ICTQual AB

Qualification Specification

ICTQual AB Level 3 Diploma in Quality Control Civil

Website
www.ictqualab.co.uk

Email:
support@ictqualab.co.uk

ICTQual AB's

Level 3 Diploma in Quality Control Civil

Contents

Qualification Specification about

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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

The ICTQual AB Level 3 Diploma in Quality Control – Civil is a comprehensive vocational qualification designed to equip learners with the essential technical knowledge, practical skills, and analytical abilities required for effective quality control in the civil construction industry. The programme is aligned with internationally recognised occupational standards and industry expectations, promoting a structured approach to quality assurance and site compliance. The diploma integrates principles of material testing, site inspection, documentation protocols, and safety standards across various phases of civil engineering works. Emphasis is placed on the understanding and implementation of quality benchmarks, standard operating procedures, and inspection techniques necessary to maintain the integrity and durability of civil infrastructure. Learners will engage in the identification of defects, interpretation of engineering drawings and specifications, analysis of test results, and preparation of detailed inspection reports. The qualification is developed to promote technical competence, professional judgement, and a proactive approach to quality management within construction environments.

Course Aim:

The primary aim of this qualification is to develop competent quality control technicians who can contribute effectively to the quality assurance processes in civil engineering works. It enables learners to gain technical expertise in site supervision, material compliance, inspection methodologies, and documentation systems, ensuring that construction activities meet required standards and regulatory requirements.

The programme encourages a disciplined and analytical mindset, fostering the ability to detect and resolve quality-related issues in a timely and efficient manner. It prepares learners for real-world applications by promoting familiarity with tools, testing procedures, and quality control instruments used in modern construction practices.

For Whom This Course is For:

- Individuals seeking to begin or enhance their careers as Quality Control Technicians, Site Inspectors, or Civil Engineering Assistants in the construction sector.
- Technicians and field professionals wishing to validate their experience with a formal qualification focused on civil quality control.
- Learners aiming to transition from general construction roles to quality-focused responsibilities within civil engineering projects.
- School leavers or diploma holders in technical or construction fields who want to specialise in quality control processes.
- Employees from civil works departments or contractors seeking structured learning in quality assurance and site compliance.

This qualification provides a clear progression pathway to higher-level technical or supervisory roles within quality management and civil engineering disciplines.

Certification Framework

Qualification title	**ICTQual AB Level 3 Diploma in Quality Control Civil**
Course ID	QC0006
Grading Type	Pass / Fail
Competency Evaluation	Coursework / Assignments / Verifiable Experience
Assessment	The assessment and verification process for ICTQual AB's qualifications involves two key stages: **Internal Assessment and Verification:** ✓ Conducted by the staff at the Approved Training Centre (ATC) to ensure learners meet the required standards through continuous assessments. ✓ Internal Quality Assurance (IQA) is carried out by the centre's IQA staff to validate the assessment process. **External Quality Assurance:** ✓ Managed by ICTQual AB's verifiers, who periodically review the centre's assessment and IQA processes. Verifies that assessments are conducted to the required standards and ensures consistency across centres

Entry Requirements

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

- ✓ **Minimum Age:** Learners must be at least 18 years old at the time of enrolment.
- ✓ **Educational Background:** A minimum of a Level 2 qualification (or equivalent) in civil engineering, construction, or a related technical field is recommended.
- ✓ **Experience:** While not mandatory, it is beneficial for learners to have prior experience in construction, site supervision, or quality control practices to support their understanding of course content.

Qualification Structure

This qualification comprises 6 mandatory units. Candidates must successfully complete all mandatory units to achieve the qualification.

Mandatory Units	
Unit Ref#	**Unit Title**
QC0006-01	Introduction to Quality Management Systems in Construction
QC0006-02	Civil Engineering Materials Testing and Evaluation
QC0006-03	Structural and Non-Structural Inspection Methods
QC0006-04	Site Quality Auditing and Compliance Monitoring
QC0006-05	Interpretation of Engineering Drawings and Specifications
QC0006-06	Non-Conformance, Corrective Actions and Quality Reporting

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 a minimum Level 5 qualification (such as a Higher National Diploma or equivalent) in Civil Engineering, Construction Management, or a closely related discipline.
- ✓ **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

QC0006-01-Introduction to Quality Management Systems in Construction

This unit introduces learners to the basic concepts of quality management within the construction industry. It explains why quality is important on site and how it affects safety, cost, and client satisfaction. Learners will explore common quality standards used in construction, such as ISO 9001, and learn how to apply them in real construction settings. The unit also covers the structure of a quality management system (QMS), the responsibilities of different team members, and how quality plans are used to control processes and prevent mistakes.

