

# ICTQual AB



## Qualification Specification

### ICTQual AB Level 3 Certificate in Quality Control Civil



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# ICTQual AB's

## Level 3 Certificate in Quality Control Civil

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## **Qualification Specification about**

# **ICTQual AB Level 3 Certificate in Quality Control Civil**

### **About ICTQual AB's**

ICTQual AB is a distinguished awarding body based in the United Kingdom, dedicated to fostering excellence in education, training, and skills development. Committed to global standards, ICTQual AB's provides internationally recognized qualifications that empower individuals and organizations to thrive in an increasingly competitive world. Their offerings span diverse industries, including technical fields, health and safety, management, and more, ensuring relevance and adaptability to modern workforce needs.

ICTQual AB's delivers high-quality educational solutions through a network of Approved Training Centres worldwide. Their robust standards and innovative teaching methodologies equip learners with practical knowledge and skills for personal and professional growth. With a mission to inspire lifelong learning and drive positive change, ICTQual AB's continuously evolves its programs to stay ahead of industry trends and technological advancements.

### **Course Overview**

This certificate programme provides learners with the essential knowledge, skills, and techniques required for quality control within the civil construction sector. It focuses on the implementation and evaluation of construction quality standards, procedures for inspection and testing, documentation protocols, and defect identification. The course covers critical civil works such as concrete, steel, earthwork, and finishing activities, and supports learners in applying systematic control measures throughout construction stages. Learners will be guided through structured standards and practical objectives designed to ensure quality assurance across all aspects of civil construction activities. Emphasis is placed on compliance with relevant codes, effective use of testing methods, accurate reporting, and coordination with site teams to maintain quality at all levels.

Key standards and objectives include:

- Understanding the fundamental principles of quality control specific to civil construction.
- Performing inspections and testing of civil materials and works to confirm compliance.
- Applying relevant codes, methods, and specifications for civil engineering quality standards.

- Recording and managing quality data using established documentation practices.
- Identifying, reporting, and assisting in the correction of construction defects.
- Supporting continuous improvement and compliance in construction processes.

## **Course Aim:**

The aim of this course is to provide learners with a clear understanding of how to control, monitor, and maintain quality in civil construction works. It equips individuals with practical skills to perform inspections, enforce quality measures, interpret specifications, and contribute to safe and compliant construction outcomes. The course seeks to build confidence in applying control procedures that ensure structural integrity, compliance with regulatory standards, and customer satisfaction.

## **For Whom This Course Is For:**

This certificate is suitable for individuals seeking to begin or enhance a career in quality control within the civil engineering and construction industry. It is ideal for:

- Civil engineering technicians and site supervisors involved in quality-related tasks.
- Site inspectors or individuals working under quality control departments.
- Trainee or junior civil engineers who need a foundation in quality management practices.
- Individuals responsible for monitoring workmanship, testing materials, or maintaining construction records.
- Workers seeking formal recognition of their practical skills and knowledge in construction quality control.

## Certification Framework

Qualification title	ICTQual AB Level 3 Certificate in Quality Control Civil
Course ID	QC0005
Grading Type	Pass / Fail
Competency Evaluation	Coursework / Assignments / Verifiable Experience
Assessment	<p>The assessment and verification process for ICTQual AB's qualifications involves two key stages:</p> <p><b>Internal Assessment and Verification:</b></p> <ul style="list-style-type: none"><li>✓ Conducted by the staff at the Approved Training Centre (ATC) to ensure learners meet the required standards through continuous assessments.</li><li>✓ Internal Quality Assurance (IQA) is carried out by the centre's IQA staff to validate the assessment process.</li></ul> <p><b>External Quality Assurance:</b></p> <ul style="list-style-type: none"><li>✓ Managed by ICTQual AB's verifiers, who periodically review the centre's assessment and IQA processes.</li></ul> <p>Verifies that assessments are conducted to the required standards and ensures consistency across centres</p>

## Entry Requirements

To enroll in the ICTQual AB Level 3 Certificate in Quality Control Civil, learners must meet the following requirements:

- **Minimum Education:**
  - Applicants must have at least a Matriculation / Secondary School Certificate (SSC) / Grade 10 or equivalent qualification.
- **Technical Background (Preferred):**
  - Candidates with a Diploma of Associate Engineering (DAE) in Civil or a related technical qualification are strongly encouraged to apply. However, this is not mandatory.
- **Work Experience (Optional):**
  - Previous experience in civil construction, site work, or quality control is beneficial but not required. The course is suitable for both fresh learners and working professionals.
- **English Language Proficiency:**
  - Learners should have basic reading and writing skills in English, as all course content, instructions, and assignments are provided in English.
- **Computer and Internet Access:**
  - Applicants must have access to a laptop or desktop computer with a reliable internet connection to complete online modules and submit assignments.

