Concrete Repair Materials Selection and Control Training Course

12 – 16 April 2027
Addis Ababa

AGILE LEADERS
Training Center

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Ref: 491_223709 **Date:** 12 – 16 April 2027 **Location:** Addis Ababa **Fees:** 6000 Euro

Overview

Concrete Repair Materials Selection and Control Training Course is a one-week course for materials engineers, repair engineers, concrete technologists, quality specialists, consultants, and construction supervisors who leave with a Concrete Repair Materials Control File. Participants connect substrate assessment, material compatibility, application controls, testing, durability, and repair records to defensible field decisions. Agile Leaders Training Center presents concrete repair materials through selection, execution, and verification controls.

Who Should Attend

- Materials functions responsible for evaluating repair products and compatibility
- Repair-engineering functions responsible for diagnosis, specification, and treatment selection
- Quality functions responsible for inspection points, testing, acceptance, and records
- Consulting functions responsible for repair design review and technical approvals
- Construction-supervision functions responsible for preparation, application, curing, and turnover

The course assumes participants can interpret concrete condition reports and material data sheets, and it leaves out basic concrete technology, structural design, and introductory repair instruction.

Departments and Industries

The course supports departments and industries that specify, apply, inspect, or accept concrete repair materials.

- Buildings, infrastructure, and civil construction
- Industrial plants and process facilities
- Transport structures and marine assets
- Engineering consultancy and materials laboratories
- Maintenance, quality, and asset-integrity departments

Learning Objectives

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

- Analyze substrate condition and repair performance requirements
- Compare cementitious, polymer-modified, resin, grout, and coating systems
- Evaluate material compatibility with exposure and application constraints
- Apply preparation, mixing, placement, curing, and protection controls
- Use bond, strength, and acceptance tests for repair decisions
- Build a traceable Concrete Repair Materials Control File

Course Agenda

Day 1: Substrate Assessment and Repair Requirements

- Concrete Defect and Deterioration Evidence Map
- Substrate Condition Assessment Checklist
- Repair Objective and Performance Requirement Matrix
- Exposure, Moisture, and Service Constraint Profile
- Repair Zone and Removal Boundary Decision Record

Day 2: Material Families and Compatibility

- Cementitious Repair Mortar Selection Matrix
- Polymer-Modified and Polymer Concrete Comparison
- Nonshrink Grout and Flowable Repair Material Review
- Bonding Agent and Corrosion-Control System Assessment
- Dimensional, Thermal, and Moisture Compatibility Check

Day 3: Injection and Protective Systems

- Crack Classification and Injection Material Decision Tree
- Epoxy Resin Bonding System Specification Review
- Chemical Grout Waterproofing Application Plan
- Protective Coating and Sealer Selection Schedule
- Repair System Layer and Interface Detail Sheet

Day 4: Application, Testing, and Quality Control

- Concrete Surface Preparation Acceptance Profile
- Material Storage, Batch, and Traceability Register
- Mixing, Placement, Curing, and Protection Control Plan
- Pull-Off Bond and Repair Strength Test Plan
- Inspection Hold Point and Nonconformance Log

Day 5: Concrete Repair Materials Control Practice

- Suggested Exercise: Diagnose Substrate and Exposure Conditions
- Suggested Exercise: Select a Compatible Repair Material System
- Suggested Exercise: Review Injection and Coating Method Controls
- Suggested Exercise: Decide Test Acceptance and Corrective Action
- Capstone Exercise: Concrete Repair Materials Control File

Practical Exercises

The course uses suggested activities to turn condition evidence and product data into controlled repair decisions.

- Suggested activity: classify defects, substrate condition, exposure, access, and service constraints for a repair zone.
- Suggested activity: compare mortars, grouts, bonding agents, resins, corrosion-control products, and coatings against performance requirements.
- Suggested activity: review surface preparation, mixing, application, curing, testing, and protection controls in a method statement.
- Suggested activity: assemble selection, inspection, test, nonconformance, and acceptance evidence into a control file.

FAQs

What does concrete repair materials selection training address?

Concrete repair materials selection training addresses substrate condition, performance requirements, compatibility, material families, surface preparation, application controls, testing, durability, and traceable acceptance records.

Who suits concrete repair materials training, and what does it assume?

Materials, repair, quality, consulting, and construction-supervision functions suit the training. It assumes experience reading condition reports, specifications, and technical data sheets.

How does concrete repair materials training differ from general concrete technology?

Concrete repair materials training focuses on existing substrates, deterioration, compatibility, repair products, field application, and acceptance evidence. General concrete technology focuses mainly on constituent materials, fresh concrete, mixture behavior, and new construction.

How is repair material compatibility evaluated?

Repair material compatibility is evaluated against substrate strength, stiffness, movement, moisture, thermal response, exposure, geometry, application thickness, curing needs, and the intended service condition.

How are concrete repair materials accepted after application?

Concrete repair materials are accepted through material traceability, preparation records, process checks, visual inspection, specified bond or strength testing, defect evaluation, corrective actions, and documented release criteria.

Conclusion

Participants take back a Concrete Repair Materials Control File linking diagnosis, requirements, products, interfaces, execution, testing, and acceptance. It changes isolated product choices and inspection notes into a traceable repair-control path. The file gives engineering, quality, and construction functions a shared basis for material and release decisions.