ENERGY & ENVIRONMENT AWARDS

EEA Level 3 End-point Assessment for Plumbing and Domestic Heating Technician

Option 1: Domestic Gas Fired Hot Water Heating Appliances Technician

Specification

QAN 610/6015/X
ST0303/V1.2

Specification for

EEA Level 3 End-point Assessment for Plumbing and Domestic Heating Technician Option 1: Domestic Gas Fired Hot Water Heating Appliances Technician

QAN 610/6015/X

Updates to this specification

Since the first publication of the Energy & Environment Awards (EEA) for Plumbing and Domestic Heating Technician Specification V1.2 (PDHT) – Option 1: Domestic Gas Fired Hot Water Heating Appliances Technician, the following updates have been made.

Version	Date first published	Section updated	Page(s)
v1.0	December 2025	First published	All

Section 1: At a Glance EPA Summary

Qualification name	EEA Level 3 End-point Assessment for Plumbing and Domestic Heating Technician
Ofqual qualification number	610/6015/X
Standard reference	ST0303
Assessment plan	V1.2
Standard title	Plumbing and Domestic Heating Technician
Specialist option	Option 1: Domestic Gas Fired Hot Water Heating Appliances Technician
Level	3
Entry Requirements	Learners must be 16 years of age or above
On-programme duration	Typically 48 months Must spend a minimum of 8 months on the program and complete the required off-the-job training according to the apprenticeship funding rules
Gateway readiness	Mandatory requirements: • Employer or training provider must confirm the apprentice is ready to take the EPA • Apprentice must achieve English and mathematics qualifications in line with the apprenticeship funding rules • Passed the Level 3 Diploma in plumbing and domestic heating

	• For option 1: have completed the training, but not the assessments for CCN1 and CENWAT or equivalent qualifications • Compile and submit an EPA portfolio, which the interview will be based To confirm the apprentice has met all Gateway pre-requisites, employer must complete, sign and submit the Gateway Eligibility Form (GER) form to EEA. See Appendix B, Plumbing and Domestic Heating Technician Supporting Documents 'Gateway Eligibility Form.'
End-point assessment duration	Typically 6 months after the Gateway

End-point assessment methods and their order	**This end-point assessment includes integrated assessments which are the ACS knowledge test and the ACS practical carried out by the ACS approved awarding body used by the Centre.**
	
	The assessment components for option 1 must be completed in a specific order:
	• first, the non-integrated assessment components (can be taken in any order)
	  • EEA knowledge test
	  • EEA practical planning test
	  • Core tasks 1 to 3 of the EEA practical
	  • EEA interview (based on an EPA portfolio)
	• then integrated methods:
	  • ACS knowledge test
	  • ACS practical
	
	Why this order? It helps ensure apprentices complete the EPA.

	If the apprentice has completed relevant ACS assessments, this can be accepted if completed at least 6 months before certification renewal. In this case, the apprentice is exempt from the integrated methods (ACS knowledge test and ACS competence test).
End-point assessment methods and component grading	• EEA knowledge test: Fail; Pass; or Distinction • EEA practical planning test: Fail or Pass • EEA competence test: Fail or Pass • EEA interview (based on an EPA portfolio): Fail; Pass; or Distinction • ACS knowledge test: Fail or Pass • ACS competence test: Fail or Pass
Overall Grading	Fail, Pass or Distinction
Certification	EEA request Apprenticeship completion certificates from the DfE.
Glossary of Terms	Appendix A, Plumbing and Domestic Heating Technician Supporting Documents

Objective

The purpose of the Standard end-point assessment is to reflect compliance with all Ofqual requirements, the requirements of the relevant Assessment Plan and to confirm that an apprentice is fully capable of doing their job before they receive their apprenticeship certificate. It also helps to demonstrate that what an apprentice has learned can be applied in the real world.