Qualification Structure

This qualification comprises 3 mandatory units. Candidates must successfully complete all mandatory units to achieve the qualification.

Mandatory Units	
Unit Ref#	Unit Title
QC0005-01	Introduction to Quality Control in Civil Engineering
QC0005-02	Inspection and Testing of Construction Materials
QC0005-03	Documentation and Reporting in Civil QC

Centre Requirements

To ensure quality training delivery, centres must adhere to the following standards:

1. Centre Approval

- ✓ Centres must be formally approved by ICTQual AB’s before delivering this qualification.
- ✓ Approval involves a review of facilities, policies, and staff qualifications.

2. Qualified Staff

- ✓ **Tutors:** Must hold relevant qualifications in civil engineering or construction management, preferably at Level 5 or above
- ✓ **Assessors:** Must hold a recognized assessor qualification (e.g., CAVA, AVRA) or equivalent)
- ✓ **Internal Quality Assurers (IQAs):** Must hold a recognized IQA qualification (e.g. Level 4 Award in the IQA and Level 4 Certificate in Leading the IQA) and experience to oversee assessment standards.

3. Learning Facilities

Centre must offer:

- ✓ Private study areas and internet-enabled workspaces (for blended or physical delivery)
- ✓ Academic and pastoral support for learners
- ✓ Administrative support must be available to manage enrolment, tracking, and learner queries efficiently

4. Health and Safety Compliance

- ✓ All training facilities must comply with health and safety regulations.
- ✓ Centres must conduct regular risk assessments for practical activities.

5. Learning Resources

- ✓ **Course Materials:** Approved textbooks, study guides, and digital content must align with the qualification standards.

- ✓ **Assessment Tools:** Templates and guidelines must be provided to ensure standardized evaluation processes.
- ✓ **E-Learning Support:** Centres offering online or blended learning must implement an effective Learning Management System (LMS).

## 6. Assessment and Quality Assurance

- ✓ Centres must ensure assessments meet ICTQual AB's competency standards.
- ✓ Internal quality assurance (IQA) must be conducted to maintain consistency.
- ✓ External verifiers from ICTQual AB's will review assessment and training practices.

## 7. Learning Support

- ✓ **Qualification Guidance:** Support for coursework and assignments.
- ✓ **Career Pathway Assistance:** Information on progression opportunities in sustainability and energy sectors.
- ✓ **Accessibility Support:** Accommodations for learners with disabilities or language barriers.

## 8. Policies and Compliance

Centres must uphold the following policies in accordance with ICTQual AB's standards:

- ✓ Equality, Diversity, and Inclusion Policy.
- ✓ Health and Safety Policy.
- ✓ Safeguarding and Learner Protection Policy.
- ✓ Complaints and Appeals Procedure.
- ✓ Data Protection and Confidentiality Policy.

## 9. Reporting Requirements

- Centres must provide ICTQual AB's with regular reports on learner registrations, progress, and certification outcomes.
- Assessment records must be maintained for external auditing and quality assurance purposes.



## Support for Candidates

Centres should ensure that materials developed to support candidates:

- ✓ Facilitate tracking of achievements as candidate's progress through the learning outcomes and assessment criteria.
- ✓ Include information on how and where ICTQual AB's policies and procedures can be accessed.
- ✓ Provide mechanisms for Internal and External Quality Assurance staff to verify and authenticate evidence effectively.

This approach ensures transparency, supports candidates' learning journeys, and upholds quality assurance standards.

## Assessment

This qualification is competence-based, requiring candidates to demonstrate proficiency as defined in the qualification units. The assessment evaluates the candidate's skills, knowledge, and understanding against the set standards. Key details include:

### 1. Assessment Process:

- ✓ Must be conducted by an experienced and qualified assessor.
- ✓ Candidates compile a portfolio of evidence that satisfies all learning outcomes and assessment criteria for each unit.

### 2. Types of Evidence:

- ✓ Observation reports by the assessor.
- ✓ Assignments, projects, or reports.
- ✓ Professional discussions.
- ✓ Witness testimonies.
- ✓ Candidate-produced work.
- ✓ Worksheets.
- ✓ Records of oral and written questioning.
- ✓ Recognition of Prior Learning (RPL).

### 3. Learning Outcomes and Assessment Criteria:

- ✓ **Learning Outcomes:** Define what candidates should know, understand, or accomplish upon completing the unit.
- ✓ **Assessment Criteria:** Detail the standards candidates must meet to demonstrate that the learning outcomes have been achieved.

