Environmental Engineering Concrete Structures: Design and Details

In-House Seminar

ONE DAY, 7.5 HOURS (7.5 PDHs/0.75 CEUs)

Based on the 2006 provisions of the ACI 350 Code and ACI 350.3, instructors will familiarize you with the 350 Code requirements for environmental engineering concrete structures, and will present design examples to illustrate practical applications.

Who should attend: Consulting engineers, government agencies including municipalities, material suppliers, testing agencies, academia, and contractors.

Program Content:

**Durability**
- General requirements
- Material requirements
- Crack control
- Chemical effects
- Coating and liners

**Joints**
- Types of joints
- Joint spacing
- Joint materials
- Joint design
- Joint construction considerations

**Loads**
- Loads
- Load combinations and load factors
- Environmental durability factors (EDF)

**Serviceability**
- Cracking
- Application of restraint factor in design
- Bar spacing criteria
- Gergly-Lutz equation

- ACI 318 and ACI 350 equations for bar spacing
- Bar spacing versus bar stress
- Deflection

**Design of nonprestressed members**
- Strength requirements
- Members subjected to flexure, shear, and direct tension
- Unified design approach
- Design examples

**Design of prestressed members**
- Subgrade preparation
- Footings
- Design assumptions/approach
- Wall types
- Wall and roof design
- Prestressed systems
- Design examples

**Seismic**
- Design response spectrum
- Impulsive and convective seismic forces
- Seismic load distribution
- Design for horizontal and vertical acceleration

Instructors:
Two industry experts will present this seminar.

Up to 40 printouts of the presentation included. Additional copies can be purchased.

ACI is an approved education provider for AIA and ICC.

Related Documents:
To expand attendees knowledge, ACI In-House Seminar customers may purchase multiple copies of related documents at 50% off the regular price.

- Code Requirements for Environmental Engineering Concrete Structures and Commentary (ACI 350-20)
- Code Requirements for Seismic Analysis and Design of Liquid-Containing Concrete Structures and Commentary (350.3-20)
- Special handout with notes and design examples authored by the instructors

www.ConcreteSeminars.org