Once the apprentice has completed the PDHT V1.2 end-point assessment requirements successfully and has been certified they could take on the following job role:

- Domestic heating engineer
- Domestic heating installer
- Plumber

Professional recognition

The apprenticeship standard aligns with:

- EngTech by the Engineering Council through The Chartered Institute of Plumbing and Heating Engineering (CIPHE) and/or The Chartered Institute of Building Services Engineers (CIBSE)

Gateway readiness

Gateway takes place before the EPA can start. The employer and training provider will review their apprentice's knowledge, skills and behaviours to see if they have met the minimum requirements of the apprenticeship set out in the apprenticeship standard and are ready to take the assessment. Only apprentices who complete Gateway successfully can start the EPA. Gateway pre-requisites are listed in the summary table above. The Gateway Eligibility Form must be completed see PDHT V1.2 Supporting Documents Appendix B.

Recognition of prior learning (RPL)

If an apprentice has already passed the relevant ACS assessments before starting their End-point Assessment, these can count towards the EPA. The ACS assessments must have been completed at least six months before their certification renewal date. When this applies, the apprentice does not need to complete two parts of the integrated assessment:

- ACS knowledge test
- ACS practical

Please refer to the Energy & Environment Awards RPL and RPA policy at: https://energyenvironmentawards.co.uk/wp-content/uploads/2025/08/RPL-and-RPA-Policy-V2.pdf

In order for Energy & Environment Awards (EEA) to award an end-point assessment qualification, the apprentice must successfully complete all required assessment components with EEA. This means that:

- each of the EPA components must be completed in full with EEA
- where an apprentice transfers to EEA from another EPAO they have to undertake the entire EPA with EEA, with the exception of the ACS components if already achieved in the last 6 months
- components of the EPA cannot be certificated in isolation, with the exception of the ACS assessments which may be certificated by the ACS certification body
- evidence for the EPA portfolio and interview must be produced while the apprentice is on-programme to demonstrate current practice

This does not affect the Gateway requirements which must be met in order for an apprentice to be eligible for end-point assessment.

This does not affect any reasonable adjustments that may be granted.

Section 2: End-point Assessment Components

End-Point Assessment Structure

The EPA for Option 1 (Gas Pathway) consists of the following:

1. Knowledge Tests
    - EEA knowledge test
    - ACS knowledge test (UKAS approved). Nationally Accredited Certification Scheme (ACS) for Gas fitting operatives theory test