This framework ensures rigorous and consistent evaluation of candidates' competence in line with the qualification's objectives.



Unit Descriptors

QC0005-01-Introduction to Quality Control in Civil Engineering

This unit gives learners a basic understanding of what quality control means in civil engineering. It explains why quality control is important in construction and how it helps make buildings and structures safe, strong, and long-lasting. Learners will learn about common quality standards, the responsibilities of quality control staff, and how to follow approved methods and codes during civil works. The unit also introduces the difference between quality control and quality assurance, and how both are used to improve construction quality.

Learning Outcome:	Assessment Criteria:
1. Understand the fundamental principles of quality control and quality assurance in civil engineering.	<div>1.1 Explain differences between quality control (QC) and quality assurance (QA) with specific examples for each in a civil engineering context.</div> <div>1.2 Explain the 'Plan-Do-Check-Act' (PDCA) cycle and its relevance to continuous improvement in construction quality.</div> <div>1.3 Describe the key components of a Quality Management System (QMS) as applied to a civil construction project.</div> <div>1.4 Define the concept of 'fitness for purpose' and its importance in achieving project quality goals.</div>
2. Identify the role and responsibilities of a quality control technician on a construction site.	<div>2.1 List the primary duties of a QC technician, including material inspection, sampling, and reporting.</div> <div>2.2 Describe the hierarchical relationship of a QC technician within a typical project team, including their reporting lines and collaboration with other roles.</div> <div>2.3 Explain the ethical responsibilities of a QC technician regarding integrity, objectivity, and impartiality in their work.</div> <div>2.4 Outline the health and safety responsibilities of a QC technician during site inspections and testing.</div> <div>2.5 Describe the required technical skills and knowledge a QC technician must possess.</div>
3. Explain the importance of quality standards in construction projects.	<div>3.1 Identify at least three internationally recognized quality standards (e.g., ISO, ASTM, BS) relevant to civil engineering and explain their purpose.</div> <div>3.2 Explain how adherence to quality standards reduces project risks, such as cost overruns and legal liabilities.</div> <div>3.3 Describe the impact of non-compliance with quality standards on a project's durability, safety, and public perception.</div> <div>3.4 Discuss the role of project specifications and contract</div>

documents in setting quality standards for a specific project.

**4. Recognize common quality-related issues in civil works and how to prevent them.**

- 4.1 Identify and describe at least three common quality issues in concrete works (e.g., honeycombing, segregation, cracking).
- 4.2 Explain the potential causes of common quality issues in earthworks (e.g., improper compaction, subgrade instability).
- 4.3 Suggest preventive measures for avoiding common quality issues related to steel reinforcement installation (e.g., incorrect cover, improper spacing).
- 4.4 Describe how poor workmanship and lack of supervision can lead to quality defects.

**5. Apply basic quality concepts in site operations and construction planning.**

- 5.1 Suggest a basic quality checklist for a site activity (e.g., concrete pouring or rebar fixing).
- 5.2 Explain how to use a basic quality checklist to verify compliance with project specifications.
- 5.3 Describe how quality concepts can be integrated into the construction schedule to ensure timely inspections and testing.
- 5.4 Outline the steps for a pre-construction meeting to address quality expectations and responsibilities.

QC0005-02-Inspection and Testing of Construction Materials

This unit focuses on the inspection and testing processes used to check the quality of materials used in civil engineering, such as concrete, steel, bricks, and soil. Learners will study how to carry out tests on-site and in laboratories to make sure that materials meet design and safety standards. The unit explains how to identify faults or defects, follow correct procedures during testing, and use tools and equipment safely and correctly. It also covers how to read material specifications and compare test results with set standards.

Learning Outcome:	Assessment Criteria:
1. Identify various civil construction materials such as concrete, steel, soil, and aggregates.	<div>1.1 Explain difference between coarse and fine aggregates and describe their typical uses in construction.</div> <div>1.2 Identify the main components of concrete and explain the purpose of each.</div> <div>1.3 Distinguish between different types of steel reinforcement bars (e.g., rebar, wire mesh) based on their properties and applications.</div> <div>1.4 Categorize different soil types (e.g., clay, sand, silt) and explain how their properties affect construction.</div>
2. Understand standard procedures for material testing in both laboratory and field settings.	<div>2.1 Describe the standard procedure for conducting a concrete slump test on-site, including the equipment required and safety precautions.</div> <div>2.2 Explain the steps involved in preparing a concrete cylinder sample for laboratory compression strength testing.</div> <div>2.3 Outline the procedure for a sieve analysis of aggregates to determine their grading.</div> <div>2.4 Describe the process of a standard proctor compaction test to determine the optimal moisture content and maximum dry density of soil.</div> <div>2.5 Explain the purpose and procedure of a soil density test (e.g., sand cone test) in the field.</div>
3. Interpret material testing results in accordance with national and international standards.	<div>3.1 Read a concrete slump test result and determine if it falls within the specified range.</div> <div>3.2 Analyze a concrete compression test report and calculate the average strength and standard deviation, comparing the results against project specifications.</div> <div>3.3 Examine a sieve analysis report for aggregates and evaluate its compliance with a specified grading curve.</div> <div>3.4 Explain soil compaction test results and determine if the required degree of compaction has been</div>

achieved.

