

City & Guilds Level 2 Certificate in Fundamental Inspection, Testing and Initial Verification (2392-10)

**Qualification handbook
QCA Number 500/3516/2**



www.cityandguilds.com
March 2024
Version 1.4

About City & Guilds

City & Guilds is the UK's leading provider of vocational qualifications, offering over 500 awards across a wide range of industries, and progressing from entry level to the highest levels of professional achievement. With over 8500 centres in 100 countries, City & Guilds is recognised by employers worldwide for providing qualifications that offer proof of the skills they need to get the job done.

City & Guilds Group

The City & Guilds Group includes City & Guilds, City & Guilds Institute, ILM (the Institute of Leadership & Management) which provides management qualifications, learning materials and membership services, NPTC which offers land-based qualifications and membership services, and HAB (the Hospitality Awarding Body). City & Guilds also manages the Engineering Council Examinations on behalf of the Engineering Council.

Equal opportunities

City & Guilds fully supports the principle of equal opportunities and we are committed to satisfying this principle in all our activities and published material. A copy of our equal opportunities policy statement is available on the City & Guilds website.

Copyright

The content of this document is, unless otherwise indicated, © The City and Guilds of London Institute 2007 and may not be copied, reproduced or distributed without prior written consent.

However, approved City & Guilds centres and candidates studying for City & Guilds qualifications may photocopy this document free of charge and/or include a locked PDF version of it on centre intranets on the following conditions:

- centre staff may copy the material only for the purpose of teaching candidates working towards a City & Guilds qualification, or for internal administration purposes
- candidates may copy the material only for their own use when working towards a City & Guilds qualification

The *Standard Copying Conditions* on the City & Guilds website also apply.

Please note: National Occupational Standards are not © The City and Guilds of London Institute. Please check the conditions upon which they may be copied with the relevant Sector Skills Council.

Publications

City & Guilds publications are available on the City & Guilds website or from our Publications Sales department at the address below or by telephoning +44 (0)20 7294 2850 or faxing +44 (0)20 7294 3387.

Every effort has been made to ensure that the information contained in this publication is true and correct at the time of going to press. However, City & Guilds' products and services are subject to continuous development and improvement and the right is reserved to change products and services from time to time. City & Guilds cannot accept liability for loss or damage arising from the use of information in this publication.

City & Guilds

5-6 Giltspur Street

London EC1A 9DE

T +44 (0)20 7294 2800

F +44 (0)20 7294 2400

www.cityandguilds.com

learnersupport@cityandguilds.com

City & Guilds City & Guilds Level 2 Certificate in Fundamental Inspection, Testing and Initial Verification (2392-10)

Qualification handbook



www.cityandguilds.com
March 2024
Version 1.4

Version and date	Change detail	Section
V1.2 March 2022	GLH and TQT clarified and highlighted	2.2 The structure of the qualification
V1.3 September 2023	Removal of images. Replace references to GOLLA with EVOLVE	Front page and throughout
V1.4 March 2024	Update of Quality Assurance Statement	Centre Requirements

This page is intentionally blank

Contents

1	About this document	6
2	About the qualification	7
2.1	Aim of the qualification	7
2.2	The structure of the qualification	8
2.3	Sources of information and assistance	9
3	Candidate entry and progression	11
4	Centre requirements	12
4.1	Centre, qualification and fast track approval	12
4.2	Resource requirements	13
4.3	Registration and certification	14
4.4	Quality assurance	15
5	Course design and delivery	15
5.1	Initial assessment and induction	15
5.2	Recommended delivery strategies	16
5.3	Data protection, confidentiality and legal requirements	17
5.4	Learning and support resources	18
7	Relationships to other qualifications	20
7.1	Links to National Occupational Standards and N/SVQs	20
7.2	Key skills (England, Wales and Northern Ireland)	21
7.3	The wider curriculum	22
8	Assessment	23
8.1	Summary of assessment requirements	23
9	Test specifications	24
9.1	Test specifications	24
10	Units	25
10.1	About the units	25
Unit 101	Fundamental Initial Verification of Electrical Installations	26
11	Practical Assessment	32
Accreditation, national frameworks and qualification level descriptors		34
Appendix 1	Obtaining centre and qualification approval	35
Appendix 2	Summary of City & Guilds assessment policies	36
Appendix 3	Funding	38

This page is intentionally blank

1 About this document

This document contains the information that centres need to offer the following qualification:

Level 2 Certificate in Fundamental Inspection, Testing and Initial Verification
QCA accreditation number: 500/3516/2

This document includes details and guidance on:

- centre resource requirements
- candidate entry requirements
- information about links with, and progression to, other qualifications
- qualification standards and specifications
- assessment requirements

2 About the qualification

2.1 Aim of the qualification

This qualification was developed in conjunction with the electrical industry (including the NICEIC and ECA) in order to meet the needs of the industry and centres and to provide candidates with an introduction in how to inspect and test (conduct the initial verification) of electrical installations.

