

# Repair of Concrete Bridges, Parking Decks, and Other Transportation Structures

ONE DAY, 7.5 HOURS

Proven repair techniques and materials for repair of bridge decks and superstructures

## Program Content:

- **Evaluation of Deterioration—the condition survey; importance of this must be stressed**
- **Repair Materials**
  - Selection of materials
  - Descriptions of when and how to use portland cement concrete and various polymer or polymer-modified concretes
- **Repair Methods**
  - Selection of methods based on condition surveys, what methods will provide the best results
  - Preparation for repairs (removal of deteriorated concrete, cleaning of concrete surfaces, and cleaning and replacement of reinforcement)
  - Column and beam repair
  - Joint repair
  - Deck repair
  - Repairs during bridge widening
  - Repairs to overhead surfaces
- Repair of long-span prestressed beams
- Crack and fracture repair with epoxy resin injection
- Examples of methods used on bridges
- Safety and structural support during repairs
- **Strengthening of Existing Bridges**
- **Protection Methods**
  - Overlays—methods and materials for successfully overlaying bridge decks
  - Sealers and membranes
  - Cathodic protection
- **Maintenance Techniques for Reducing Bridge Deterioration**

## Who should attend:

Engineers, repair contractors, material suppliers, maintenance personnel, and public works engineers

## Instructors:

Paul D. Carter, Peter H. Emmons, Myles A. Murray, Orrin Riley, Avanti C. Shroff, Michael M. Sprinkel, and Alexander M. Vaysburd

## Seminar handouts:

- Guide for Making a Condition Survey of Concrete in Service (ACI 201.1R)
- Causes, Evaluation, and Repair of Cracks in Concrete Structures (ACI 224.1R)
- Guide for Maintenance of Concrete Bridge Members (ACI 345.1R)
- A Guide for the Use of Waterproofing, Dampproofing, Protective, and Decorative Barrier Systems for Concrete (ACI 515.1R)
- Guide for Repair of Concrete Bridge Superstructures (ACI 546.1R)
- Guide for the Use of Polymers in Concrete (ACI 548.1R)
- Course Notes authored by the instructors