Learning Outcome:	Assessment Criteria:
1. Understand the principles and objectives of quality management systems within civil engineering projects.	1.1 Describe the fundamental principles of a Quality Management System (QMS), such as customer focus, leadership, and continuous improvement, providing examples of each. 1.2 Explain the primary objectives of implementing a QMS on a civil engineering project, including improving project efficiency, reducing risks, and enhancing stakeholder satisfaction. 1.3 Identify the key stakeholders involved in a QMS and describe their responsibilities in maintaining quality standards throughout a project's lifecycle.
2. Identify key components of construction quality assurance and control frameworks.	2.1 List and describe the essential components of a Quality Assurance (QA) framework, such as quality policies, procedures, and audits. 2.2 Identify the core elements of a Quality Control (QC) framework, including material testing, inspections, and monitoring of work in progress. 2.3 Explain the function of a Project Quality Plan (PQP) and its relationship to the overall QA/QC framework. 2.4 Outline the process for developing and implementing a quality checklist for a specific construction activity. 2.5 Describe the importance of a document control system within a quality framework, specifying the types of documents that need to be controlled.
3. Apply basic quality procedures and documentation used on construction sites.	3.1 Complete a simple inspection checklist for a given construction task, such as formwork installation or concrete pouring, correctly identifying key checkpoints. 3.2 Fill out a non-conformance report (NCR) for a simulated or actual quality issue, providing all necessary details like the nature of the issue, location, and proposed action. 3.3 Use a construction drawing or specification to verify that a completed task meets the required standards. 3.4 Demonstrate the correct procedure for requesting an inspection or a hold point release from the quality

	team.
4. Recognise the role of quality standards and regulations in ensuring compliance and safety.	4.1 Identify at least two relevant national or international quality standards (e.g., ISO 9001) and explain their significance in the construction industry. 4.2 Explain how local building codes and regulations influence quality requirements on a construction project. 4.3 Describe the relationship between quality standards and site safety protocols. 4.4 Discuss the potential consequences of non-compliance with quality standards and regulations, including legal and financial repercussions.

QC0006-02-Civil Engineering Materials Testing and Evaluation

In this unit, learners will gain knowledge and skills related to testing construction materials such as soil, concrete, asphalt, steel, and aggregates. The unit covers both field and laboratory testing methods to check if materials meet required standards. Learners will explore how to carry out basic tests, record results, and evaluate the strength, durability, and suitability of materials used in civil works. Safety procedures during testing and proper handling of equipment are also included in this unit.

Learning Outcome:	Assessment Criteria:
1. **Describe the properties and specifications of commonly used civil engineering materials.**	1.1 Define key properties of concrete, such as compressive strength, workability, and durability, and explain their importance in construction. 1.2 Describe the different types and properties of aggregates (coarse and fine), and their role in concrete and asphalt mixes. 1.3 Identify the main grades and specifications of steel reinforcement bars, explaining how they are distinguished. 1.4 Explain the properties of common construction soils and their implications for foundation design and earthworks.
2. **Conduct basic tests on construction materials such as concrete, aggregates, and steel.** .	2.1 Outline the step-by-step procedure for a concrete slump test, including the equipment required and safety precautions. 2.2 Describe the process for taking and preparing concrete compressive strength test samples (cubes or cylinders). 2.3 Explain the method for conducting a sieve analysis on aggregates to determine particle size distribution. 2.4 Describe a visual inspection process for steel reinforcement to check for rust, bending, or correct diameter.
3. **Interpret material test results to assess compliance with technical standards.**	3.1 Analyse a set of concrete compressive strength test results and determine if they meet the specified characteristic strength. 3.2 Review a sieve analysis report for aggregates and evaluate whether the grading falls within the specified limits. 3.3 Make a material data sheet for a specific product (e.g., cement or rebar) to identify its key properties and compliance with a standard. 3.4 State the actions to be taken if a material test result indicates a failure to comply with specifications.

4. Understand the implications of substandard materials on construction quality and performance.

4.1 Explain the potential structural failure risks associated with using concrete with inadequate compressive strength.
4.2 Discuss how the use of contaminated or improperly graded aggregates can affect the durability and performance of a concrete structure.
4.3 Describe the long-term consequences of using substandard steel reinforcement, such as corrosion and reduced load-bearing capacity.
4.4 Provide an example of how a quality issue with a material at an early stage of construction could lead to significant and costly problems later on.

