



QualCert Level 3 Diploma in Quality Control (QC) Electrical

Version 1.0 September 2024

QualCert Qualification number: QC100009

Qualification Specification

Table of Contents

About QualCert	3
Course Overview	4
Qualification Framework.....	6
Assessment Processes	6
Entry Requirements	6
Qualification Structure.....	7
Centre Requirements.....	8
Support for Candidate	9
Assessments Requirements.....	9
Units – Learning Outcomes & Assessment Criteria	11
Unit 01 – Electrical Quality Inspection Techniques.....	11
Unit 02 – Testing and Commissioning Procedures	13
Unit 03 – UK Electrical Wiring Standards Application.....	16
Unit 04 – Risk Identification in Electrical Installations.....	18
Unit 05 – Quality Documentation and Compliance Reporting.....	20
Unit 06 – Electrical Fault Analysis and Troubleshooting	22

About QualCert

QualCert is a globally recognized awarding body based in the United Kingdom, renowned for its commitment to excellence in Quality Assurance (QA) and Quality Control (QC) education and training. Specializing in delivering high-quality qualifications, QualCert addresses the evolving needs of international learners, professionals, and industries seeking expertise in QA and QC.

Dedicated to fostering innovative and flexible learning pathways, QualCert provides learners with the skills, knowledge, and practical competencies required to excel in dynamic quality-focused professional environments. The organization adheres to international qualification frameworks and standards, ensuring its certifications are globally recognized and highly applicable across diverse sectors.

The vision of QualCert is to establish itself as a global benchmark in quality education and skills development within Quality Assurance and Quality Control. Its mission is to equip individuals and organizations with internationally recognized qualifications that enhance employability, professional productivity, and career progression in QA/QC disciplines.

Course Overview

The **QualCert Level 3 Diploma in Quality Control (QC) Electrical** is designed to provide learners with the knowledge and practical skills required to perform quality control activities in electrical installation and construction projects. The qualification develops competence in electrical inspection, testing, commissioning, quality documentation, fault identification, and compliance with UK electrical standards and health and safety requirements. Learners will gain the ability to support quality assurance processes, identify non-conformities, and contribute to the delivery of safe, reliable, and compliant electrical installations across residential, commercial, and industrial environments.

Aims

The qualification aims to:

- Develop learners' understanding of quality control principles used in electrical installation and construction.
- Build practical skills in electrical inspection, testing, commissioning, and fault identification.
- Promote compliance with UK electrical regulations, industry standards, and health and safety requirements.
- Develop competence in maintaining accurate quality documentation and reporting inspection outcomes.
- Prepare learners for quality control responsibilities within electrical installation, maintenance, and construction projects.

Learning Objectives

On successful completion of this qualification, learners will be able to:

- Explain quality control principles and inspection techniques used in electrical installations.
- Apply electrical testing and commissioning procedures to verify system performance and compliance.
- Interpret and apply relevant UK electrical wiring regulations during quality control activities.
- Identify electrical hazards, assess installation risks, and support safe working practices.
- Complete quality documentation and compliance reports accurately using standard industry procedures.

- Analyse common electrical faults and apply structured troubleshooting techniques to support quality improvement.

Targeted Audience

This qualification is suitable for:

- Individuals seeking a career in electrical quality control, inspection, or testing.
- Electrical installers and technicians wishing to develop quality assurance and compliance skills.
- Construction personnel involved in electrical installation and inspection activities.
- Supervisors and team leaders responsible for monitoring the quality of electrical work.
- Learners progressing from a Level 2 qualification in electrical installation or quality control who wish to develop higher-level technical knowledge and practical competence.