It is aimed at practising electricians who have not carried out inspection and testing since qualifying or who require some update training before going on to achieve the City & Guilds Level 3 Certificate in inspection, testing and certification of electrical installations (2391-10).

It is also suitable for those with limited experience of inspection and testing of electrical installations, such as those:

- entering the industry from other engineering disciplines
- working in allied trades.

This qualification prepares candidates for the initial verification of electrical installation work. Combined with suitable on-site experience, it would prepare the candidate to go on to achieve the City & Guilds Level 3 Certificate in inspection, testing and certification of electrical installations (2391-10).

Accreditation details

This qualification is accredited by the Qualifications and Curriculum Authority at Level 2 of the NQF.

For further details about accreditation, national qualification frameworks and level descriptors please refer to Appendix 1.

The aims of this qualification is to:

- meet the needs of candidates who work or want to work as electricians in the electrotechnical sector
- allow candidates to learn, develop and practise the skills required for employment and/or career progression in the electrotechnical sector
- meet the needs of those working in allied trades who as a result of their primary activity undertake some electrical installation work
- aid progression to enable the undertaking of the related City & Guilds Level 3 certificate in inspection, testing and certification of electrical installations (2391-10).

2 About the qualification

2.2 The structure of the qualification

This section provides information about the structure of the qualification and unit combinations required for the qualification.

Full qualifications

The qualification will be awarded to candidates on successful completion of the required units as shown below:

QCA unit reference	City & Guilds unit number	Unit title	Assessment components
R/501/4052	Unit 100	Fundamental Initial Verification of Electrical Installations	101 Knowledge of Fundamental Initial Verification (on-line multiple choice test) 102 Practical Application of the Initial Verification (Practical Assessment)

Certificates of unit credit

Certificates of unit credit (CUC) will not be issued to candidates for each successfully completed component assessment as this is a one-unit qualification.

Candidates who successfully complete both assessments in the qualification will receive a full certificate.

Qualification title	GLH	TQT
City & Guilds Level 2 Certificate in Fundamental Inspection, Testing and Initial Verification (2392-10)	30	36

2 About the qualification

2.3 Sources of information and assistance

Related publications

City & Guilds also provides the following documents specifically for this qualification:

Publication	Available from
Fast track approval forms/generic fast track approval form	City & Guilds website

Other essential City & Guilds documents

There are other City & Guilds documents which contain general information on City & Guilds qualifications:

- **Providing City & Guilds qualifications – a guide to centre and qualification approval**
contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve ‘approved centre’ status, or to offer a particular qualification.
- **Ensuring quality**
contains updates on City & Guilds assessment and policy issues.
- **Centre toolkit**
contains additional information on *Providing City & Guilds qualifications*, in a CD-ROM, which links to the internet for access to the latest documents, reference materials and templates. The *Centre Toolkit* is sent to centres when they receive approved centre status. It is also available from to order at an additional cost.
- **Online catalogue**
contains details of general regulations, registration and certification procedures and fees. This information is also available online.

For the latest updates on our publications and details of how to obtain them and other City & Guilds resources, please refer to the City & Guilds website.

City & Guilds websites

Website	Address	Purpose and content
City & Guilds main website	www.cityandguilds.com	This is the main website for finding out about the City & Guilds group, accessing qualification information and publications.
SmartScreen	www.smartscreen.co.uk	SmartScreen is the City & Guilds online learning support website. It gives registered subscribers access to qualification-specific support materials.
Walled Garden	www.walled-garden.com	The Walled Garden is a qualification administration portal for approved centres, enabling them to register candidates and claim certification online.

Contacting City & Guilds by e-mail

The following e-mail addresses give direct access to our Customer Relations team.

e-mail	Query types
learnersupport@cityandguilds.com	all learner enquiries, including <ul style="list-style-type: none">• requesting a replacement certificate• information about our qualification• finding a centre.
centresupport@cityandguilds.com	all centre enquiries
walledgarden@cityandguilds.com	all enquiries relating to the Walled Garden, including <ul style="list-style-type: none">• setting up an account• resetting passwords.

