

Level 3 End-Point Assessment for Gas Engineering Operative



EPA Specification Section 5.2 – Portfolio Assessment

- Introduction
- Gas Safe® registration for a minimum of four appliances
- Competency Test (Practical Assessment)
- Work Log Review including interview
- Criteria and Grading

Contacts

This specification has been designed to provide all the advice and guidance you need to prepare yourself and your apprentices for end-point assessment. However, if you have any further questions please contact the EUIAS Help Desk using one of the following:

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 713 8310

Introduction

Apprentices must complete a portfolio assessment which includes three stages and must be undertaken in this order:

Stage 1: Gas Safe® registration for a minimum of four appliances (before Gateway)

Stage 2: Competency test (practical assessment)

Stage 3: Work log review (typically developed during the apprenticeship) including the interview

The portfolio provides the opportunity to demonstrate skills, knowledge, and behaviours across the Standard - core and specific requirements. The EUIAS will not be involved in the delivery or assessment of the Gas Safe® registration this element must be delivered and assessed by the employer or training provider and included in the portfolio. The **portfolio elements must be undertaken in order**, as shown below. All elements of the portfolio will be individually assessed and scored. An employer nominated technical expert, will then combine the scores, and award a preliminary mark out of 100. The EUIAS will provide the performance criteria and the recording documents for all the tasks except Gas Safe® registration. Through consultation with the employer and training provider, the EUIAS will ensure sufficient complexity to allow the apprentice to demonstrate the required knowledge, skills, and behaviours (KSB) in an integrated way, which will test:

Stage 1: Gas Safe® Registration: NOTE: NOT delivered or assessed by the EUIAS

- Selected Core Knowledge: (CK1; CK2; CK3; CK7)
- Plus Selected Core Skills: (CS1; CS3, CS4; CS8)
- Plus All Behaviours: (B1; B2; B3; B4; B5; B6; B7; B8)
- Plus Selected Technical Knowledge: (TK2; TK3; TK4; TK5; TK7; TK9)

Stage 2: Competency Test (practical assessment) assessed as part of the portfolio assessment as per the assessment plan

- Selected Core Knowledge: (CK2; CK5; CK6; CK8)
- Plus Selected Core Skills: (CS1; CS2; CS4; CS5; CS6; CS7; CS8; CS11; CS12)
- Plus All Behaviours: (B1; B2; B3; B4; B5; B6; B7; B8)
- Plus Selected Technical Knowledge: (TS1; TS2; TS3; TS4; TS5; TS6; TS7; TS8; TS9; TS10; TS11; TS12; TS13)

These elements are grouped into 11 categories with further guidance later in this section of the Specification.

Stage 3: Work Log Review and interview (covers the whole standard)

- All Core Knowledge: (CK1; CK2; CK3; CK4; CK5; CK6; CK7; CK8)
- All Core Skills: (CS1; CS2; CS3; CS4; CS5; CS6; CS7; CS8; CS9; CS10; CS11; CS12)
- All Behaviours: (B1; B2; B3; B4; B5; B6; B7; B8)
- All Technical Knowledge: (TK1; TK2; TK3; TK4; TK5; TK6; TK7; TK8; TK9; TK10; TK11; TK12)
- All Technical Skills: (TS1; TS2; TS3; TS4; TS5; TS6; TS7; TS8; TS9; TS10; TS11; TS12; TS13)

See Section 4 for the references to the standard.

Note that the apprentice is only required to demonstrate selected core knowledge, skills, technical skills and all behaviours requirements during the competency test (practical assessment), and the task must be chosen carefully to ensure that the apprentice has opportunity to cover all aspects in an integrated way.

The competency test (practical assessment) provides the opportunity for the apprentice to synoptically demonstrate core and specific knowledge, skills and behaviours as detailed in Section 4, on actual appliances in a workplace or a simulated environment that reflect the real working environment appropriate to the task(s) and risk involved, with the exception of not necessarily being connected to a live gas network. This provides the opportunity to apply and integrate their learning and to safely perform maintenance and operational activities.