Qualification Framework

Qualification Title	QualCert Level 3 Diploma in Quality Control (QC) Electrical
Qualification Duration	4 to 6 Months
Grading Type	Pass / Fail
Competency Evaluation	Coursework / Assignments / Evidence Based

Assessment Processes

Stage	Details
Internal Assessment and Verification	- Conducted by staff at the Approved Training Centre (ATC) to ensure qualification standards are met. - Internal Quality Assurance (IQA) by designated centre staff to maintain assessment integrity.
External Quality Assurance	- Overseen by QualCert verifiers who periodically review assessment and IQA procedures. - Ensures adherence to standards and consistency across all ATCs.

Entry Requirements

To enroll in the QualCert Level 3 Diploma in Quality Control (QC) Electrical, following are requirement:

1. **Age Requirement:**

Candidates must be 18+ years of age or older at the time of enrollment.

2. **Educational Background:**

Level 2 qualification or equivalent

3. **English Language Proficiency:**

The course is delivered in English. Candidates should have basic to intermediate proficiency in reading, writing, and speaking English.

Qualification Structure

The QualCert Level 3 Diploma in Quality Control (QC) Electrical comprises 60 credits, with a Total Qualification Time (TQT) of 300 hours, including 210 Guided Learning Hours (GLH).

Mandatory Units				
Unit Ref No	Unit Name	Credits	GLH	TQT
QC100009-1	Electrical Quality Inspection Techniques	10	35	50
QC100009-2	Testing and Commissioning Procedures	10	35	50
QC100009-3	UK Electrical Wiring Standards Application	10	35	50
QC100009-4	Risk Identification in Electrical Installations	10	35	50
QC100009-5	Quality Documentation and Compliance Reporting	10	35	50
QC100009-6	Electrical Fault Analysis and Troubleshooting	10	35	50

Centre Requirements

Centres delivering the QualCert Level 3 Diploma in Quality Control (QC) Electrical must uphold high standards to ensure quality learning, assessment integrity, and successful learner outcomes. Centres are required to provide qualified staff, appropriate facilities, and access to the necessary resources to deliver advanced pharmaceutical training. Meeting these requirements ensures learners receive a professional, engaging, and internationally recognised educational experience.

Qualified and Competent Teaching Staff

- Employ instructors with advanced qualifications and professional experience in pharmaceutical technology, quality assurance, or related fields
- Ensure staff maintain up-to-date knowledge of manufacturing practices, regulatory standards, and quality systems
- Provide ongoing professional development and training to teaching staff to maintain excellence in delivery

Adequate Learning Facilities and Resources

- Provide modern classrooms, laboratories, or online learning platforms to support interactive and practical learning
- Ensure access to up-to-date pharmaceutical reference materials, case studies, and digital tools
- Maintain safe and inclusive environments suitable for laboratory work, research, and practical exercises

Robust Assessment and Quality Assurance Systems

- Implement clear and consistent assessment policies aligned with qualification standards
- Maintain internal quality assurance processes to monitor teaching, assessment, and learner performance
- Regularly review assessment methods to ensure relevance and alignment with industry best practices

Comprehensive Learner Support

- Provide academic guidance, technical assistance, and pastoral care to support learner success
- Ensure accessibility for learners with disabilities or specific learning needs through reasonable adjustments

- Maintain effective communication channels for feedback, queries, and learner support

Compliance with Regulatory, Health, and Safety Standards

- Adhere to legal, ethical, and health and safety regulations in all teaching and practical activities
- Keep accurate learner records, attendance, and assessment documentation
- Follow data protection and confidentiality protocols to safeguard learner information

Support for Candidate

Supporting Materials for Candidates

- Enable tracking of learners' progress toward achieving specified learning outcomes and assessment criteria.
- Provide clear guidance on accessing QualCert policies and procedures.
- Establish robust mechanisms for Internal and External Quality Assurance personnel to verify and authenticate evidence efficiently.