3 Candidate entry and progression

Candidate entry requirements

Candidates should not be entered for a qualification of the same type, content and level as that of a qualification they already hold.

There are no formal entry requirements for candidates undertaking this qualification. However, centres must ensure that candidates have the potential and opportunity to successfully gain the qualification. It would be expected that candidates have a basic knowledge and understanding of electrical science and principles and experience of electrical installation work either within the electrical contracting industry or an allied trade.

Please see section 5 of this document, Course design and delivery, which offers guidance on initial assessment.

Age restrictions

This qualification is not approved for use by candidates under the age of 18, and City & Guilds cannot accept any registrations for candidates in this age group.

Progression

On completion of this qualification candidates may progress to the following City & Guilds qualification:

- City & Guilds Level 3 Certificate in inspection, testing and certification of electrical installations (2391-10)

4 Centre requirements

4.1 Centre, qualification and fast track approval

Centres not yet approved by City & Guilds

To offer this qualification, new centres will need to gain both **centre and qualification approval**. Please refer to Appendix 1 for further information.

Existing City & Guilds centres

To offer this qualification, centres already approved to deliver City & Guilds qualifications will need to gain **qualification approval**. Please refer to Appendix 1 for further information.

Centres already offering City & Guilds qualifications in this subject area

Centres approved to offer the qualification Level 3 Certificate in inspection, testing and certification of electrical installations (2391) and that are already approved for EVOLVE may apply for approval for the new Level 3 Certificate in fundamental inspection, testing and initial verification (2392-10) using the **fast track approval form**, available from the City & Guilds website.

Centres may apply to offer the new qualification using the fast track form

- providing there have been no changes to the way the qualifications are delivered, and
- if they meet all of the approval criteria specified in the fast track form guidance notes.

Please note that direct certification claims status will not be available for centres until the first successful City & Guilds External Verification visit has taken place.

Fast track approval is available for 12 months from the launch of the qualification. After this time, the qualification is subject to the **standard** Qualification Approval Process. It is the centre's responsibility to check that fast track approval is still current at the time of application.

4 Centre requirements

4.2 Resource requirements

Physical resources

Centres must provide access to sufficient equipment in the centre or workplace to ensure candidates have the opportunity to cover all of the practical activities.

The 2392-102 Assessment Guide details the requirements for the practical rig, and this must be built as detailed in this specification.

Human resources

To meet the quality assurance criteria for this qualification, the centre must ensure that the following internal roles are undertaken:

- quality assurance co-ordinator
- assessor
- internal verifier/moderator
- examinations secretary
- invigilator.

Staff delivering the qualifications

Staff delivering this qualification must satisfy the requirements for occupational expertise for this qualification. They must

- be technically competent in the areas for which they are delivering training and/ or should also have experience of providing training
- hold recent relevant experience in the specific area they will be assessing.

Assessors internal verifiers

While the Assessor/Verifier (A/V) units are valued as qualifications for centre staff, they are not currently a requirement for the qualification.

4 Centre requirements

4.3 Registration and certification

Administration

Full details of City & Guilds' administrative procedures for this qualification are provided in the *Online Catalogue*. This information includes details on:

- registration procedures
- enrolment numbers
- fees
- entry for examinations
- claiming certification.

Centres must be aware of time constraints regarding the registration and certification periods for the qualification, as specified in the City & Guilds *Online Catalogue*.

Centres must follow all administrative guidance carefully, particularly noting that fees, registration and certification end dates for the qualification are subject to change. The latest News is available on the website (www.cityandguilds.com).

Regulations for the conduct of examinations

Regulations for the conduct of examinations for online and written examinations are given in *Providing City & Guilds qualifications - a guide to centre and qualification approval* and in the *Online Catalogue*. Centres should ensure they are familiar with all requirements prior to offering assessments.

Retaining assessment records

Centres must retain copies of candidate assessment records for at least three years after certification.

Notification of results

After completion of assessment, candidates will receive, via their centre, a 'notification of candidate results', giving details of how they performed. It is not a certificate of achievement.

Full certificates

Full certificates are only issued to candidates who have met the full requirements of the qualification[s], as described in section 2.2 The structure of the qualification.

4 Centre requirements

4.4 Quality assurance

Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications. Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance and City & Guilds is responsible for external quality assurance. All external quality assurance processes reflect the minimum requirements for verified and moderated assessments, as detailed in the Centre Assessment Standards Scrutiny (CASS), section H2 of Ofqual's General Conditions. For more information on both CASS and City and Guilds Quality Assurance processes visit: the [What is CASS?](#) and [Quality Assurance Standards](#) documents on the City & Guilds website.

