Advanced Construction Quality Control and Assurance Training Course

16 - 20 Nov 2026

Barcelona

5900 € (Per Person)

Ref: #CON4394_85706

Course Introduction / Overview:

This comprehensive training course provides an in-depth exploration of Quality Assurance (QA) and Quality Control (QC) principles specifically tailored for the construction industry. In a sector where project success is measured by safety, durability, and compliance with specifications, a robust quality management system is not just beneficial—it is essential. This program is designed to equip participants with the advanced skills needed to implement, manage, and audit construction quality systems effectively, from project inception to final handover. Drawing upon the foundational principles of quality management pioneers like W. Edwards Deming, the course emphasizes a proactive approach to preventing defects rather than simply detecting them. Participants will delve into practical applications discussed in texts such as "Construction Quality Management: Principles and Practice," learning to develop and execute Project Quality Plans (PQP) and Inspection and Test Plans (ITP). BIG BEN Training Center has structured this course to bridge the gap between theoretical knowledge and on-site application, ensuring that professionals can immediately apply learned techniques to reduce rework, control costs, and enhance project outcomes and stakeholder satisfaction. This training is the definitive guide to achieving excellence in construction quality management.

Target Audience / This training course is suitable for:

- Quality Control and Assurance Engineers and Managers.
- Project Managers and Project Engineers.
- Construction Managers and Site Supervisors.
- Civil, Structural, and Architectural Engineers.
- Procurement and Contract Managers.
- Technical Inspectors and Auditors.
- Project Planners and Coordinators.
- Consultants and Technical Advisors.

Target Sectors and Industries:

- General Construction and Contracting.
- Real Estate and Property Development.
- Infrastructure and Heavy Civil Engineering.
- Oil and Gas and Petrochemical Projects.
- Power Generation and Utilities.
- Transportation (Roads, Bridges, Airports, Railways).
- Governmental bodies and Public Works Authorities.
- Manufacturing and Industrial Plant Construction.

Target Organizations Departments:

- Quality Assurance and Quality Control (QA/QC) Department.
- Project Management Office (PMO).
- Engineering and Design Department.
- Site Operations and Construction Management.
- Procurement and Supply Chain Management.
- Contracts and Commercial Department.
- Health, Safety, and Environment (HSE) Department.

Course Offerings:

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

- Develop and implement a comprehensive Project Quality Management System (QMS).
- Create effective Project Quality Plans (PQP) and Inspection and Test Plans (ITP).
- Master various on-site inspection techniques for civil, structural, and finishing works.
- Manage and resolve Non-Conformance Reports (NCRs) effectively.
- Conduct internal and external quality audits to ensure compliance with standards.
- Apply statistical process control (SPC) methods to monitor construction processes.
- Evaluate and manage supplier and subcontractor quality performance.
- Integrate digital tools and modern technologies for enhanced quality control.
- Lead quality initiatives and foster a culture of continuous improvement within project teams.
- Ensure project deliverables meet contractual specifications and international standards.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, practical, and engaging, ensuring participants can translate theoretical knowledge into real-world competencies. This course moves beyond traditional lectures by incorporating a blended learning approach. A significant portion of the training is dedicated to analyzing real-world case studies of construction projects, examining both successes and failures to extract critical lessons in quality management. Participants will engage in collaborative group workshops to develop sample Project Quality Plans (PQP) and Inspection and Test Plans (ITP), simulating the challenges faced on a live project. Interactive sessions, facilitated discussions, and problem-solving exercises will encourage active participation and peer-to-peer learning. The instructor will provide continuous feedback and guide participants through practical simulations of site inspections and quality audits. This hands-on approach ensures that attendees leave the course with not only a deep understanding of QA/QC principles but also the confidence and practical skills to implement them effectively within their organizations, driving tangible improvements in project quality and performance.

Course Agenda (Course Units):

Unit One: Foundations of Construction Quality Management

- Introduction to Quality Assurance (QA) and Quality Control (QC).
- The cost of poor quality in construction projects.
- Understanding international quality standards (ISO 9001:2015).
- Roles and responsibilities of the QA/QC team.
- Developing a positive quality culture on site.
- Key terminology and definitions in construction quality.
- The relationship between quality, safety, and project schedule.

Unit Two: Planning for Quality in Construction Projects

- Developing the Project Quality Plan (PQP).
- Creating effective Inspection and Test Plans (ITPs).
- Establishing quality objectives and key performance indicators (KPIs).
- Material submittals, approvals, and procurement control.
- Method statements and work procedures.
- Resource allocation for quality management activities.
- Documentation and records management systems.

Unit Three: On-Site Quality Control and Inspection Techniques

- Pre-construction quality checks and site readiness.
- Inspection of earthworks, foundations, and concrete works.
- Quality control for structural steel erection and welding.
- Architectural finishes and building envelope inspection.
- Mechanical, Electrical, and Plumbing (MEP) systems inspection.
- Managing and documenting site inspections effectively.
- Utilizing checklists and standardized inspection forms.

Unit Four: Managing Non-Conformances and Corrective Actions

- Identifying and documenting non-conformances (NCRs).
- Root Cause Analysis (RCA) techniques for quality issues.
- Developing effective Corrective and Preventive Actions (CAPA).
- Tracking and closing out NCRs and CAPAs.
- Stop-work procedures and authority.
- Analyzing trends in non-conformances for process improvement.
- Communicating quality issues to project stakeholders.

Unit Five: Auditing, Technology, and Project Closeout

- Principles of quality auditing (internal and external).
- Planning and conducting a construction quality audit.
- Reporting audit findings and following up on actions.
- Introduction to digital tools for QA/QC (BIM, drones, software).
- Lean construction principles for waste reduction and quality enhancement.
- Final inspection, project handover, and closeout documentation.
- Compiling lessons learned for future projects.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can proactive quality assurance principles be integrated into the early design phase of a construction project to prevent downstream quality control issues?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by focusing on the practical implementation of quality management systems within the unique, high-stakes environment of construction projects. While many courses cover the theoretical aspects of ISO 9001, this program dedicates significant time to hands-on application, teaching participants not just what a Project Quality Plan is, but how to write one that is robust and project-specific. It moves beyond simple inspection checklists to instill a deeper understanding of root cause analysis and preventive action, empowering participants to solve problems permanently rather than just documenting them. The curriculum integrates modern challenges and solutions, including the role of digital technologies like BIM in quality verification and the application of lean principles to eliminate waste and rework. Furthermore, the course emphasizes the "human factor" in quality management—fostering a site-wide culture of quality ownership from management to subcontractors. By blending technical skills with strategic thinking and leadership, it prepares professionals to not only be inspectors but to become true quality leaders who can drive efficiency, ensure compliance, and ultimately protect the project's bottom line and reputation.