Further information on each part of the portfolio assessment is outlined below:

Stage 1 – Gas Safe® Registration

- Gas Safe® Registration is a separate process from the apprenticeship and it is **NOT** delivered or assessed by the EUIAS, but it **must** be included in the portfolio as part of the portfolio assessment
- The employer or training provider must prepare the apprentices prior to end-point assessment
- Through the Gas Safe® process, all gas engineering operatives must complete a defined set of industry standard assessments designed to enable the operative to demonstrate competence across a range of appliance types relevant to their business operations
- An apprentice **cannot achieve an overall pass grade without Gas Safe® registration for a minimum of four appliances**
- A **pass in the four appliances** means that **10 marks** can be awarded towards the overall portfolio mark. Annex A in the Assessment Plan and this section (Section 5) of the specification shows which knowledge, skills and behaviours will be assessed for this element

Stage 2 – Competency Test

- Lead provider must complete and submit to the EUIAS the ‘Practical Assessment Review Form’, this will include i.e., venue, type of appliance and equipment, which appliance categories will be covered by each apprentice. The competency test must allow the apprentice to be able to demonstrate:

- Safe installation and commissioning an appliance
- Service and maintain an appliance or system
- Repair a fault on an appliance and system
- Decommission an appliance or system
- Excellent communication
- Recording and Customer service skills which must include relevant energy advice

Note that the apprentice is only required to demonstrate the specific skill or knowledge requirements once. The tasks for the competency test (practical assessment) must be chosen carefully to ensure that the apprentice has an opportunity to cover all aspects of the competency test criteria.

- Apprentices **must** complete a practical assessment known as ‘competency test’ normally in the last three months **after** the achievement of Gas Safe ® registration, providing the opportunity to synoptically demonstrate core and specific skills, knowledge and behaviours in a ‘real world’ environment to an independent technical expert. This will offer the opportunity to bring together and apply their learning
- The competency test **typically takes half a day** to enable the assessment of **four appliances in different realistic working environments**
- During the competency test, apprentices will also be asked questions by the technical expert to confirm their understanding of the rationale for actions taken and choices made during the test. Questions will also cover Unsafe Situations. The content of this competency test will relate to the **four appliances** for which the apprentice has received Gas Safe® certification.
- Apprentices can expect to be assessed on a range that could include the safe gas and electrical installation, commissioning, decommissioning and or ongoing service and repair on a minimum of four appliances. For example, the apprentice could be assigned a task to diagnose and rectify fault(s)
- The apprentice will need to apply the appropriate principles, procedures and knowledge and explain what and why they are undertaking a particular approach
- They will be expected to select and use the appropriate equipment and tools, protect themselves and others from potential harm that can arise from their work, while ensuring other processes on site continue to function; effectively and efficiently maintaining production
- This section of the Specification (Section 5) contains the assessment criteria against which the competency test will be based
- A competency test **must** demonstrate safe practice; outstanding diagnostic, fault finding, and repair skills, excellent communication, recording and customer service skills including relevant energy advice
- A competency test will be administered and marked by the EUIAS approved independent technical expert
- The EUIAS will provide the template upon which to record the assessment outcomes. A maximum of 20 marks will be available to contribute towards the overall portfolio mark
- The EUIAS approach to delivering the competency test will take half a day to enable the assessment of four appliances in different realistic working environment

Preparing for the Competency Test (Practical Assessment)

The competency test will be set by the lead provider who must ensure the assessment of four appliances takes place in different realistic working environments. The competency test will typically be delivered in half a day, taking into account workplace considerations. The lead provider must complete and submit to the EUIAS the 'Practical Assessment Review Form', and this will include i.e., venue, type of appliance and equipment, which appliance categories will be covered by each apprentice for review before the competency test can be scheduled.

Competency test may have a number of elements, but all task(s) must be of equal size and complexity for each option. EUIAS will work with the employer to approve or provide recommendations to ensure the following and are all fit for purpose via the 'Practical Assessment Review Form', which will include details of the:

- competency test and or brief(s)
- workplace and or the simulated environment to reflect the real working environment and ensure it is appropriate for the competency test
- identify risk(s) involved
- recommend solutions

The EUIAS have provided amplification and guidance on the 'Four Appliance Categories' in Section 7- 'Supporting Documents and Guidance' of this Specification to assist the lead provider. The area where the competency test (practical assessment) is taking place must be designed to ensure the independent technical expert has full sight of the apprentice **at all times** during the practical task.

The competency test (practical assessment) will be administered and assessed by the technical expert, they will be trained (standardised) by EUIAS and are accountable to EUIAS.

The technical expert:

- must not have been involved in the learning or training of the apprentice and cannot guide the apprentice in any way
- will provide written instructions and brief the apprentice at the beginning of the task in line with EUIAS guidance
- is not allowed to discuss the task with the apprentice before, during or after the competency test
- will question the apprentice to ascertain the depth and breadth of their underpinning knowledge
- will write up the competency test and the outcomes using EUIAS approved documentation as per EUIAS guidelines, verifying whether the competency test was completed appropriately

- will supervise the apprentice during the competency test on a one-to-one basis to maintain quality and rigour. The area where the competency test is taking place must be designed to ensure the independent technical expert has full sight of the apprentice at all times during the competency test
- if a comfort break is required during the competency test the apprentice **must** be supervised by **at all times** on a one-to-one basis

Apprentices should be prepared by carrying out a practice competency test under assessment conditions. They should be questioned during the competency test, as outlined in Section 6 of this assessment 'Practice Assessments and Guidance'.