This information is a summary of quality assurance requirements.

Providing City & Guilds qualifications and in the *Centre toolkit* provide full details and guidance on:

- internal quality assurance
- external quality assurance
- roles and responsibilities of quality assurance staff.

5 Course design and delivery

5.1 Initial assessment and induction

Centres will need to make an initial assessment of each candidate prior to the start of their programme to ensure they are entered for an appropriate type and level of qualification.

The initial assessment should identify any specific training needs the candidate has, and the support and guidance they may require when working towards their qualification. This is sometimes referred to as diagnostic testing.

City & Guilds recommends that centres provide an induction programme to ensure the candidate fully understands the requirements of the qualification they will work towards, their responsibilities as a candidate, and the responsibilities of the centre.

Further guidance about initial assessment and induction, as well as a learning contract that centres may use, are available in the *Centre toolkit*.

5 Course design and delivery

5.2 Recommended delivery strategies

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before designing a course programme.

The delivery strategy must include a significant element of **hands-on practical training** for each candidate in the process of inspection, testing and certification.

Centres may design course programmes of study in any way that:

- best meets the needs and capabilities of their candidates
- satisfies the requirements of the qualification
- preferably provides an integrated approach to combine the theoretical and practical activities
- develops the candidate's practical skills in preparation for their practical assessment.

5 Course design and delivery

5.3 Data protection, confidentiality and legal requirements

Data protection and confidentiality

Data protection and confidentiality must not be overlooked when planning the delivery of this qualification.

Centres offering this qualification may need to provide City & Guilds with personal data for staff and candidates. Guidance on data protection and the obligations of City & Guilds and centres are explained in *Providing City & Guilds qualifications*.

5 Course design and delivery

5.4 Learning and support resources

City & Guilds provides the following resources for this qualification.

Resource	How to access
Smartscreen	www.smartscreen.co.uk

Internal quality assurance

Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications.

Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance, and City & Guilds is responsible for external quality assurance.

External quality assurance

External quality assurance for the qualification will be provided by City & Guilds external verification process. Please note that direct certification claims status will not be available for centres until the first successful City & Guilds External Verification visit has taken place.

External verifiers are appointed by City & Guilds to approve centres, and to monitor the assessment and internal quality assurance carried out by centres. External verification is carried out to ensure that assessment is valid and reliable, and that there is good assessment practice in centres.

To carry out their quality assurance role, external verifiers must have appropriate occupational and verifying knowledge and expertise. City & Guilds external verifiers attend training and development designed to keep them up-to-date, facilitate standardisation between verifiers and share good practice.

External verifiers:

The role of the external verifier is to:

- provide advice and support to centre staff
- ensure the quality and consistency of assessments within and between centres by the use of systematic sampling
- regularly visit centres to ensure they continue to meet the centre and qualification approval criteria
- provide feedback to centres and to City & Guilds.

6

7 Relationships to other qualifications

7.1 Links to National Occupational Standards and N/SVQs

This qualification is based upon the IEE BS 7671 17th edition rather than linked to N/SVQs and National Occupational Standards.

7 Relationships to other qualifications

7.2 Key skills (England, Wales and Northern Ireland)

City & Guilds recognises the importance of opportunities for developing and generating evidence for the assessment of the nationally specified key Skills. However, as the intention of this qualification is to itself support technical knowledge for those employed within the industry we would suggest that the opportunities for key skills would be found in the complementary qualifications at level 3 for electrical schemes.

7 Relationships to other qualifications

7.3 The wider curriculum

City & Guilds recognises the importance of the contribution to candidates of wider issues in terms of health and safety, environmental and relevant international agreements. As with Key Skills, we would suggest that the content is confined to the technical needs of the industry. These are essential to safe working and compliance with the electrical industry. The wider issues are more appropriately addressed in supporting qualifications.

8 Assessment

8.1 Summary of assessment requirements

For this qualification, candidates will be required to successfully complete both of the following assessments:

- one closed-book multiple-choice online EVOLVE test covering the underpinning knowledge of outcomes 1-3 (2392-101)
- **one** practical assessment for the whole 2392-10 unit (2392-102)

Grading and marking

Grading of assignments for this qualification is as follows:

- The multiple choice online test is externally set and marked by City & Guilds and graded pass or fail.
- The practical assessment is graded pass or fail.

