

Environmental Engineering Concrete Structures: Design and Details

In-House Seminar

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

Based on the 2020 provisions of the ACI 350 Code and ACI 350.3-20, 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



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