**4. Evaluate the suitability of construction materials based on test outcomes.**

- 4.1 Based on a given set of test results, determine if a batch of concrete is acceptable for use in a specific structural element.
- 4.2 Judge the suitability of aggregates for asphalt mix based on grading and other physical properties.
- 4.3 Assess the quality of steel reinforcement based on its grade, diameter, and surface condition.
- 4.4 Conclude whether soil is suitable as a subgrade material based on its compaction test results.
- 4.5 Provide a justification for the acceptance or rejection of a material lot based on the interpretation of test data.

**5. Perform basic quality inspections and make recommendations for material acceptance or rejection.**

- 5.1 Conduct a visual inspection of delivered materials (e.g., cement bags, rebar bundles) for damage, correct labelling, and quantity.
- 5.2 Perform basic on-site checks for concrete mix consistency and workability.
- 5.3 Identify non-conforming characteristics of delivered materials and document them accurately.
- 5.4 Formulate a recommendation for the acceptance, rejection, or conditional use of materials based on inspection and test results.

QC0005-03- Documentation and Reporting in Civil QC

This unit helps learners understand how to record and report quality control activities properly. It explains how to fill out inspection forms, test result sheets, daily reports, and non-conformance records. Learners will practise writing clear and accurate reports that are easy to understand and meet industry requirements. The unit also covers how to organise and store quality control documents for easy access and future reference. Good documentation is important for showing that work meets quality standards and for tracking any issues that arise during construction.

Learning Outcome:	Assessment Criteria:
1. Understand the types and purposes of documentation used in civil quality control.	<div>1.1 Identify and explain the purpose of at least four types of QC documents (e.g., Inspection Request, Daily Quality Report, Non-Conformance Report, Material Submittal).</div> <div>1.2 Describe the role of a project quality plan in guiding all QC activities and documentation.</div> <div>1.3 Explain the importance of maintaining a comprehensive and organized record-keeping system for audit and traceability purposes.</div> <div>1.4 Differentiate between a test report and a site diary and explain the specific information each should contain.</div>
2. Prepare basic inspection checklists, test reports, and site quality records.	<div>2.1 Create a pre-pouring inspection checklist for a concrete foundation, including all necessary checks (e.g., formwork, rebar, embedded items).</div> <div>2.2 Complete a concrete slump test report with all required information (e.g., date, time, mix ID, results, signature).</div> <div>2.3 Draft a daily quality report summarizing all QC activities and observations for a specific workday.</div> <div>2.4 Prepare a material inspection record for an incoming shipment of steel reinforcement.</div>
3. Accurately record data from quality inspections and material tests.	<div>3.1 Record the results of a series of concrete compressive strength tests in a clear and organized format.</div> <div>3.2 Transcribe visual inspection observations and measurements into a pre-defined checklist without errors.</div> <div>3.3 Use appropriate units of measurement and correct terminology when documenting test data.</div>

- 3.4 Ensure all recorded data is traceable to the specific material batch, location, and test date.
- 4. **Identify and report non-conformance issues using standard documentation procedures.**
  - 4.1 Identify a non-conformance scenario from a given set of inspection findings (e.g., concrete strength failing to meet the minimum requirement).
  - 4.2 Complete a Non-Conformance Report (NCR) for a non-conforming issue, including a clear description of the problem, its location, and the reference standard.
  - 4.3 Describe the process for issuing, tracking, and closing out an NCR.
  - 4.4 Explain the difference between a minor and a major non-conformance and the appropriate action for each.
- 5. **Communicate quality-related findings effectively with site engineers, contractors, and supervisors**
  - 5.1 Summarize key findings from a daily quality report in a clear and concise email to a site engineer.
  - 5.2 Verbally present a non-conformance issue to a supervisor, clearly explaining the problem and its potential impact.
  - 5.3 Explain the importance of timely and accurate communication of test results to relevant stakeholders.
  - 5.4 Participate in a simulated toolbox talk to discuss a common quality issue and the preventive measures.
  - 5.5 Draft a brief memo detailing a corrective action plan for a non-conformance issue.

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