Assessments Requirements

This qualification consists of 6 mandatory assignments designed to assess the learner's understanding and practical application of the required skills and knowledge. The key elements of the assessment framework include:

- **Comprehensive Assignment Structure:**
The assignments are designed to cover a range of topics within the qualification, ensuring that learners demonstrate their competence across all essential areas.
- **Pass Requirement:**
Learners must successfully complete all 6 assignments to meet the requirements for certification. Each assignment must meet the specified criteria and demonstrate sufficient understanding and application of the subject matter.
- **Assessment Process:**
Each assignment is reviewed and marked by a qualified assessor, with feedback provided to support learner development.
- **Final Completion Criteria:**
The successful completion of all assignments is necessary for certification. Only

learners who meet the required standards across all assignments will be awarded the qualification.

Quality Assurance & Verification:

QualCert applies a rigorous, multi-layered quality assurance system to ensure the reliability, consistency, and integrity of all assessments and results.

1. Internal Quality Assurance (IQA)

Conducted by the approved training centre:

- **Assignment Evaluation:**
Centre-approved Assessors and Internal Quality Assurers (IQAs) review the assignments to ensure they meet the assessment criteria and learning outcomes.
- **Standardisation:**
Regular standardisation sessions are held to maintain consistency in assessment and marking practices across all centre staff.
- **Feedback & Support:**
IQAs ensure that learners receive constructive feedback to aid their progress and improve future submissions.

2. External Quality Assurance (EQA)

Conducted by QualCert:

- **Independent Verification:**
QualCert's External Quality Assurers (EQAs) verify the completed assignments and assess the quality and fairness of the marking process.
- **Centre Audits:**
EQAs audit the centre's compliance with QualCert's quality assurance standards, reviewing assessment practices, learner records, and overall delivery.
- **Final Certification:**
After satisfying the EQA's verification process, QualCert will officially issue the certification to the learner.

Units – Learning Outcomes & Assessment Criteria

Unit 01 – Electrical Quality Inspection Techniques

Learning outcome

The learner will:

Assessment criterion

The learner can:

01. Explain the principles and purpose of quality inspections in electrical installation work.

1.1 Analyse the purpose of quality inspections within electrical installation and construction activities.
1.2 Evaluate the key principles that underpin effective electrical quality inspection.
1.3 Justify the benefits of carrying out quality inspections at different stages of installation work.
1.4 Analyse how quality inspections contribute to achieving compliance with quality and regulatory requirements.
1.5 Evaluate the roles and responsibilities of personnel involved in electrical quality inspections.

02. Identify suitable inspection methods and techniques for different electrical installations.

2.1 Compare inspection methods appropriate to different types of electrical installation.
2.2 Justify the selection of inspection techniques for specific installation activities and contexts.
2.3 Evaluate the suitability of inspection tools and equipment for a range of electrical quality checks.
2.4 Analyse how inspection methods should be matched to varying installation requirements and constraints.
2.5 Justify the importance of selecting the correct inspection technique to ensure valid and reliable outcomes.

03. Carry out electrical quality inspections using approved procedures and inspection tools.	3.1 Apply approved procedures when carrying out electrical quality inspections in a range of installation contexts. 3.2 Select and use inspection tools safely, correctly, and appropriately for the task. 3.3 Inspect electrical installations systematically against specified quality requirements and standards. 3.4 Analyse inspection findings to identify visible and underlying defects. 3.5 Complete inspection activities in line with workplace procedures, exercising judgement where situations vary from routine.
04. Assess electrical installations against project specifications and quality requirements.	4.1 Evaluate completed installations against project specifications and applicable quality standards. 4.2 Analyse electrical work to determine the extent to which it meets specified quality requirements. 4.3 Justify decisions on which installation work does not meet specifications, with supporting evidence. 4.4 Make a reasoned judgement on the overall quality of completed electrical installation work. 4.5 Present assessment outcomes accurately and objectively to support quality assurance decisions.
05. Record inspection findings and recommend appropriate actions to address identified defects.	5.1 Record inspection findings accurately and comprehensively using appropriate documentation. 5.2 Analyse and describe identified defects with sufficient clarity to support corrective action.