The EUIAS Service Delivery team will get in touch with the agreed point of contact at the employer or training provider to schedule the EPA competency test as required. This task requires sufficient notice to take account of the availability of the apprentice, the independent technical expert, and the venue staff for the duration of the task(s).

The apprentices should be made aware that the:

- technical expert will allocate marks which will go towards the overall portfolio mark
- competency test has been designed to enable demonstration of core KSBs and the Gas Engineering Operative specific technical skills in an integrated way

The EUIAS Service Delivery team will work with the employer or training provider to schedule the competency test.

The apprentice must demonstrate competency in the core KSBs including the Gas Engineering Operative specific technical skills in an integrated way during the competency test.

The competency test **must** be designed to demonstrate the core KSBs including the specific technical skills as described in this section (Section 5) of the Specification.

Competency Test Criteria

The knowledge, skills and behaviours covered by the competency test have been grouped into 11 sections for the purposes of this assessment.

Not all sections will be assessed on all appliances, but all sections must be covered across the four appliances.

Each part of the competency test has a numbered section. The sections will be relevant at applicable points of the competency test, and some of the critical checks and tests will be relevant to more than one task. The table below provides a guide to the items relevant to each task:

Competency Test – Stage 2

Section Number	Competency Test Performance Element	Place ✓ if achieved or a x if not achieved	Marks Available	Minimum Score for a Pass
1	Operational Checks (Install + Commission)			
	1. Application located deemed suitable		20	15
	2. Appliance clearances correct			
	3. Flue / Chimney installed correctly			
	4. Appliance Ventilation deemed correct			
	5. Appliance commissioned correctly			
	6. Flue/spillage-testing is correctly carried out			
	7. Safety information correctly recorded			
	8. Identifies gas safety controls & proves safe operation			
	9. Completes and maintains records accordingly			
10. Gas supply installed satisfactorily				

	11. Pipe jointing methods are correct			
	12. Gas supply pipe correctly sized			
2	Electrical Safety			
	13. Applies correct electrical test requirements			
	14. Undertakes electrical checks correctly			
	i. Confirms correct polarity			
	ii. Understands company policy requirements			
	iii. Applies the correct policy requirements		12	12
	iv. Safe procedure for electrical isolation			
	v. Fuse Rating Check			
	vi. Proves isolation through appropriate testing			
	vii. Applies measures to ensure supply remains isolated throughout the works			
3	Health, Safety and Environment			
	15. Maintains safety standards throughout job			
	16. Appropriate customer safety management			
	17. Risk Assessments are documented			
	18. Correct PPE worn and utilised throughout			

	19. Re-instate following completion of works			
	20. Takes account of any customer vulnerability			
	21. Job objectives achieved			
4	Tightness Testing and Purging			
	Tightness Testing & Purging must be carried out correctly as per IGEM/UP/1B		5	5
5	Ventilation Checks + Sizing			
	Ventilation sizing and checks must be carried in accordance with Manufacturer's Instructions or where Manufacturer's Instructions are absent, BS 5440-2		5	5
6	Operating Pressure and Gas Rate			
	Correlation between operating pressure, heat input and gas rates of an appliance		5	4
7	Service & Maintenance			
	22. Check's operation of appliance			
	23. Combustion Performance Tests carried out (Complete Report Below)			
	24. Isolate's gas / electric / water as necessary			
	25. Strip Down service as per Manufacturer's instructions			
	26. System and component checks as part of service			
	27. Carries out appropriate flue tests including flue-flow and spillage		12	9
	28. Check's ventilation size and route			
	29. Heat exchanger and case seal tests			

	30. Carries out checks on meter installation			
	31. Gas Safety Reg. 26 (9) checks after work			
	32. Provides Energy Efficiency and product advice and guidance			
8	Fault Diagnosis & Repair (Inc GSIUR 26(9))			
	Trace and repair the fault in a safe manner utilising recognised checks and tests to confirm cause and effect		10	8
9	Decommission Appliance and or System			
	Decommission work in accordance with manufacturer's instructions and the relevant regulations, standards, codes of practice and company operating procedures		5	4
10	Behaviours			
	B1 Ensure personal wellbeing and the safety of customers and others is a priority, working on customer premises / property showing appropriate care and respect whilst focussing on safety			
	B2 Be risk aware showing the desire to reduce risks through systematic monitoring and checking information and the strict compliance with appropriate regulations and normative documents			
	B3 Demonstrate an awareness of how the work impacts on others in the work environment and identify, organise and use resources effectively and sustainably to complete the task with consideration to cost, quality, safety, security and environmental impact		7	4
	B4 Confidently deliver a polite, courteous, professional service to all customers and members of the public whilst safeguarding customer welfare and recognising vulnerability, equality, and diversity			

