

Seismic and Wind Design Considerations for Concrete Buildings

ONE DAY, 7.5 HOURS

Learn how the IBC requirements affect the design of reinforced concrete structures in your area

Program Content:

The level of seismicity at a site has always been an important factor in the design of buildings for earthquakes. Occupancy has become a consideration in recent times. Another important factor, which is formally addressed in the 2003 International Building Code (IBC) seismic requirements, is the type of soil that is present at the site. If these factors place your structure in a seismic design category equivalent to that of Seismic Zones 3 or 4, they trigger a large number of seismic detailing requirements in Chapter 21 of ACI 318. This can change the time, effort, and money needed to design and construct a structure as the seismic design category becomes more severe.

Based on the newly published book *Seismic and Wind Design of Concrete Buildings*, S. K. Ghosh will first provide an overview of earthquake-resistant and wind-resistant design, including a description of how concrete buildings respond to earthquake and wind forces. They'll thoroughly explain seismic and wind design requirements in the 2003 IBC and compare the seismic provisions with those in the model codes it replaced.

Next, he'll illustrate application of the seismic and wind provisions by designing and detailing typical structural members (slabs, beams, columns, shearwalls) in the following structures, which are located in areas of low, moderate, and high seismic risk on different types of soil:

- Office building with dual and moment-resisting frame systems
- Residential building with shearwall-frame interactive and building frame systems
- School building with moment-resisting frame
- Residential building with bearing wall system
- Parking structure with building frame system

Who should attend:

Structural engineers can quickly learn how to apply the 2003 IBC seismic and wind provisions to the design and detailing of reinforced concrete buildings. Educators, code enforcement personnel, and the plan check community also will benefit from attending the seminar.

Instructor:

S. K. Ghosh

Seminar handouts:

Seismic and Wind Design of Concrete Buildings

Comprehensive reference manual that includes many completely worked-out design examples.

The clear, step-by-step procedures can be readily used to compute seismic and wind forces based on the code provisions.



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