2. Practical Planning Test

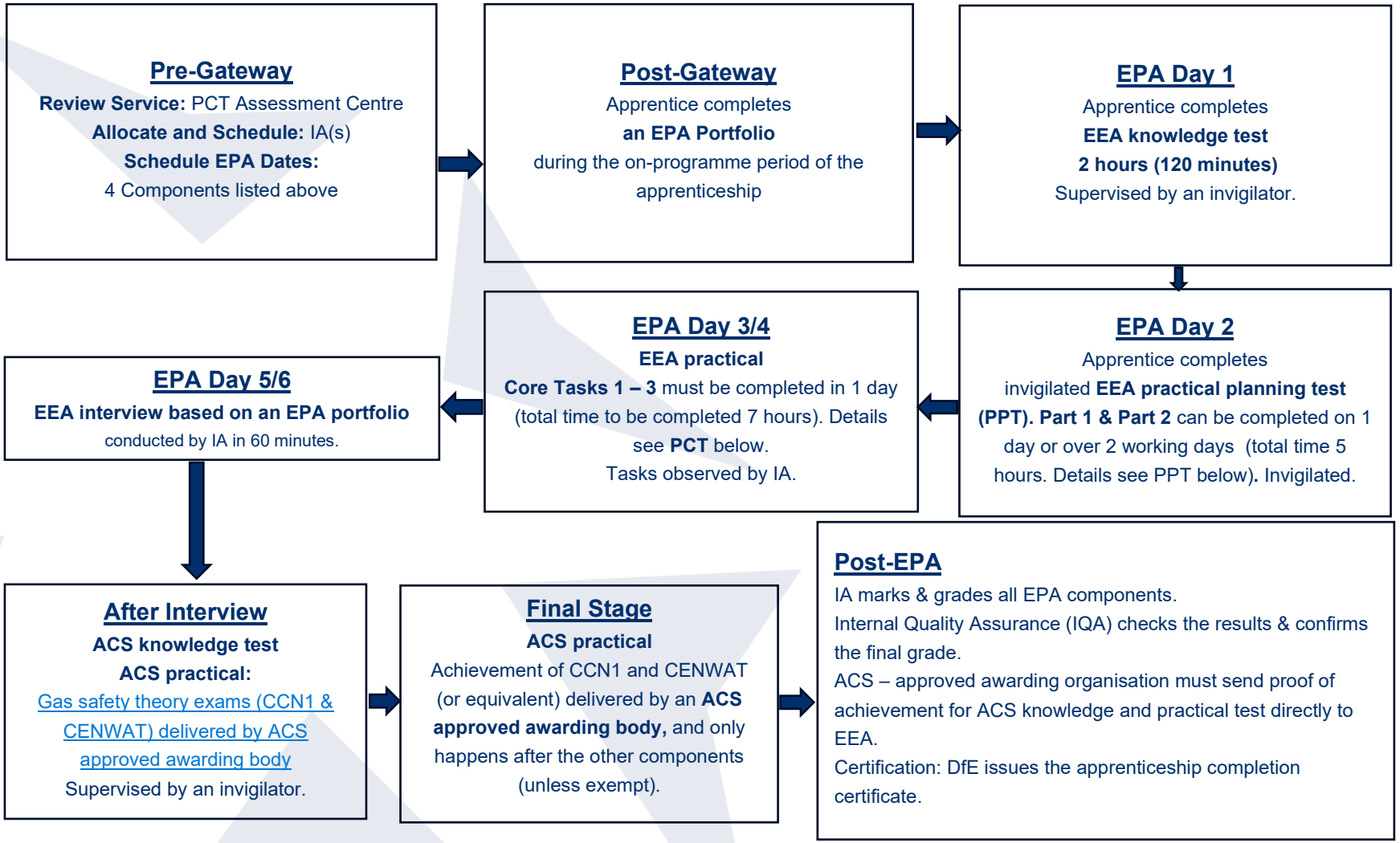
3. Practical Competence Tests
    - EEA practical with core tasks 1, 2 and 3
    - ACS practical – achievement of CCN1 and CENWAT or equivalent qualifications

4. Interview based on an EPA portfolio

Order of assessments

If the ACS assessments have not been completed prior to starting the end-point assessment, then the ACS assessments MUST be completed **after** the EEA assessment components.

End-point Assessment Schedule Overview for Level 3 Plumbing and Domestic Heating Technician



Component 1:EEA knowledge test

Overview

The EEA knowledge test assesses the apprentice's understanding of core principles and option-specific requirements. It ensures apprentices have the core knowledge needed to work safely and competently in plumbing and domestic heating, including compliance with gas safe registration standards.

Structure

The EEA knowledge tests the apprentice's knowledge of core topics across the standard.

- Multiple-choice questions covering topics from the standard such as:
  - Health and safety
  - Regulations and compliance
  - Installation principles
  - System performance and fault diagnosis

Delivery EEA knowledge test

The EEA knowledge test is a computer-based test which consists of 60 multiple-choice questions. Paper-based tests are available on request.

Total of 60 marks are available for this test,

Apprentices have 120 minutes (2 hours) to complete the test.

The EEA knowledge test questions will have four possible answers of which one will be correct.

The Pass mark is 36 correct answers.
The Distinction mark is 50 correct answers.

For this paper:

- a (scientific) calculator is allowed
- access to the internet or intranet is NOT allowed
- apprentices cannot refer to any reference books or materials

Apprentices must take the test in a quiet space, free from distractions and influence, in the presence of an invigilator.

EEA knowledge test coverage

EEA knowledge test checks the knowledge set out in the Assessment Plan. It focuses on specific knowledge elements in the standard. The **numbering may not be in the same order as the standard** because some knowledge elements are covered by other assessment methods. The assessment plan for this standard refers to the knowledge elements as learning outcomes and to the amplification as assessment criteria.