	B4a Uses a variety of communication methods to interact with customers and others to give / receive information accurately, in a timely and positive manner in order to deliver the best possible service			
	B7 Display self-discipline and self-motivated approach, working with focus and clear purpose in all conditions and locations. Can state the business requirements around lone working			
	B8 Exercise responsibilities in an ethical manner			
11	Unsafe Situations (assessed with Supplementary Questions)			
	At Risk and Immediately Dangerous situation (IGEM/G/11) and RIDDOR		7	5
Total			100	80
Competency Test Points = Total x 0.2				

Stage 3 – Work Log Review including interview

- The work log review including interview will be carried out by a technical expert, who will then combine the scores for each portfolio element to award the final overall preliminary mark for the portfolio
- There will be a maximum of **70 marks available for the work log review and interview** (50 marks are allocated towards the work log review and 20 marks for the interview)
- The **technical expert** will review the apprentice's work log and undertake a summative assessment of competence against the standard's knowledge, skills and behaviours
- The work log interview will typically last one hour and will also take place with the technical expert where currency of knowledge will be checked by verbal questioning around reasons for choices, methods, materials, risk, health and safety
- The **work log interview will typically last one hour** and will confirm understanding and ability to apply knowledge as part of their total job competence
- The work log interview will consist of 10 questions. Some of the questions may be split into two parts a part a) and part b)
- This interview will be conducted under examination conditions
- The responses will be graded distinction, pass or fail
- The EUIAS will provide standardised responses to each question and each grade indicator
- The apprentice responses will be documented by the technical expert during the work log interview

The following pages provide additional information on how to map and reference work in the Work Log.

Portfolio Assessment

Stage 3: Work Log Review including interview

The apprentice must demonstrate all core KSBs including the specific technical knowledge and skills in an integrated way. The work log review and work log interview is assessed and carried by the employer nominated technical expert approved by the EUIAS.

The Work Log is graded out of 50 initially. The knowledge, skills and behaviours are grouped in to six areas, each with a maximum number of marks available which are shown below:

1. Working Safely (10)
2. Demonstrating Technical Knowledge (10)
3. Industry Standards, Legislation, Processes and Procedures (6)
4. Demonstrating Technical Skills (12)
5. Customer Service / Working with others (6)
6. Behaviours (6)

The table below provides the Standard that is to be met. There are 6 areas and, in each area, a minimum score of 1 mark for each Standard can be achieved, and 2 marks where quality exceeds the minimum requirement to a maximum score of 10. In Section 7 'Supporting Documents' of this Specification a document has been provided that the apprentice can use to reference and record evidence in their Work Log.

Group 1: Work Safely	
Standard	Indicative Pass Criteria
CS1	Undertake and document rigorous risk assessments to ensure the safety of all affected by the work activities
CS2	Take personal responsibility for maintaining safety standards and achieving job objectives
CS3	Use and maintain tools, equipment, and personal protective equipment (PPE) in a safe and appropriate manner
CS5	Work with focus and clear purpose in all conditions and locations, covering business requirements, including lone working and safely adapt working methods to reflect changes in working environments
CS6	Work on customer premises/property showing appropriate care and respect whilst focusing on safety

Group 2: Demonstrating Technical Knowledge	
Standard	Indicative Pass Criteria
CK2; CS4	Safe gas and electrical installation, commissioning, decommissioning and/or ongoing service and repair procedures of gas installations and appliances needed to establish the safe operation of the equipment and installation in accordance with industry standards
CK3	Gas and electrical theories and procedures involved in the practical installation, commissioning, decommissioning and/or ongoing service and repair of gas installations, appliances, and associated equipment
TK1	Electrical awareness and be able to carry out safe isolation and essential electrical safety checks
TK6	The statutory and normative documentation including building regulations, water regulations and electrical regulations
TK7	Emergency procedures, including gas escapes, report of fumes and for unsafe situations

Group 3: Industry Standards, Legislation, Processes and Procedures	
Standard	Indicative Pass Criteria

