wall design.

**Program Number Authorized:** ALTCE102

**Credit:** 1.00 HSW

## Precast Aesthetics: Managing cost and quality

Compares the impact of panel sizes to erection costs and other project cost drivers. It also evaluates how reduced weight and precast finishes influence project costs.

**Program Number Authorized:** ALTCE103

**Credit:** 1.00 HSW

## Introduction to Carbon Fiber Grid Reinforced Enclosure Systems

Imparts key characteristics of four carbon fiber grid-reinforced precast concrete enclosure systems compared to alternate systems.

**Program Number Authorized:** ALTCE104

**Credit:** 1.00 HSW

## Designing with Carbon Fiber Grid Reinforced Enclosures

Teaches how to configure carbon fiber grid-reinforced enclosures to achieve design and performance objectives and a lower CO<sub>2</sub>e footprint.

**Program Number Authorized:** ALTCE105

**Credit:** 1.00 HSW

## Project Case Studies

Presents a wide variety of projects using carbon fiber grid reinforced enclosures that demonstrate the technology's ability to deliver aesthetic versatility and exceptional performance.

**Program Number Authorized:** ALTCE106

**Credit:** 1.00 HSW



## **Precast/Prestressed Concrete 101**

**Program Number Authorized:** P101

Participants will explore building design solutions using precast and prestressed concrete products. They will learn what precast, prestressed concrete products are, how they are manufactured, including structural theory of prestressing, and quality assurance procedures. They will learn about the industry certification program (PCI) of plants, people and performance. Participants will explore numerous examples of architectural and structural concrete solutions for numerous building markets. They will explore a variety of architectural finishes and how each is created in terms of color, form and texture. They will explore common structural solutions using prestressed concrete products and explore integrated solutions; realizing the full potential of loadbearing architectural precast units. The session will end with an overview of industry support available to the design community, including published and electronic media and a question and answer session.

**Credit:** 1.50

## **Precast Enclosure Possibilities**

Identifies common misperceptions about precast enclosures through the study of precast forming options, technologies and designs that reduce precast weight to attain sustainable design goals

**Program Number Authorized:** ALTCE101

**Credit:** 1.00 HSW