EEA knowledge test includes 60 core knowledge questions. The table below shows the knowledge elements that are assessed in this test.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
1	1. Know and apply health and safety legislation that applies to the building services industry.	1.1 Identify health & safety legislation in protecting the workforce and members of the public.
		1.2 Identify responsibilities of members of the construction team.
		1.3 Identify the legal status of health and safety guidance materials.
		1.4 Identify the role of enforcing authorities.
		1.5 Identify the control measures of inspectors.
2	2. Understand hazardous situations working in the building services industry.	2.1 Identify types of site hazards that may be encountered while at work or by members of the public.
		2.2 Identify strategies used to prevent accidents during work activities.
		2.3 Identify how the hazards of some substances and mixtures can be identified from the labels and packaging.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
		2.4 Identify how to deal with commonly encountered substances including disposal where applicable.
		2.5 Identify common building materials and services components that may contain asbestos
		2.6 Identify types of asbestos that may be encountered in the workplace.
		2.7 Identify procedures that must be used to safely work with asbestos cement based materials
1	4. Understand how to respond to accidents.	4.1 Identify requirements for first aid provision in the workplace.
		4.2 Identify actions that should be taken when an accident or emergency is discovered.
		4.3 Identify procedures for dealing with minor injuries.
		4.4 Identify procedures for dealing with major injuries.
		4.5 Identify recording procedures for accidents and near misses at work.
1	6. Understand how to work safely with heat Producing equipment.	6.1 Identify various types of gases used in pipe jointing processes.
		6.2 Identify how bottled gases and equipment should be safely transported and stored.
		6.3 Identify various types of heat producing equipment and how to check them for safety.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
		6.4 Identify how gas heating equipment is safely assembled and used.
		6.5 Identify the three elements of the fire triangle and how combustion takes place.
		6.6 Identify the dangers of working with heat producing equipment and how to prevent fires occurring.
		6.7 Identify the method for fighting small, localised fires that can occur in the workplace in order to aid escape.
1	7. Understand and safely use access equipment.	7.1 Identify situations where it may be necessary to work at height.
		7.2 Identify how to select appropriate access equipment to permit work at heights.
1	8. Understand working safely in excavations and confined spaces.	8.1 Identify situations where it may be necessary to work in excavations and confined spaces.
		8.2 Identify safe working in excavations and confined spaces.
		8.3 Identify dangers associated with excavations and confined spaces.
		8.4 Identify safety measures when working in excavations and confined spaces
		10.1 Identify pipework materials and sizes used in dwellings.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
1	10. Know types of plumbing and domestic heating system pipework and their jointing principles.	10.2 Identify fitting types used in dwellings.
		10.3 Identify methods of jointing pipework.
		10.4 Identify methods of bending pipework.
1	12. Understand and use clips and brackets to support plumbing and domestic heating pipework and components.	12.2 Identify types of fixing devices.
		12.3 Identify clip and bracket types.
1	14. Understand units of measurement used in the plumbing and domestic heating systems industry	14.1 Identify internationally recognised (SI) units of measurement.
		14.2 Identify the application and use of SI derived units.
		14.3 Identify the use of conversion tables for non-SI Units.
1	15. Understand properties of materials.	15.1 Identify relative densities of common materials.
		15.2 Identify properties and applications of solid materials.
		15.3 Identify why solid materials breakdown.
		15.4 Identify methods of preventing corrosion.
		15.5 Identify applications of liquids and gases.
		15.6 Identify basic properties of liquids.
		15.7 Identify basic properties of gases