QC0006-03- Structural and Non-Structural Inspection Methods

This unit helps learners understand how to inspect both structural elements (like beams, columns, and foundations) and non-structural elements (like finishes, joints, and insulation). Learners will learn different inspection techniques used during various stages of construction, including visual inspections, measurements, and the use of tools and instruments. The unit will also explain how to recognise common defects and what actions to take if quality does not meet the required standard.

Learning Outcome:	Assessment Criteria:
1. Distinguish between structural and non-structural components in civil projects.	1.1 Define structural components and provide three examples from a typical building or bridge project. 1.2 Define non-structural components and provide three examples from a typical building or bridge project. 1.3 Explain the primary difference in function and importance between a structural and a non-structural element. 1.4 Classify a given list of components (e.g., beams, partitions, foundations, window frames) as either structural or non-structural.
2. Apply basic inspection techniques to assess the integrity of civil works.	2.1 Describe the correct procedure for a visual inspection of a completed concrete slab, including what to look for (e.g., honeycombing, cracking). 2.2 Explain how to use basic tools, such as a tape measure or a spirit level, to check for dimensional accuracy and plumbness. 2.3 Outline the process for inspecting the installation of steel reinforcement before concrete is poured, focusing on spacing, cover, and cleanliness. 2.4 Describe the method for a systematic inspection of a masonry wall to check for alignment and mortar joint quality.
3. Identify defects and irregularities during visual and technical inspections.	3.1 Identify and describe common defects in concrete works, such as cold joints, segregation, or surface blemishes. 3.2 Recognise and explain irregularities in steel reinforcement installation, such as incorrect lap length or insufficient concrete cover. 3.3 Identify typical defects in masonry construction, including poor bond, incorrect mortar mix, and out-of-plumb walls. 3.4 Differentiate between a minor defect that can be accepted with a minor repair and a major defect requiring a non-conformance report.

4. **Record inspection findings accurately and report issues for corrective measures.**

4.1 Accurately complete an inspection checklist, documenting both compliant and non-compliant items with clear descriptions.
4.2 Draft a simple inspection report for a simulated site inspection, including a summary of findings and a clear conclusion.
4.3 Explain the process for escalating a major inspection finding to the project management or quality team.
4.4 Describe the essential information that must be included in a non-conformance report (NCR) to ensure effective follow-up and corrective action.
4.5 Identify who is responsible for verifying that corrective actions have been implemented and are effective.

QC0006-04- Site Quality Auditing and Compliance Monitoring

This unit focuses on the process of auditing construction sites to check for quality compliance. Learners will study how to plan and carry out a site audit, gather evidence, and report findings. The unit also introduces methods to monitor site activities, ensure they follow the approved plans, and confirm that materials, equipment, and workmanship meet specified standards. Learners will gain confidence in identifying areas for improvement and helping sites meet legal and quality requirements.

Learning Outcome:	Assessment Criteria:
1. Understand the process and purpose of site quality audits in civil construction.	1.1 Define a quality audit and explain its primary purpose in a construction environment. 1.2 Differentiate between an internal audit and an external audit, specifying the objectives of each. 1.3 Describe the typical stages of a quality audit, from planning to reporting and follow-up. 1.4 Explain the benefits of conducting regular site quality audits, such as identifying potential risks and promoting a culture of quality.
2. Participate in the planning and execution of internal and external audits.	2.1 Assist in the preparation of an audit checklist for a specific construction activity, ensuring all relevant quality standards and specifications are included. 2.2 Demonstrate professional conduct and effective communication during a mock audit interview. 2.3 Record objective evidence (e.g., photos, documents) to support audit findings. 2.4 Participate in a debriefing session after an audit, contributing to the discussion of findings.
3. Monitor site activities to ensure alignment with quality plans and specifications.	3.1 Observe a construction activity and compare it against the requirements of the Project Quality Plan (PQP) and relevant specifications. 3.2 Use a provided checklist to systematically monitor the progress and quality of a specific task. 3.3 Explain the role of a hold point in a construction sequence and describe the procedure for monitoring and clearing it. 3.4 Describe the actions to take when a deviation from the quality plan is observed during monitoring.
4. Identify areas of non-compliance and recommend corrective actions.	4.1 Identify a non-compliance issue from a provided scenario, clearly stating the specific requirement that has not been met. 4.2 Propose a realistic and effective corrective action to resolve a specific non-compliance issue. 4.3 Draft a clear and concise audit finding report that includes the non-compliance, supporting evidence, and a recommended corrective action.