9 Test specifications

9.1 Test specifications

The test specifications for this qualification are below:

Test no: 2392-101

Title: Knowledge of Fundamental Initial Verification (On-line multiple choice test)

Duration: 100 minutes

No of questions: 50

Outcome number	Unit title	Number of items	Approximate percentage %
1	Preparation for inspection and testing	8	16
2	Inspection	6	12
3	Testing	36	72
Total		50	100

10 Units

10.1 About the units

Availability of units

The units for this qualification follow.

Structure of units

The units in this qualification are written in a standard format and comprise the following:

- title
- unit reference
- rationale
- list of learning outcomes
- assessment details
- learning outcomes in detail expressed as practical skills and / or underpinning knowledge

Unit 101

Fundamental Initial Verification of Electrical Installations

Learning outcomes

There are **three** outcomes to this unit:

- Preparation for initial inspection and testing
- Inspection
- Testing

The practical skills apply across all three outcomes and are listed against each for reference.

Guided learning hours

It is recommended that 30-35 hours should be allocated for this unit. This may be on a full-time or part-time basis.

Key Skills

Please refer to Section 6: Relationship to other qualifications.

Assessment and grading

This unit will be assessed by:

- one multiple choice online EVOLVE test covering the underpinning knowledge of all three outcomes
- one practical assessment covering the practical skills of all three outcomes.

Candidates can either pass or fail each assessment.

Unit 101 Fundamental Initial Verification of Electrical Installations

Outcome 1 Preparation for initial inspection and testing

Practical skills

The candidate will be able to, given the information required:

- 1 carry out the Initial Verification (inspection, testing and certification) of an installation to BS 7671
- 2 complete an Electrical Installation Certificate (as given in BS 7671 or Guidance Note 3), for the installation in item 3, including the Schedule of Test Results
- 3 carry out an inspection of installation components and complete the Schedule of Inspections.

Underpinning knowledge

The candidate will be able to demonstrate knowledge of:

- 1.1. requirements for Initial Verification
- 1.2. information required to correctly conduct the initial inspection and testing of an installation
- 1.3. statutory and non-statutory requirements and relevant guidance materials which apply to the activity of inspecting and testing of electrical installations
- 1.4. need to comply with statutory and non-statutory requirements, guidance material for particular locations and environments in which electrical installations are installed
- 1.5. essential and optional information to be contained on the Electrical Installation Certificate and Minor Electrical Installation Works Certificate and how the information is recorded.

Unit 101 Fundamental Initial Verification of Electrical Installations

Outcome 2 Inspection

Practical skills

The candidate will be able to, given the information required:

- 1 carry out the Initial Verification (inspection, testing and certification) of an installation to BS 7671
- 2 complete an Electrical Installation Certificate (as given in BS 7671 or Guidance Note 3), for the installation in item 3, including the Schedule of Test Results
- 3 carry out an inspection of installation components and complete the Schedule of Inspections.

Underpinning knowledge

The candidate will be able to demonstrate knowledge of:

- 2.1 state the human senses that may need to be employed during the Initial Verification of an installation
- 2.2 refer to and select the items to be checked during the inspection process for given systems and locations
- 2.3 state the requirements of the Electricity at Work Regulations for safe inspection and testing in terms of those carrying out the work and those using the installation and the building during the inspection and testing.

Unit 101 Fundamental Initial Verification of Electrical Installations

Outcome 3 Testing

Practical skills

The candidate will be able to:

- 1 select the correct instruments or functions and appropriate scales to carry out tests
- 2 check and prove instruments and leads for safety and function
- 3 carry out the Initial Verification (inspection, testing and certification) of an installation to BS 7671
- 4 complete an Electrical Installation Certificate (as given in BS 7671 or Guidance Note 3), for the installation in item 3, including the Schedule of Test Results
- 5 carry out an inspection of installation components and complete the Schedule of Inspections.

Underpinning knowledge

For each topic below, the candidate will be able to:

Instruments

- 3.1 State the need for instruments to be regularly checked and the need for compliance with the requirements of BS 7671 (current edition) and HSE Guidance Note GS 38
- 3.2 List the correct instruments, functions and appropriate scale(s) to carry out each test and explain the reasons for each choice

Sequence

- 3.3 State the recommended sequence of tests covered by this unit and the reasons for that sequence

Protective Conductors

- 3.4 State the requirements which need to be considered for protective conductors in terms of
 - a earthing conductors
 - b main protective bonding conductors
 - c supplementary equipotential bonding conductors
 - d circuit protective conductors
- 3.5 Describe the need for, and methods of, verifying the continuity of protective conductors and the interpretation of results
- 3.6 State the relationship between conductor length, cross sectional area (csa) and resistance
- 3.7 State the effect of temperature on conductor resistance.