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
2	16. Understand the relationship between energy, heat and power.	16.1 Identify the relationship between the Celsius and Kelvin temperature scales.
		16.2 Identify the principles associated with a change of state.
		16.3 Identify the terms latent and sensible heat as they apply to liquids and gases.
		16.4 Identify methods of heat transfer.
		16.5 Identify how units of energy and heat are related and derived.
		16.6 Carry out heat, energy and power calculations.
2	17. Understand principles of force and pressure and their application in the plumbing and domestic heating systems industry.	17.1 Identify the units of force and pressure derived from SI units.
		17.2 Identify pressure and flow rate units of measurements.
		17.3 Identify the application of pressure and flow rate measurements.
		17.4 Carry out simple force and pressure calculations.
		17.5 Identify the relationship between velocity, pressure and flow rate in systems.
		17.6 Identify how restrictions in the pipework effects the flow of liquids and gases.
		17.7 Identify the principles of a siphon.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
1	18. Understand mechanical principles in the plumbing and domestic heating systems industry.	18.1 Identify principles of simple machines.
		18.2 Identify principles of basic mechanics.
1	19. Understand principles of electricity in the plumbing and domestic systems industry.	19.1 Identify basic principles of electron flow theory.
		19.2 Identify the purpose and application of simple units of electrical measurement.
		19.3 Carry out simple electrical calculations.
		19.4 Identify the requirements for earthing of electrical circuits.
		19.5 The testing and commissioning requirements applicable to electrical control systems and components.
1	20. Know sources of renewable and non-renewable energy.	20.1 Identify the different types of non-renewable energy.
		20.2 Identify the different types of renewable energy.
		20.3 Identify the effects of using renewable and non-renewable energy sources
1	21. know current energy efficiency advice and guidance.	21.1 Identify the benefits of energy efficient products, services and equipment.
		21.2 Identify the key factors of the Building Regulations and guidance that apply to energy efficiency.
		22.1 Identify key roles of the site management team.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
1	22. Know the role of the construction team within the plumbing and domestic heating systems industry.	22.2 Identify key roles of the site operatives.
		22.3 Identify common site visitors.
1	24. Know how to communicate with others.	24.1 Identify methods for effective communication with individual's needs.
		24.2 Identify suitable communication methods.
		24.3 Identify appropriate actions to deal with conflicting parties.
		24.4 Identify the effects of poor communication with individuals.
1	25. Understand responsibilities of relevant people in the building services industry.	25.1 Identify different types of client.
		25.2 Identify what may be communicated to the client through the progress of a job.
		25.3 Identify duties and methods for supervising staff.
1	26. Understand and produce work programme for tasks in the plumbing and domestic heating systems industry.	26.1 Identify types of projects.
		26.3 Identify the impact when materials are not delivered on time against the work programme.
		26.4 Identify factors which affect working time allocation to work activities.
		28.1 Identify the key stages in the rainwater cycle.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
2	28. Understand cold water supply to dwellings.	28.2 Identify the various sources of water and the typical properties of water from those sources.
		28.3 Identify the types of water supply to dwellings and how these are regulated.
		28.4 Identify the different types of water and uses of water in dwellings.
		28.5 Identify the mains water treatment processes and typical mains water distribution system from treatment works to property.
		28.6 Identify the private supply water treatment processes.
		28.7 Identify water treatment processes and typical supply pipework and storage systems utilising harvested rainwater and recycled greywater.
		28.8 Identify water service to the property and isolation points.
		28.9 Identify the requirements to provide water whilst preventing waste, undue consumption, misuse or contamination.
5	29. Understand and recognise the layouts of plumbing and domestic heating systems.	29.1 Identify types and layout features of cold water systems in dwellings.
		29.2 Identify the types and layout features of hot water systems in dwellings.
		29.3 Identify the types and layout features of domestic central heating systems.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
		29.4 Identify the types and layout features of sanitary pipework systems.
		29.5 Identify the types and layout features of rainwater systems: pipe (RWP) and gutter.
3	30. Understand and install cold water systems.	30.1 Identify fluid categories of water and uses of water supplied to dwellings.
		30.2 Identify the advantages and disadvantages of cold water systems.
		30.4 Identify working principles of cold water systems, positioning fixing, connection and operation of components.
		30.5 Identify layout and installation requirements for protected plastic storage cisterns.
		30.6 Identify insulation requirements, system frost protection and prevention of undue warming of cold water systems.
		30.9 Identify backflow risk and required methods of Prevention.
2	31. Understand and install hot water systems.	31.1 Identify advantages and disadvantages of hot water systems.
		31.2 Identify types and typical pipe sizes used in hot water systems within dwellings.
		31.3 Identify working principles of hot water systems, positioning fixing, connection and operation of components.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
		31.4 Identify insulation requirements and system frost protection.
		31.6 Identify expansion and contraction in hot water systems and negative effects.
		31.8 Identify secondary circulation and how trace heating can be used.
		31.10 Identify backflow risk and required methods of prevention.
3	32. Understand and install domestic central heating systems.	32.1 Identify advantages and disadvantages of types and layout features of heating systems.
		32.3 Identify working principles of types of central heating systems, positioning fixing, connection and operation of components.
		32.4 Identify the importance of pump positioning.
		32.5 Identify operating principles for system control.
		32.6 Identify zoning and control requirements of central heating systems in accordance with statutory legislation.
		32.7 Identify insulation requirements and system frost protection.
		32.9 Identify expansion and contraction in central heating systems and negative effects.
		32.11 Identify procedures for filling and venting system types.
		32.12 Identify the operating principles of heat-producing appliances.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
