



Dry-Pack Mortar Concrete Repair and Quality Control Course

28 February – 4 March 2027
Johannesburg



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Ref: 507_140071 **Date:** 28 February – 4 March 2027 **Location:** Johannesburg **Fees:** 6000 Euro

Overview

Dry-Pack Mortar Concrete Repair and Quality Control Course is a five-day technical programme for civil engineers, concrete-repair supervisors, site engineers, inspectors, quality-control staff, maintenance technicians, and specialist contractors. Participants connect defect diagnosis, repair suitability, removal, substrate and reinforcement preparation, low-water mortar, compacted lifts, finishing, curing, inspection, testing, and troubleshooting, leaving with a Dry-Pack Concrete Repair Method Statement and Inspection Record. Agile Leaders Training Center presents dry-pack repair through controlled selection, workmanship, and evidence.

Who Should Attend

- Concrete repair supervisors and technicians performing localized repairs
- Site and civil engineers planning and coordinating repair work
- Inspectors and quality teams checking preparation and placement
- Maintenance teams responsible for durable defect correction
- Specialist contractors and owner representatives reviewing repair records

The course assumes basic concrete knowledge. It does not authorise structural assessment, repair design, reinforcement modification, hazardous demolition, or substitution for current project specifications and qualified engineering approval.

Departments and Industries

The course supports teams repairing localized concrete defects in structures and infrastructure.

- Buildings, bridges, tunnels, dams, and water infrastructure
- Industrial facilities, utilities, ports, and transport assets
- Concrete repair, maintenance, and rehabilitation contractors
- Quality control, inspection, and materials laboratories
- Asset owners, consultants, and facilities-management teams

Learning Objectives

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



- Decide when dry-pack mortar is suitable and when another method is required
- Prepare sound repair geometry, substrate, edges, and exposed reinforcement
- Control materials, moisture, mixing, consistency, and working time
- Place and compact thin lifts without voids or weak interfaces
- Plan finishing, curing, inspection, testing, and corrective action
- Build a Dry-Pack Concrete Repair Method Statement and Inspection Record

Course Agenda

Day 1: Defect Diagnosis and Method Selection

- Concrete deterioration, voids, holes, spalls, honeycombing, and prior repairs
- Structural significance, active causes, moisture, and corrosion indicators
- Dry-pack suitability for small deep cavities and near-vertical boundaries
- Limits compared with mortar replacement, formed repair, and concrete replacement
- Repair investigation, hold points, and engineering referral record

Day 2: Removal Substrate and Repair Geometry

- Safe access, dust, silica, noise, debris, and tool controls
- Marking boundaries and removing unsound concrete
- Avoiding bruising, microcracking, feather edges, and hidden weakness
- Sound substrate, edge geometry, reinforcement exposure, and cleaning
- Surface profile, cleanliness, moisture condition, and pre-placement inspection

Day 3: Materials Proportioning and Trial Work

- Cementitious binder, fine aggregate, water, and approved repair products
- Low-water consistency, workability, cohesion, and shrinkage control
- Batch measurement, mixing sequence, equipment, and time limits
- Substrate moisture conditioning and saturated surface-dry awareness
- Trial mix, mockup, acceptance criteria, and material traceability

Day 4: Placement Compaction Finishing and Curing

- Initial contact layer and access to repair corners
- Thin lifts, lift scratching, timing, and continuous placement
- Wooden tamping tools, compaction pattern, edges, and void prevention
- Overfilling, striking, finishing, texture, and visual matching
- Immediate protection, moist curing, temperature, and disturbance control



Day 5: Inspection Testing Defects and Closeout

- Pre-placement, in-process, post-placement, and curing inspections
- Sounding, visual checks, dimensional checks, and bond-test awareness
- Voids, debonding, shrinkage, cracking, weak lifts, and surface defects
- Root-cause review, repair acceptance, rejection, and corrective action
- Capstone Exercise: Dry-Pack Concrete Repair Method Statement and Inspection Record

Practical Exercises

The course uses suggested exercises and controlled demonstrations; site work remains subject to qualified supervision and project controls.

- Suggested activity: diagnose sample defects and select or reject the dry-pack method.
- Suggested activity: inspect repair geometry, substrate condition, reinforcement, and moisture readiness.
- Suggested activity: assess trial mixtures and plan lift thickness, tools, compaction, and curing.
- Suggested activity: review repair defects and complete inspection and corrective-action records.

FAQs

Where is dry-pack mortar normally suitable?

It is commonly suited to small, deep cavities with accessible near-vertical sides, including selected form-bolt holes, core holes, slots, and localized repairs. The designer must confirm suitability.

Why does dry-pack mortar use very little water?

The low water content helps limit shrinkage, but the mixture must still have enough moisture for complete compaction and cement hydration.

Why are thin compacted lifts important?

Thin lifts allow tamping to reach the full layer and edges, reducing voids and weak zones. Thick lifts can leave poorly compacted material beneath the surface.

What is the most important preparation control?

Unsound material must be removed without damaging the remaining concrete, and the repair must reach sound, clean, correctly profiled substrate with controlled edges and reinforcement condition.

Does this course qualify participants to approve structural repairs?

No. Structural significance, repair design, reinforcement decisions, materials, acceptance criteria, and deviations require qualified professional approval.



Conclusion

Participants return with a Dry-Pack Concrete Repair Method Statement and Inspection Record linking diagnosis, suitability, boundaries, removal, substrate, reinforcement, materials, moisture, mixing, lifts, compaction, finishing, curing, inspection, testing, defects, and corrective actions. It provides a traceable basis for controlled field workmanship.