Ring Final Circuits

- 3.8 State the effect on conductor resistance when cables are connected in parallel
- 3.9 Describe the need for, and the method of verifying the continuity of, ring final circuit conductors and the interpretation of results
- 3.10 State the relationship between conductor length and conductor resistance.

Insulation Resistance

- 3.11 Explain, by example, the effect on insulation resistance of
 - a cables connected in parallel
 - b variation in cable length
- 3.12 State the difference between measurements taken for insulation resistance and conductor resistance, and the order of magnitude that would be expected in each case
- 3.13 State the preconditions required for the performance of insulation resistance testing in terms of
 - a client consultation
 - b safety procedures and notices
- 3.14 State the precautions to be taken before testing insulation resistance in terms of
 - a isolation of circuits and equipment
 - b voltage sensitive equipment
 - c electronic components
- 3.15 Describe methods of testing insulation resistance
- 3.16 State the required test voltages and minimum values of insulation resistance for circuits operating at various voltages

SELV

- 3.17 Describe the test to verify separation between SELV circuits and other circuits.

Special Installations and locations

- 3.18 State the requirements for locations containing baths or showers in terms of
 - a circuits
 - b equipment
 - c zones.

IP Code

- 3.19 State the appropriate degrees of protection required for given locations and environments afforded within the IP classification BS EN 60529.

Polarity

- 3.20 State the reasons for tests to confirm correct polarity
- 3.21 Describe the methods of testing used to identify correct polarity
- 3.22 State the reasons for confirming correct polarity following initial energising of installations.

Earth Electrodes

- 3.23 State the instruments used for testing earth electrodes as
 - a Earth electrode resistance tester
 - b Earth fault loop impedance tester
- 3.24 Describe the method of testing earth electrode resistance using an earth fault loop impedance tester.

Earth Fault Loop Impedance

- 3.25 Describe the earth fault loop impedance paths for the following systems
 - a TN-S
 - b TN-C-S
 - c TT
- 3.26 Describe methods of determining earth fault loop impedance in terms of
 - a the tests used for measuring actual earth fault loop impedance
 - b methods of calculation of earth fault loop impedance from given data and measurement of conductor impedance
- 3.27 Given maximum tabulated values of earth fault loop impedance, verify that measured values are acceptable, taking into account conductor operating and ambient temperatures

Residual Current Devices (RCD)

- 3.28 Describe methods of testing the correct operation of an RCD, independent of in-built test facilities
- 3.29 State the applications for various RCD ratings
- 3.30 State the requirements for RCD in series.

Prospective Fault Current

- 3.31 Describe prospective fault current in terms of
 - a prospective short-circuit current
 - b prospective earth fault current
- 3.32 State methods of determining prospective fault current
- 3.33 Describe the methods of measuring prospective fault current
- 3.34 Explain the importance of confirming that protective devices are appropriate for the prospective fault current.

Verification of voltage drop

- 3.35 State the methods of evaluating voltage drop
- 3.36 Determine compliance with voltage drop from given criteria.

11 Practical Assessment

Practical Assessment Requirements

2392-102 Inspection, Testing and Certification - practical

This practical assessment element must be completed, in addition to 2392-101, for candidates to gain a certificate.

Success only needs to be achieved once. The practical assessment consists of **one** assessment.

- 1 To conduct this practical assessment, centres will be required to construct a simulated installation test rig, the requirement of which is given in the City & Guilds Level 2 Certificate in Fundamental Inspection, Testing and Initial Verification *Assessment Guide for Centres*. The *Assessment Guide for Centres* can be downloaded from the City & Guilds website.
- 2 The test procedure should be completed within the time indicated. The candidate should be continuously monitored during the test procedures.
- 3 Full details on the conduct of the practical test are given in the *Assessment Guide for Centres*.
- 4 This practical test will be subject to external verification. Centres must inform their EV of the dates on which practical tests will be conducted.
- 5 The centre's risk assessment will identify the candidate to assessor ratio for the practical test, which must be approved through the external verification process.