CS8	Identify where situations or conditions are to unsafe standards and take appropriate actions within your range of competency
CS12	Be able to read and follow technical documentation associated with equipment and installation requirements
TS8	Complete and maintain records accordingly
TS11	Access and comply with technical guidance, bulletins, and safety alerts e.g., Gas Industry Unsafe Situations Procedures (GIUSP)

Group 4: Demonstrating Technical Skills

Standard	Indicative Pass Criteria
CK4	Application of relevant electrical / mechanical principles and how they are applied in work processes and procedures
TS1	Carry out safe isolation essential electrical safety checks
TS2; TS3	Demonstrate ambient air testing/carbon monoxide/dioxide atmosphere testing, flue-flow and spillage testing
TS4	Undertake and record the details of the necessary safety checks following gas work on an appliance (Reg. 26/9)
TS5	Identify faults and take the appropriate action to rectify
TS6; TS7	Undertake the installation and commissioning of appliances, including identification of gas safety controls and prove their safe operation
TS7a; TS7b	Undertake the maintenance AND repair of appliances / systems
TS9	Reinstate following completion of works cleaning up and making good
TS12	Demonstrate tightness testing, purging and relight procedures on gas installations
TS13	Demonstrate pipework installations/pipework skills, pressure and flow/pipework sizing, meter installation

Group 5: Customer Service and working with others

Standard	Indicative Pass Criteria
CK5	Up to date energy efficiency advice and guidance to be given to the customer
CK6	Product knowledge to be able to discuss and advise the customer
CS7	Use a variety of appropriate and effective communication methods to interact with customers and others to give/receive information accurately, in a timely and positive manner in order to deliver the best possible service
CS9	Achieve individual and team tasks which align to overall work objectives, be self-motivated and disciplined in the approach to work activities
CS10	Work effectively and efficiently with people from different trades/disciplines, backgrounds and expertise to accomplish an activity in a safe manner, on time, to meet customer expectations
CS11	Identify, organise, and use resources effectively and sustainably to complete the task with consideration to cost, quality, safety, security, and environmental impact

Group 6: Behaviours

Standard	Indicative Pass Criteria
B1	Ensure personal wellbeing and the safety of customers and others is a priority
B2	Be risk aware showing the desire to reduce risks through systematic monitoring and checking information and the strict compliance with appropriate regulations and normative documents
B3	Demonstrate an awareness of how the work impacts on others in the work environment
B4	Confidently deliver a polite, courteous, professional service to all customers and members of the public whilst safeguarding customer welfare and recognising vulnerability, equality, and diversity
B5	Undertake Continuous Professional Development to enhance knowledge and skills to maintain competence
B6	Recognise personal and professional limitations and seek appropriate advice when

	necessary
B7	Display self-discipline and self-motivated approach
B8	Exercise responsibilities in an ethical manner

Work Log Interview Criteria

The interview is graded out of 20 initially. There are 10 questions, each question has a part (a) and a part (b). 1 mark will be awarded for each correct answer.

Standard	Indicative Pass Criteria
CK1	Health and safety standards and regulations and environmental regulatory requirements
CK7	Gas and Electrical regulations concerning the practical installation, commissioning, decommissioning and / or on-going service and repair of gas installations, appliances and associated equipment
CK8; TS10	The statutory and normative documentation including building regulations, water regulations and electrical regulations, company rules, policies and procedures as defined by the employer
CK2; CS4	Safe gas and electrical theories and procedures involved in the practical installation, commissioning, decommissioning and / or on-going service and repair of gas installations, appliances and associated equipment
TK2	Combustion, combustion analysis, gas properties, carbon monoxide (CO), and types of burners
TK3	Flues and ventilation principles
TK4	The necessary safety checks following gas work on an appliance (GSR 26/9)
TK5; TK8; TK9; TK10	The range and suitability of appliances, a knowledge and understanding of appliances, system design, location, controls, flue types for appliances and smart controls, an awareness of green technologies
TK7	Emergency procedures, including gas escapes, report of fumes and unsafe situations
TK11; TK12	The properties of Liquid Petroleum Gas (LPG) An awareness of fuel storage – tanks and bottles (Liquid Petroleum Gas - LPG)

Grading Criteria

Portfolio Assessment:

Grade	Distinction	Pass	Fail
Grade boundaries	85 – 100%	70 – 84%	<69%

Portfolio Assessment mark allocation for each stage of the element:

Portfolio Assessment	Maximum Marks
Stage 1 – Gas Safe® Registration	10
Stage 2 – Competency test	20
Stage 3 – Work log review including interview	50 (Work log review)
	20 (Interview)