



ACI Concrete Design, Construction and Repair Requirements Training Course

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Overview

ACI Concrete Design, Construction and Repair Requirements Training Course is a five-day advanced course for structural, civil, quality, inspection, and repair functions who leave with a Concrete Compliance and Repair Review File. Participants connect ACI CODE-318-25, ACI SPEC-301-20, and ACI CODE-562-25 across design, detailing, construction quality, assessment, and repair. The course turns separate checks into an evidence-based review workflow. Agile Leaders Training Center presents ACI concrete requirements through traceable engineering records.

Who Should Attend

- Structural-design functions responsible for reinforced concrete analysis and detailing
- Civil-engineering functions responsible for coordinating design and construction requirements
- Construction-supervision functions responsible for concrete placement and acceptance controls
- Quality and inspection functions responsible for testing, records, and nonconformance review
- Assessment and repair functions responsible for existing concrete structures

The course assumes participants can read structural drawings and perform basic concrete calculations and leaves out jurisdiction-specific adoption advice, certification preparation, and software commands.

Departments and Industries

The course supports departments and industries that design, build, inspect, assess, or repair structural concrete.

- Structural and civil engineering consultancies
- Construction, precast, and concrete production organizations
- Industrial, energy, transport, and logistics capital-project teams
- Property, facilities, and infrastructure asset-management functions
- Quality assurance, inspection, and technical-audit teams

Learning Objectives

By the end of this course, participants will be able to:



- Apply ACI code scope and document hierarchy to project reviews
- Analyze strength, serviceability, durability, and detailing requirements
- Evaluate concrete construction specifications and acceptance records
- Diagnose condition, damage, and repair-design evidence
- Compare design, construction, and repair documentation
- Build a concrete compliance and repair review file

Course Agenda

Day 1: ACI Framework and Design Basis

- ACI Document Scope and Applicability Map
- ACI CODE-318-25 Requirement Navigation Matrix
- Structural System and Load-Path Review Method
- Strength and Serviceability Design Checksheet
- Durability Exposure and Material Requirement Register

Day 2: Member Design and Detailing

- Flexural and Axial Design Review Grid
- Shear and Torsion Requirement Checklist
- Reinforcement Development and Splice Schedule
- Member Detailing and Constructability Crosscheck
- Structural Drawing Compliance Markup

Day 3: Construction Specifications and Quality

- ACI SPEC-301-20 Project Specification Crosswalk
- Mixture, Production, and Placement Control Plan
- Formwork, Joint, Finishing, and Curing Checklist
- Testing, Inspection, and Acceptance Record
- Concrete Nonconformance Evaluation Log

Day 4: Assessment and Repair Requirements

- ACI CODE-562-25 Assessment Planning Sheet
- Field Investigation and Material Property Record
- Damage, Deterioration, and Capacity Evaluation Matrix
- Repair Design and Interface-Bond Review
- Repair Specification and Quality Assurance Checklist



Day 5: Concrete Compliance and Repair Practice

- Suggested Exercise: Navigate Design Requirement Conflicts
- Suggested Exercise: Review Reinforcement and Construction Records
- Suggested Exercise: Diagnose Concrete Condition Evidence
- Suggested Exercise: Coordinate Repair Design and Specification
- Capstone Exercise: Concrete Compliance and Repair Review File

Practical Exercises

The course uses suggested activities to connect ACI concrete requirements with reviewable engineering evidence.

- Suggested activity: map applicable design, specification, assessment, and repair requirements to project documents.
- Suggested activity: check member design, reinforcement details, durability provisions, and drawing coordination.
- Suggested activity: evaluate placement, curing, testing, inspection, acceptance, and nonconformance records.
- Suggested activity: assemble assessment findings, repair decisions, specifications, and quality controls into one review file.

FAQs

What do ACI concrete design, construction, and repair requirements address?

ACI concrete requirements address structural design and detailing, construction specifications and quality records, and assessment and repair of existing concrete structures through distinct but coordinated documents.

Who suits ACI concrete requirements training, and what does it assume?

Structural, civil, construction, quality, inspection, and repair functions suit the training. It assumes participants can read structural drawings and perform basic concrete calculations.

How does advanced ACI concrete requirements training differ from introductory reinforced concrete design?

Advanced ACI training connects code navigation, design checks, construction specifications, acceptance evidence, condition assessment, and repair review. Introductory design training concentrates on basic member behavior and calculations.



How do ACI CODE-318-25 and ACI SPEC-301-20 work together?

ACI CODE-318-25 defines structural concrete design and detailing requirements, while ACI SPEC-301-20 provides a reference specification for concrete construction. Project teams coordinate both through drawings, specifications, submittals, inspection, testing, and acceptance records.

When is ACI CODE-562-25 used in concrete repair review?

ACI CODE-562-25 supports assessment of damage and deterioration and the design of repair and rehabilitation strategies for existing concrete structures within its stated applicability.

Conclusion

Participants take back a Concrete Compliance and Repair Review File linking design requirements, details, specifications, quality records, assessment evidence, and repair decisions. It changes disconnected checks into a coordinated engineering review. The file gives design, construction, inspection, and repair functions a shared basis for resolving gaps and documenting decisions.



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