The test rig and inspection and testing equipment

- 1 To carry out the inspection and testing practical assessment, a simulated installation should be constructed in accordance with the diagrams given in the 2392-102 Assessment Guide for Centres.
- 2 The test rig should be located in an area of adequate space and light. All connections must be directly to the accessories, rather than simulated, and allowance should be made for the replacement of connections as they become worn.
- 3 Test equipment provided by the centre must meet the requirements of BS 7671 and HSE Guidance Note GS 38.
- 4 To ensure that the candidate has to make a selection from the equipment provided, there should be a greater range of test instruments available than is actually required to carry out the tests.
- 5 The test instruments must include an approved voltage indicator, with the necessary proving equipment, to test for correct isolation of the test rig.
- 6 To simulate 'real' conditions the test rig will be connected to a 230 V single-phase and neutral supply for 'live' testing.
- 7 **Where candidates supply their own test instruments and/or tools, the assessor is responsible for verifying the suitability of these for the tasks to be undertaken.**

Test procedure

- 1 The candidate should be given
 - a. an Electrical Installation Certificate, the Schedule of Test Results and Schedule of Inspections for the assessment
 - b. a selection of hand tools, where required, to carry out testing of the installation
 - c. a range of test instruments including those required to complete the tests.
- 2 The information contained within the candidate section of the 2392-102 Assessment Guide.
- 3 Candidate identification and other relevant information should be completed on the appropriate result sheet prior to the commencement of each test.
- 4 The candidate will be expected to record all relevant information and results for all circuits on the appropriate documents.

The tests and performance criteria for assessment

- 1 The tests that must be completed and the detailed performance criteria the candidate must meet in order to pass the test are provided in the Assessment Guide for Centres. A copy of each set of performance criteria must be completed for each candidate.
- 2 Consideration should be given to the Electricity at Work Regulations throughout the assessment process, and it should be made clear to the candidate that failure to observe appropriate safe working practices will result in the assessment being stopped.

Accreditation, national frameworks and qualification level descriptors

Please visit the following websites to find information on accreditation, national frameworks and qualification level descriptors in each country.

Nation	Who to contact	Website
England	The Qualifications and Curriculum Authority	www.qca.org.uk
Scotland	The Scottish Qualifications Authority	www.sqa.org.uk
Wales	The Department for Education, Lifelong Learning and Skills Wales (DELLS)	www.wales.gov.uk
Northern Ireland	The Council for Curriculum, Examinations and Assessment	www.ccea.org.uk

Appendix 1 Obtaining centre and qualification approval

Only approved organisations can offer City & Guilds qualifications. Organisations approved by City & Guilds are referred to as **centres**.

Centres must meet a set of quality criteria including:

- provision of adequate physical and human resources
- clear management information systems
- effective assessment and quality assurance procedures including candidate support and reliable recording systems.

An organisation that has not previously offered City & Guilds qualifications must apply for approval to become a centre. This is known as the **centre approval process (CAP)**. Centres also need approval to offer a specific qualification. This is known as the **qualification approval process (QAP)**, (previously known as scheme approval). In order to offer this qualification, organisations which are not already City & Guilds centres must apply for centre and qualification approval at the same time. Existing City & Guilds centres will only need to apply for qualification approval for the particular qualification.

Full details of the procedures and forms for applying for centre and qualification approval are given in *Providing City & Guilds qualifications - a guide to centre and qualification approval*, which is also available on the City & Guilds centre toolkit, or downloadable from the City & Guilds website.

Regional / national offices will support new centres and appoint a Quality Systems Consultant to guide the centre through the approval process. They will also provide details of the fees applicable for approvals.

Assessments must not be undertaken until qualification approval has been obtained.

City & Guilds reserves the right to withdraw qualification or centre approval for reasons of debt, malpractice or non-compliance with City & Guilds' policies, regulations, requirements, procedures and guidelines, or for any reason that may be detrimental to the maintenance of authentic, reliable and valid qualifications or that may prejudice the name of City & Guilds. Further details of the reasons for suspension and withdrawal of approval, procedures and timescales, are contained in *Providing City & Guilds qualifications*.

Approval for online assessment (EVOLVE)

In addition to obtaining centre and qualification approval, centres are also required to set up a EVOLVE profile in order to offer online examinations to candidates. Setting up a EVOLVE profile is a simple process that need only be completed once by the centre.

Details of how to set up the profile and EVOLVE technical requirements are available on the City & Guilds website (**www.cityandguilds.com/e-assessment**). The EVOLVE section of the website also has details of the EVOLVE helpline for technical queries and downloads for centres and candidates about EVOLVE examinations.

