

ICTQual AB



Qualification Specification

ICTQual AB Level 3 Certificate in Quality Control Electrical



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ICTQual AB's

Level 3 Certificate in Quality Control Electrical

Contents

ICTQual AB Level 3 Certificate in Quality Control Electrical 1

About ICTQual AB's..... 2

Course Overview.....2

Certification Framework.....4

Entry Requirements.....4

Qualification Structure5

Centre Requirements 2

Support for Candidates7

Assessment7

Unit Descriptors8 to 13

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 Level 3 Certificate in Quality Control – Electrical provides learners with a comprehensive understanding of quality control principles and inspection techniques specifically applied to electrical systems within the construction, manufacturing, and industrial sectors. The programme is designed around industry standards and practical objectives that prepare individuals to undertake quality control responsibilities with a focus on precision, compliance, and performance assurance. Learners will explore the fundamentals of electrical quality assurance, understand quality planning processes, perform electrical inspections, and apply documentation and reporting techniques in accordance with recognised quality and safety requirements. The programme promotes a systems-based approach to quality control, ensuring participants are equipped to maintain reliability, reduce defects, and improve efficiency in electrical works. The qualification aligns with international best practices in quality control, ensuring learners are able to identify non-conformities, conduct root cause analyses, and support continuous improvement efforts. Emphasis is placed on real-world application, risk management, safety integration, and professional standards expected in electrical quality control roles.

Course Aim

The aim of this course is to equip learners with the essential knowledge, skills, and competencies required to implement and maintain effective quality control measures within electrical installations and systems. It focuses on fostering the ability to assess electrical works against set specifications, regulatory requirements, and safety standards, while ensuring documentation and inspection protocols are consistently upheld.

Target Audience:

This qualification is intended for:

- Individuals aspiring to start a career in electrical quality control and inspection
- Electrical technicians or supervisors seeking to enhance their understanding of quality assurance practices
- Skilled workers transitioning into quality control roles within electrical or industrial settings
- Professionals in the construction, maintenance, or utilities sectors responsible for compliance, inspection, or quality monitoring of electrical work
- Learners aiming to formalise their practical experience with a recognised technical standard of competence

This course serves as a foundational standard for those aiming to demonstrate their ability to uphold electrical quality assurance in line with modern industry expectations.

Certification Framework

Qualification title	ICTQual AB Level 3 Certificate in Quality Control Electrical
Course ID	QC0008
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>Internal Assessment and Verification:</p> <ul style="list-style-type: none">✓ 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. <p>External Quality Assurance:</p> <ul style="list-style-type: none">✓ Managed by ICTQual AB's verifiers, who periodically review the centre's assessment and IQA processes. <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 Electrical, learners must meet the following requirements:

- **Minimum Age Requirement**

Learners must be at least 18 years of age at the time of enrolment. This ensures maturity and readiness for the technical demands of the course.

- **Educational Background**

A minimum of a Level 2 qualification (or equivalent) in electrical engineering, electronics, or a related technical field is recommended. Learners should also possess sound literacy and numeracy skills to effectively interpret technical documents and complete written assessments.

- **Work Experience**

While prior experience is not mandatory, it is highly beneficial. Learners with at least 1 year of practical experience in electrical installations, quality control, inspection, or maintenance roles will gain the most from the course content and practical applications.

These entry requirements are designed to ensure that learners have the foundational knowledge and skills necessary to engage with the course effectively and apply quality control principles within real-world electrical environments.

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
QC0008-01	Principles of Electrical Quality Control and Inspection
QC0008-02	Electrical Testing Procedures and Equipment Calibration
QC0008-03	Compliance with Electrical Safety Standards and Regulations

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 recognised teaching or assessing qualification (e.g., Level 3 or higher in Teaching/Assessing) and have relevant industry experience in electrical quality control.
- ✓ **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

QC0008-01- Principles of Electrical Quality Control and Inspection

This unit helps learners understand the basic ideas behind quality control in electrical work. It explains why quality control is important and how it helps reduce faults and improve safety in electrical systems. Learners will study the roles and duties of quality control staff, and how inspections are planned and carried out. The unit introduces quality standards, inspection checklists, and ways to spot and record problems in electrical installations. Learners will also learn how to check if electrical work meets the required standards, and how to work with other professionals to ensure high-quality results.

Learning Outcome:	Assessment Criteria:
1. Understand the core concepts and objectives of electrical quality control.	<div>1.1 Define key terms related to quality control, including quality assurance, quality management, and inspection.</div> <div>1.2 Explain the primary objectives of electrical quality control, such as ensuring safety, reliability, and functionality.</div> <div>1.3 Describe the relationship between quality control and the overall project lifecycle.</div> <div>1.4 Identify the various stakeholders involved in the quality control process and their respective roles.</div>
2. Identify common defects and non-conformities in electrical systems.	<div>2.1 Classify and provide examples of common electrical defects, such as incorrect wiring, loose connections, and component damage.</div> <div>2.2 Identify non-conformities by comparing an installation to technical drawings and specifications.</div> <div>2.3 Use an inspection checklist to systematically identify and document defects.</div> <div>2.4 Describe the potential consequences of common defects on system performance and safety.</div>
3. Apply inspection methods to assess the quality of electrical installations.	<div>3.1 Select and justify appropriate inspection methods for different electrical components.</div> <div>3.2 Perform a visual inspection of an electrical installation, identifying potential issues.</div> <div>3.3 Use simple measurement tools (e.g., tape measure, spirit level) to verify installation quality.</div> <div>3.4 Accurately document observations and findings from a physical inspection.</div> <div>3.5 Follow a defined inspection procedure to ensure consistency.</div>