	5.3 Justify recommended corrective actions for identified defects, taking account of risk and priority. 5.4 Complete inspection reports that meet organisational and regulatory requirements. 5.5 Communicate inspection records to the appropriate person or authority within required timescales.
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Unit 02 – Testing and Commissioning Procedures

Learning outcome

The learner will:

01 Explain the purpose and sequence of electrical testing and commissioning activities.

Assessment criterion

The learner can:

1.1 Analyse the purpose of electrical testing and commissioning within the installation lifecycle.

1.2 Evaluate the sequence of commissioning activities and the rationale behind their order.

	1.3 Analyse the key stages of testing procedures and their contribution to system verification. 1.4 Justify how testing ensures electrical system performance and safety. 1.5 Evaluate the importance of commissioning prior to handover to the client or end user.
02 Select appropriate testing methods and equipment for electrical systems.	2.1 Compare testing methods to determine those suitable for different electrical systems. 2.2 Justify selection of testing equipment appropriate to specified tasks. 2.3 Evaluate equipment condition and calibration status prior to use. 2.4 Analyse system requirements to match test methods appropriately. 2.5 Apply manufacturer guidance and industry standards when selecting testing tools and equipment.
03 Carry out basic electrical testing procedures in accordance with approved practices.	3.1 Apply approved procedures when carrying out electrical testing across a range of scenarios. 3.2 Use testing equipment safely and correctly, adapting technique to the task and environment. 3.3 Apply the correct testing sequence, adjusting where site conditions require. 3.4 Record test readings accurately, ensuring traceability and reliability of data. 3.5 Complete testing tasks safely, exercising judgement under supervision where circumstances vary.
04 Evaluate test results to determine compliance with performance and safety requirements.	4.1 Analyse test results against required performance and safety standards.

	4.2 Evaluate results to identify non-conformities and determine their significance. 4.3 Assess system performance using test data, applying informed judgement. 4.4 Justify conclusions on safety compliance drawn from test results. 4.5 Report non-compliant results clearly, with supporting rationale, to relevant stakeholders.
05 Complete commissioning records and report testing outcomes accurately.	5.1 Complete commissioning documentation accurately and in accordance with regulatory requirements. 5.2 Record testing outcomes clearly, ensuring accuracy and completeness of data. 5.3 Evaluate records for errors and inconsistencies prior to submission. 5.4 Report commissioning results using appropriate procedures and formats. 5.5 Justify how records are stored to meet site and organisational requirements.

Unit 03 – UK Electrical Wiring Standards Application

Learning outcome

The learner will:

01 Explain the purpose and key requirements of UK electrical wiring regulations.

Assessment criterion

The learner can:

1.1 Analyse the purpose and scope of UK electrical wiring regulations.
1.2 Evaluate key requirements of current UK wiring standards relevant to installation and quality control.
1.3 Justify the importance of compliance with wiring regulations in electrical work.
1.4 Analyse how adherence to standards improves safety outcomes for users and installations.
1.5 Evaluate the documentation required to demonstrate wiring compliance.

02 Interpret wiring standards relevant to electrical installation and quality control activities.

2.1 Interpret UK wiring standards accurately in relation to a range of installation scenarios.
2.2 Analyse regulatory requirements to determine those relevant to specific installation work.
2.3 Apply wiring standards when carrying out inspection activities across varied contexts.
2.4 Distinguish compliant from non-compliant installation practices, providing justification.