4.4 Explain the difference between a corrective action and a preventive action.

QC0006-05-Interpretation of Engineering Drawings and Specifications

This unit teaches learners how to read and understand engineering drawings and technical specifications used in civil construction. It explains different types of drawings (like plans, elevations, and sections) and the symbols, dimensions, and notations used. Learners will also explore how to match the information on drawings with actual site work and how to check whether the work being done follows the design and specifications correctly. Attention to detail and accuracy are key parts of this unit.

Learning Outcome:	Assessment Criteria:
1. Read and interpret civil engineering drawings, symbols, and specifications.	1.1 Correctly identify and interpret common symbols used in civil engineering drawings, such as those for concrete, steel, and services. 1.2 Extract key information from a drawing, such as dimensions, material types, and grid lines. 1.3 Explain the purpose and content of different types of drawings, such as architectural, structural, and services drawings. 1.4 Read a technical specification document and identify the quality requirements for a specific material or component.
2. Relate drawings to actual site conditions and construction sequences.	2.1 Use a drawing to locate a specific structural element on a site plan. 2.2 Compare the dimensions and positions of a constructed element on-site with those shown on the engineering drawing. 2.3 Explain how drawings are used to guide the sequence of construction activities. 2.4 Identify a potential conflict between a drawing and the actual site conditions (e.g., an obstruction or a change in ground level).
3. Identify potential discrepancies or ambiguities in project documentation.	3.1 Review a set of drawings and specifications and identify a contradiction between two different documents. 3.2 Highlight a missing dimension or a lack of detail on a drawing that could lead to a quality issue. 3.3 Propose a question for the design team or engineer to clarify a potential ambiguity in the project documentation. 3.4 Explain the process for formally documenting and communicating a Request for Information (RFI) to address a discrepancy.

4. Use drawings to verify on-site construction quality and dimensional accuracy.

4.1 Use a measuring tape and a set square to check the dimensions and angles of a constructed element against the drawings.

4.2 Verify the correct placement and spacing of steel reinforcement based on a provided reinforcement detail drawing.

4.3 Compare the final finish and material of a constructed element to the requirements specified in the project documentation.

4.4 Record any observed deviations from the drawings, detailing the location, nature of the discrepancy, and the reference drawing.

C0006-06-Non-Conformance, Corrective Actions and Quality Reporting

In this unit, learners will learn what to do when construction work or materials do not meet required quality standards (non-conformance). The unit explains how to identify non-conforming items, report them properly, and take the right corrective actions to fix the issue. Learners will practise writing clear quality reports that include observations, test results, and actions taken. The aim is to help learners maintain high standards on site through good communication and careful documentation.

Learning Outcome:	Assessment Criteria:
1. Define non-conformance and understand its impact on project quality.	1.1 Provide a clear and concise definition of non-conformance in the context of a construction project. 1.2 Describe differences between a non-conformance, a minor defect, and an observation, providing examples of each. 1.3 Describe the potential safety, financial, and reputational impacts of a significant non-conformance on a construction project. 1.4 Explain the importance of a systematic approach to non-conformance management.
2. Accurately document instances of non-compliance during construction activities.	2.1 Complete a non-conformance report (NCR) with all required information, including a unique reference number, clear description of the issue, and the specific clause or drawing it violates. 2.2 Provide objective evidence (e.g., photographs, test results, a copy of the drawing) to support the details of the non-conformance. 2.3 Identify the responsible party (e.g., contractor, subcontractor) for the non-conformance and document it on the report. 2.4 Ensure that the non-conformance report is distributed to the correct stakeholders.
3. Assist in the development and implementation of corrective action plans.	3.1 Propose a range of potential corrective actions for a given non-conformance. 3.2 Explain the difference between a corrective action (fixing the specific problem) and a root cause analysis (preventing it from happening again). 3.3 Draft a simple action plan for a non-conformance, including a timeline, responsible parties, and a method for verification. 3.4 Describe the role of a quality controller in monitoring the implementation of a corrective action.

4. **Prepare structured quality control reports for project records and decision-making.**

4.1 Compile and summarise daily or weekly quality inspection findings into a concise report.
4.2 Present a quality report that clearly outlines the number of non-conformances raised and closed during a specific period.
4.3 Explain the purpose and content of a quality dashboard or a project quality summary report.
4.4 Discuss how quality reports are used by different project stakeholders (e.g., project manager, client, quality manager) for decision-making.

ICTQual AB

Yew Tree Avenue, Dagenham,

London East, United Kingdom RM10 7FN

+447441398083

Support@ictqualab.co.uk|www.ictqualab.co.uk

VisitOfficialWebpage