Centres should also refer to *Providing City & Guilds qualifications - a guide to centre and qualification approval* for further information on EVOLVE.

Appendix 2 Summary of City & Guilds assessment policies

Health and safety

The requirement to follow safe working practices is an integral part of all City & Guilds qualifications and assessments, and it is the responsibility of centres to ensure that all relevant health and safety requirements are in place before candidates start practical assessments.

Should a candidate fail to follow health and safety practice and procedures during an assessment, the assessment must be stopped. The candidate should be informed that they have not reached the standard required to successfully pass the assessment and told the reason why. Candidates may retake the assessment at a later date, at the discretion of the centre. In case of any doubt, guidance should be sought from the external verifier.

Equal opportunities

It is a requirement of centre approval that centres have an equal opportunities policy (see *Providing City & Guilds qualifications*).

The regulatory authorities require City & Guilds to monitor centres to ensure that equal opportunity policies are being followed.

The City & Guilds equal opportunities policy is set out on the City & Guilds website, in *Providing City & Guilds qualifications*, in the *Online Catalogue*, and is also available from the City & Guilds Customer Relations department.

Access to qualifications on the National Qualifications Framework is open to all, irrespective of gender, race, creed, age or special needs. The centre co-ordinator should ensure that no candidate is subject to unfair discrimination on any ground in relation to access to assessment and the fairness of the assessment.

Access to assessment

Qualifications on the National Qualifications Framework are open to all, irrespective of gender, race, creed, age or special needs. The centre co-ordinator should ensure that no candidate is subject to unfair discrimination on any ground in relation to access to assessment and the fairness of the assessment.

City & Guilds' *Access to assessment and qualifications guidance and regulations* document is available on the City & Guilds website. It provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

Access arrangements are pre-assessment adjustments primarily based on history of need and provision, for instance the provision of a reader for a visually impaired candidate.

Special consideration refers to post-examination adjustments to reflect temporary illness, injury or indisposition at the time of the assessment.

Appeals

Centres must have their own, auditable, appeals procedure that must be explained to candidates during their induction. Appeals must be fully documented by the quality assurance co-ordinator and made available to the external verifier and/or City & Guilds.

Further information on appeals is given in *Providing City & Guilds qualifications*. There is also information on appeals for centres and candidates on the City & Guilds website or available from the Customer Relations department.

Appendix 3 Funding

City & Guilds does not provide details on funding as this may vary between regions.

Centres should contact the appropriate funding body to check eligibility for funding and any regional/national arrangements which may apply to the centre or candidates.

For funding regulatory purposes, candidates should not be entered for a qualification of the same type, level and content as that of a qualification they already hold.

Please see the table below for where to find out more about the funding arrangements.

Nation	Who to contact	For higher level qualifications
England	<p>The Learning and Skills Council (LSC) is responsible for funding and planning education and training for over 16-year-olds. Each year the LSC publishes guidance on funding methodology and rates. There is separate guidance for further education and work-based learning.</p> <p>Further information on funding is available on the Learning and Skills Council website at www.lsc.gov.uk and, for funding for a specific qualification, on the Learning Aims Database http://providers.lsc.gov.uk/lad.</p>	<p>Contact the Higher Education Funding Council for England at www.hefce.ac.uk.</p>
Scotland	<p>Colleges should contact the Scottish Further Education Funding Council, at www.sfc.co.uk.</p> <p>Training providers should contact Scottish Enterprise at www.scottish-enterprise.com or one of the Local Enterprise Companies.</p>	<p>Contact the Scottish Higher Education Funding Council at www.shefc.ac.uk.</p>
Wales	<p>Centres should contact the Welsh Assembly Government www.learning.wales.gov.uk</p> <p>0845 010 3300 – bilingual greeting, or 0845 010 4400 – Welsh language greeting</p>	<p>Centres should contact the Welsh Assembly Government www.learning.wales.gov.uk</p> <p>0845 010 3300 – bilingual greeting, or 0845 010 4400 – Welsh language greeting</p>
Northern Ireland	<p>Please contact the Department for Employment and Learning at www.delni.gov.uk.</p>	<p>Please contact the Department for Employment and Learning at www.delni.gov.uk.</p>

This page is intentionally blank

**Published by City & Guilds
5-6 Giltspur Street
London
EC1A 9DE
T +44 (0)20 7294 2800
F +44 (0)20 7294 2400
www.cityandguilds.com**

**City & Guilds is a registered charity
established to promote education
and training**