2	33. Install sanitary appliances and pipework systems.	33.1 Identify advantages and disadvantages of sanitary appliances pipework systems.
		33.3 Identify working principles of sanitary appliances pipework systems and layouts and the positioning, fixing, connection and operation of components.
		33.5 Identify expansion and contraction in sanitary appliances pipework systems and negative effects.
		33.7 Identify different types of sanitary appliances and components used in dwellings.
		33.8 Identify factors that lead to trap seal loss in sanitary pipework systems.
		33.9 Identify the suitability of below ground drainage systems to receive waste water.
		33.10 Identify the installation features of sanitary facilities and equipment in dwellings for the disabled including wet rooms.
		33.12 Identify working principles of greywater recycling systems.
2	34. Understand and install	34.1 Identify advantages and disadvantages of rainwater systems: pipe (RWP) and gutter.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
	rainwater systems	34.2 Identify typical sizes and materials used in rainwater systems: pipe (RWP) and gutter
		34.4 Identify expansion and contraction in rainwater systems and negative effects.
		34.5 Identify factors affecting gutter bracket selection and fixing for buildings
1	36. Understand and perform a soundness test and commission cold water systems and components.	36.1 Identify information sources required to complete testing and commissioning.
		36.2 Identify how to fill and vent cold water systems.
		36.5 Identify the flushing requirements including the use of system additives for new and existing cold water systems.
1	37. Understand and perform a soundness test and commission hot water systems and components.	37.1 Identify information sources required to complete testing and commissioning.
		37.2 Identify how to fill and vent hot water systems.
		37.5 Identify the flushing requirements including the use of system additives for new and existing hot water systems
1	38. Understand and perform a soundness test and commission central heating systems and components.	38.1 Identify information sources required to complete testing and commissioning.
		38.2 Identify how to fill and vent central heating systems.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
		38.5 Identify the flushing requirements including the use of system additives for new and existing central heating systems
1	40. Understand and perform a soundness test and commission rainwater systems and components.	40.1 Identify information sources required to complete testing and commissioning.
1	46. Understand and carry out service and maintenance on cold water systems.	46.1 Identify how to use manufacturer instructions and job maintenance schedules to establish the periodic servicing requirements of system components.
		46.3 Identify types of information to be provided on a maintenance record for cold water systems.
		46.4 Identify requirements for legionella and bacterial growth control measures.
1	47. Understand and carry out service and maintenance of hot water systems.	47.1 Identify how to use manufacturer instructions and job maintenance schedules to establish the periodic servicing requirements of system components.
		47.3 Identify types of information to be provided on a maintenance record for hot water systems.
		47.4 Identify requirements for legionella and bacterial growth control measures.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
1	48. Understand and carry out service and maintenance on central heating systems.	48.1 Identify how to use manufacturer instructions and job maintenance schedules to establish the periodic servicing requirements of system components.
		48.3 Identify types of information to be provided on a maintenance record for central heating systems.
1	49. Understand and carry out service and maintenance on sanitary appliances and pipework systems.	49.1 Identify how to use manufacturer instructions and job maintenance schedules to establish the periodic servicing requirements of system components.
		49.3 Identify types of information to be provided on a maintenance record for sanitary appliances and pipework systems.
1	56. Know the basic operating principles of micro-renewable energy technologies.	56.1 Identify the basic operating principles of heat producing micro-renewable energy technologies.
		56.2 Identify the basic operating principles of heat-led micro-combined heat and power.
1	57. Understand requirements to install micro-renewable energy systems to existing systems.	57.1 Identify the suitability of building location and features when installing micro-renewable energy systems.
		57.2 Identify statutory regulations affecting installation of micro-renewable energy systems
		57.3 Identify what would be typically classified as 'permitted development' under town and country planning regulations in relation to the deployment of technologies.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
		57.4 Identify which parts of the regulations apply in relation to the installation of environmental technologies.
		57.5 Identify typical advantages and disadvantages associated with environmental technologies
2	58. Understand factors affecting fuel selection.	58.1 Identify the types of fuels used in appliances.
		58.2 Identify the factors which affect the selection of fuels.
		58.3 Identify sources of information for fuel supply installation.
		58.4 Identify the regulatory type bodies which govern the installation of various fuel types.
		58.5 Identify the storage requirements for fuels.
		58.6 Identify factors which could affect storage requirements for fuels.
2	59. Know combustion processes of fuel supplied systems.	59.1 Identify the combustion process.
		59.2 Identify the main constituents of complete and incomplete combustion.
		59.3 Identify causes of incomplete combustion.
		59.4 Identify signs of incomplete combustion.
		59.5 Identify the symptoms of CO poisoning.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
		59.6 Identify the purpose of CO detectors.
		59.7 Identify the requirements for ventilation
		59.8 Identify the different types of ventilation.
		59.9 Identify installation practices for ventilation.
2	60. Know principles of chimney/flue systems.	60.1 Identify the operating principles of chimney/flue systems.
		60.2 Identify types of chimney/flue systems.
		60.3 Identify the components within chimney/flue systems.
		60.4 Identify the effects of layout on chimney/flue systems.
		60.5 Identify the layout and features of chimney and flue construction.
		60.6 Identify termination requirements for chimney/flue systems from relevant documents.
		60.7 Identify basic inspection and testing procedures for chimney/flue systems.
1	61. Understand and perform preinstallation activity prior to undertaking electrical work on plumbing and domestic heating systems.	61.1 Identify the limitations of your responsibility when carrying out work on electrical supplies and/or circuits for the control of plumbing and domestic heating systems.
		61.2 Identify the applications, advantages and limitations of electrical supplies.