	2.5 Evaluate installation practices against wiring standards to identify areas of non-compliance.
03 Apply UK wiring requirements during electrical inspection and installation work.	3.1 Apply wiring requirements consistently during installation work across differing site conditions. 3.2 Justify wiring practices adopted on site with reference to current regulations. 3.3 Evaluate installations against wiring standards, identifying discrepancies. 3.4 Analyse installation errors identified during inspection to determine root cause. 3.5 Complete work in accordance with regulations, adapting approach to non-standard situations.
04 Assess electrical installations for compliance with recognised wiring standards.	4.1 Assess installations systematically against recognised wiring standards. 4.2 Analyse non-compliance issues to determine their nature, extent and risk. 4.3 Evaluate completed work against project specifications and regulatory requirements. 4.4 Record compliance findings accurately, providing sufficient evidence to support conclusions. 4.5 Justify decisions on whether an installation meets required standards.
05 Recommend corrective actions where installations do not meet wiring requirements.	5.1 Analyse non-compliance to identify appropriate corrective actions. 5.2 Justify recommended improvements for installation issues, considering practicality and risk. 5.3 Evaluate the reasons for corrective actions with reference to regulatory requirements.

	5.4 Record recommendations clearly, ensuring they are actionable and evidence based. 5.5 Report corrective actions to the supervisor, justifying priorities and timescales.
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Unit 04 – Risk Identification in Electrical Installations

Learning outcome

The learner will:

Assessment criterion

The learner can:

01 Explain common risks associated with electrical installation activities.	1.1 Analyse common risks associated with electrical installation activities. 1.2 Evaluate how identified risks affect the safety of personnel and installations. 1.3 Analyse activities that carry a higher likelihood of electrical risk. 1.4 Evaluate the potential consequences of unsafe electrical work practices. 1.5 Justify the importance of maintaining risk awareness throughout electrical work.
02 Identify hazards that may affect electrical safety and installation quality.	2.1 Identify and analyse electrical hazards present within the workplace. 2.2 Evaluate hazards in terms of their effect on both safety and installation quality. 2.3 Distinguish between hazards and risks, providing justified examples. 2.4 Report hazards to the supervisor, prioritising according to severity. 2.5 Record hazard information accurately to support risk management processes.

03 Carry out basic risk assessments for electrical work activities.	3.1 Identify hazards prior to commencing work, adapting the approach to task and environment. 3.2 Assess risks associated with tasks, taking account of likelihood and severity. 3.3 Complete risk assessment documentation accurately and comprehensively. 3.4 Apply risk assessment procedures consistently across varying work activities. 3.5 Evaluate and review risks prior to commencing activities, adjusting plans as necessary.
04 Apply suitable control measures to reduce identified electrical risks.	4.1 Select control measures appropriate to identified risks, justifying the choice. 4.2 Apply safety controls effectively during electrical work activities. 4.3 Evaluate protective methods available to reduce identified risks. 4.4 Apply site safety procedures consistently, adapting to changing circumstances. 4.5 Monitor and evaluate the effectiveness of control measures, recommending improvements where necessary.
05 Monitor workplace conditions and report risks in accordance with site procedures.	5.1 Monitor workplace conditions continuously throughout work activities. 5.2 Analyse changes in workplace conditions that may increase risk. 5.3 Report risks using correct procedures, prioritising according to urgency. 5.4 Record risk information clearly and accurately to support ongoing risk management. 5.5 Communicate risks effectively to relevant staff, ensuring appropriate and timely action.

Unit 05 – Quality Documentation and Compliance Reporting

Learning outcome

The learner will:

Assessment criterion

The learner can:

01 Explain the purpose of quality documentation in electrical quality control.	1.1 Analyse the purpose of quality documentation within electrical quality control. 1.2 Evaluate the types of quality records used and their respective purposes. 1.3 Justify the importance of accurate documentation to quality assurance outcomes. 1.4 Analyse how documentation supports compliance with regulatory and organisational requirements. 1.5 Evaluate the information that should be included within quality records.
02 Identify documentation required to demonstrate compliance with electrical standards.	2.1 Identify compliance documentation used on site, justifying its relevance. 2.2 Analyse inspection and test records to determine their adequacy for compliance purposes. 2.3 Evaluate certification documents required to demonstrate compliance. 2.4 Match documentation to quality activities, justifying the selection made. 2.5 Organise documentation systematically to support efficient retrieval and audit.
03 Prepare quality records using accurate inspection and testing information.	3.1 Prepare quality records that accurately reflect inspection and testing outcomes. 3.2 Record inspection data clearly, ensuring accuracy and completeness. 3.3 Record test results correctly, cross-checking against source data. 3.4 Evaluate records for errors and inconsistencies prior to finalisation.