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| 4. Interpret quality control documentation and reports. | <ul style="list-style-type: none">4.1 Read and accurately interpret technical drawings and wiring diagrams.4.2 Analyse quality control reports to identify trends in non-conformities.4.3 Interpret the symbols and terminology used in a quality control report.4.4 Extract key information from a test certificate or installation log. |
| 5. Recognise the role of quality control in maintaining system reliability and safety. | <ul style="list-style-type: none">5.1 Explain how consistent quality control practices prevent premature component failure.5.2 Describe how quality control directly contributes to the prevention of electrical hazards.5.3 Identify specific safety risks that are mitigated through effective quality control.5.4 Outline the legal and financial consequences of failing to maintain system reliability and safety. |

QC0008-02- Electrical Testing Procedures and Equipment Calibration

In this unit, learners will explore how to safely and correctly test electrical systems and components. It covers different types of electrical tests such as insulation resistance, continuity, polarity, and earth loop impedance tests. Learners will understand how to choose the right test equipment, follow test procedures, and record results. The unit also focuses on calibration—making sure that test equipment gives correct readings. Learners will understand why regular calibration is important and how to follow equipment maintenance schedules to keep testing tools reliable.

Learning Outcome:	Assessment Criteria:
1. Learn standard procedures for testing electrical components and systems	<div>1.1 Follow a test plan for common electrical systems.</div> <div>1.2 Describe the steps required to perform a continuity test on a circuit.</div> <div>1.3 Explain the purpose and procedure of an insulation resistance test.</div> <div>1.4 Identify the correct test points for a given electrical component.</div> <div>1.5 Apply the correct sequence of tests for an installation.</div>
2. Operate electrical testing equipment in accordance with safety guidelines	<div>2.1 Perform pre-use safety checks on electrical testing equipment.</div> <div>2.2 Demonstrate the correct use of Personal Protective Equipment (PPE) during testing.</div> <div>2.3 Follow manufacturer's instructions for the safe operation of a multimeter and insulation resistance tester.</div> <div>2.4 Identify and respond to a hazardous situation during testing.</div>
3. Calibrate testing instruments to ensure accuracy and compliance	<div>3.1 Explain the purpose of calibrating electrical testing equipment.</div> <div>3.2 Interpret a calibration certificate to verify the validity of a testing instrument.</div> <div>3.3 Describe the process for arranging instrument calibration.</div> <div>3.4 Identify when an instrument is due for re-calibration.</div>
4. Record and analyse test results for quality assurance	<div>4.1 Accurately record test results on a specified form.</div> <div>4.2 Compare recorded test results against established specifications and standards.</div> <div>4.3 Identify test results that fall outside of acceptable tolerances.</div>

- 4.4 Prepare a summary of test results for a quality control report.
 - 4.5 Identify simple trends in a series of test results.
- 5. Detect performance deviations through systematic testing
 - 5.1 Identify performance deviations by comparing test results to expected values.
 - 5.2 Use a process of elimination to troubleshoot a detected deviation.
 - 5.3 Propose a potential root cause for a performance deviation.
 - 5.4 Follow a reporting procedure to escalate a detected deviation to the appropriate personnel.

QC0008-03- Compliance with Electrical Safety Standards and Regulations

This unit teaches learners how to follow national and international safety rules for electrical systems. It explains the laws and regulations that must be followed during electrical installation, testing, and inspection. Learners will understand the importance of health and safety practices, including the use of PPE, lock-out/tag-out procedures, and safe working zones. The unit also covers how to check that electrical work meets legal and safety standards, and how to report unsafe conditions. Learners will learn to identify risks and ensure electrical work is safe and compliant.

Learning Outcome:	Assessment Criteria:
1. Understand national and international electrical safety regulations	<div>1.1 Identify key national electrical safety regulations relevant to their work.</div> <div>1.2 Explain the purpose of a specific electrical safety standard (e.g., a specific IEC standard).</div> <div>1.3 Differentiate between a voluntary standard and a mandatory regulation.</div> <div>1.4 Locate specific sections within a regulatory document to find a required practice.</div>
2. Identify legal and regulatory requirements for electrical quality control	<div>2.1 Explain the legal duty of care for an electrical quality control professional.</div> <div>2.2 Describe the regulatory requirements for maintaining quality control records.</div> <div>2.3 Identify the legal consequences of non-compliance with electrical safety regulations.</div> <div>2.4 Specify the documentation required to demonstrate regulatory compliance.</div> <div>2.5 Identify their responsibilities under health and safety legislation.</div>
3. Ensure workplace practices align with current safety standards	<div>3.1 Apply safe work practices, such as Lock-Out, Tag-Out (LOTO), during inspection.</div> <div>3.2 Verify that the work area and equipment are safe before beginning an inspection.</div> <div>3.3 Identify and report unsafe conditions or practices to a supervisor.</div> <div>3.4 Accurately use and maintain safety equipment.</div>

4. Recognise the importance of documentation in demonstrating compliance

- 4.1 Maintain traceable records of inspections, tests, and corrective actions.
- 4.2 Ensure documents reflect accurate status of equipment and system safety.
- 4.3 Review and approve quality reports against documentation standards.
- 4.4 Store documentation securely in line with legal retention periods.

5. Promote a safety-first culture within quality control processes

- 5.1 Deliver toolbox talks or briefings to raise safety awareness during inspections.
- 5.2 Encourage reporting of unsafe practices through open communication.
- 5.3 Lead by example in applying safe procedures and promoting vigilance.
- 5.4 Support continuous improvement in safety performance through data review.

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