Number of Questions	Knowledge elements (learning outcomes)	Amplification and Guidance (assessment criteria)
		61.3 Identify the applications, advantages and limitations of different electrical equipment, cables/wiring and components in relation to the working environment.
		61.4 Identify the appropriate industry standards and regulations relevant to carrying out work on electrical supplies and/or circuits for the control of plumbing and domestic heating systems.
		61.5 Identify how to verify that job information and documentation is current and relevant and that the plant, instruments, access equipment and tools are fit for purpose
1	62. Apply industry standard safe.	62.1 Identify the correct means of electrical isolation prior to commencing work.

EEA knowledge test roles and responsibilities

Role	Responsibility
EEA knowledge test invigilator	Is typically provided by the employer or training provider. Attend induction training as directed by EEA. Not invigilate an assessment, solely, if they have delivered the assessed content to the apprentice. Invigilate and supervise the apprentice during tests and in breaks during assessment methods to prevent malpractice in line with the EEA's invigilation procedures.
Employer/Training Provider	Ensure that the EEA knowledge test is scheduled with EEA for a date and time which allow the apprentice to be well prepared. Follow EEA guidance in setting up and confirming IT provision for the on-screen test.
EEA	Arrange for the EEA knowledge test to take place, in consultation with the employer/training provider. Mark knowledge test answers accurately according to the mark scheme and procedures.

Component 2: EEA practical planning test

Overview

The EEA practical planning test (PPT) is set by Energy & Environment Awards and takes place at an approved assessment centre. An independent assessor, appointed by Energy & Environment Awards will mark the test.