	3.5 Maintain complete and traceable documentation throughout the quality process.
04 Maintain quality documentation in accordance with organisational procedures.	4.1 Store documents securely, in accordance with organisational and regulatory requirements. 4.2 Update records as required, ensuring version control and traceability. 4.3 Apply document control procedures consistently. 4.4 Evaluate filing systems to ensure they support accurate and accessible record keeping. 4.5 Justify measures taken to protect documents from loss or damage.
05 Produce clear compliance reports that support quality assurance activities.	5.1 Prepare compliance reports using accurate and relevant site data. 5.2 Present findings clearly and objectively within reports, tailored to the intended audience. 5.3 Evaluate evidence included in reports to ensure it adequately supports conclusions. 5.4 Review reports critically before submission, identifying and correcting errors or omissions. 5.5 Submit reports to the correct authority within required timescales.

Unit 06 – Electrical Fault Analysis and Troubleshooting

Learning outcome

The learner will:

Assessment criterion

The learner can:

01 Explain common causes of faults in electrical installations.	1.1 Analyse common causes of faults in electrical installations. 1.2 Evaluate installation errors that commonly result in faults. 1.3 Analyse faulty component issues and their likely causes. 1.4 Evaluate the effects of poor installation practice on system reliability and safety. 1.5 Justify the importance of fault prevention within quality control activities.
02 Identify electrical faults using systematic inspection and testing methods.	2.1 Identify faults through systematic visual inspection. 2.2 Apply appropriate testing methods to detect electrical faults. 2.3 Compare test results with expected performance to determine deviations. 2.4 Record identified faults accurately, providing sufficient detail to support diagnosis. 2.5 Confirm fault location through analysis of evidence prior to reporting.
03 Apply structured troubleshooting techniques to investigate electrical faults.	3.1 Apply troubleshooting procedures systematically, adapting the approach to the fault presented. 3.2 Select and use correct tools and equipment for fault finding. 3.3 Analyse evidence to identify possible causes of a fault. 3.4 Confirm faults using evidence gathered, justifying conclusions reached. 3.5 Complete troubleshooting activities safely, exercising sound judgement throughout.

04 Assess fault findings to determine suitable corrective actions.	4.1 Assess fault findings against relevant requirements and standards. 4.2 Evaluate and select corrective actions appropriate to the fault identified. 4.3 Prioritise faults based on severity, risk and operational impact. 4.4 Record corrective actions clearly, ensuring they are evidence based. 4.5 Report actions to the supervisor, justifying decisions made.
05 Verify that completed fault rectification work meets quality and safety requirements.	5.1 Inspect repaired work critically to confirm it meets required quality standards. 5.2 Confirm that the fault has been fully resolved, using appropriate verification methods. 5.3 Evaluate safety compliance following repair work. 5.4 Record verification results accurately and comprehensively. 5.5 Complete final documentation in accordance with organisational and regulatory requirements.



QualCert, the leading UK-based awarding body dedicated to providing a diverse range of technical and professional qualifications in the fields of occupational health and safety, quality control/quality assurance, civil/electrical/mechanical technology, ISO standards (Lead Auditors), and management courses.

At QualCert, we are committed to empowering individuals and organizations with the knowledge and skills necessary to excel in their respective industries. Whether you're looking to enhance your expertise in health and safety practices, quality management systems, or engineering technologies, our comprehensive suite of certifications caters to a wide spectrum of career paths and professional development goals.

QualCert

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