During the PPT, the apprentice produces a design plan based on the given requirements. All necessary materials will be provided to complete the tasks outlined in the table below.

The assessment must be carried out in a controlled and invigilated environment to ensure fairness and integrity. Employers and training providers must give the apprentice at least 14 days' notice when booking the assessment.

The following table outlines the procedure for conducting the practical planning test:

Roles required	Managed by 1 invigilator Marked by 1 Independent assessor, approved by EEA.
Practical structure	The Practical Planning Test (PPT) is allocated a **total of 5 hours** for completion. It is divided into **two parts**, each containing two tasks. The expected maximum ratio of apprentices to invigilator is 12:1. Apprentices must complete all tasks within the 5 hour timeframe. • **Part 1:** Task planning – planning the job before starting work • **Part 2:** Technical planning and risk – looking at safety and technical details in your plan The PPT takes place in an assessment centre (classroom-based) and is invigilated by an Energy & Environment Awards approved invigilator from the centre. The tasks may be completed over two working days. The employer or training provider must ensure the apprentice(s): • arrive on time and are prepared with any required identification • follow all assessment centre rules and instructions from the invigilator • do not access any unauthorised materials or devices during the test

	• understand that the test is conducted under strict exam conditions Building plans are provided to the apprentice with a job specification, manufacturer's information and data, British Standards and Regulations. The apprentice is asked to complete a domestic cold and hot water system design capable of meeting a specific job specification. The practical planning test will be: • an open book test, meaning the apprentice can use reference books or materials during the assessment • managed by 1 invigilator • marked by 1 independent assessor, approved by EEA • marked out of 82 There may be a break after a task is completed to allow the apprentice to have a meal/comfort break, which must be supervised. During these breaks, the clock will be stopped and then restarted to ensure that the assessment duration is not reduced. **Ending the PPT early:** The apprentice may choose to end the practical planning test early. Before doing so, they must be confident that they have demonstrated competence against all relevant assessment requirements. The invigilator will ensure the apprentice fully understands the assessment requirements and the potential implications of ending the assessment early. Where appropriate, the invigilator may advise the apprentice to continue with the assessment.
Where will the assessment take place?	The practical planning test must be conducted: • in an approved assessment centre (classroom based) • in a suitable area (quite room, good lighting, space and privacy) provided the apprentice can work unhindered and without gaining advantage from others. The apprentice must not be disturbed throughout the assessment
What will the apprentice have to produce?	The apprentice will be asked to complete a rain-water, heating, hot water and cold water design capable of meeting the job specification. The apprentice will then produce: • hot and cold water pipework sizing • final layout plans

	• materials list • merchant order • work programme • risk assessment and method statement • present calculations and information in a suitable format for quotation and tender The assessment tasks set by Energy & Environment Awards will allow the apprentice to undertake the above activities. See grading criteria in Section 3 for the practical planning test coverage of the standard.

What resources can the apprentice use?	The following equipment and resources needed for the practical planning test must be provided by the employer or training provider and available for use:
	• normative documents:
	  ○ Domestic building services compliance guide
	  ○ WRAS Water regulations guide
	  ○ Building regulations, Parts G, L
	  ○ BS 8558
	  ○ BS 806 Parts 1-5
	  ○ BS 12056 Parts 1-3
	  ○ manufacturers' technical documents
	• scientific calculator
	• writing materials
	• stationery
	
	Energy & Environment Awards will provide:
	• the PDHT V1.2 Practical Planning Test (PPT) Resource Book
	• the apprentice with workbooks for the practical planning test (PPT) part 1 and 2 to work in, which will require short answers and some calculations
	• building plans with a job specification
	
	Important note: Internet access in not permitted.

Who sets the tasks?	Energy & Environment Awards
Grading	Fail or Pass

Practical planning test roles and responsibilities

Role	Responsibility
Invigilator	Is typically provided by the employer or training provider. Attend induction training as directed by Energy & Environment Awards. Invigilate and supervise the apprentice during tests and in breaks throughout the PPT assessment to prevent malpractice in line with Energy & Environment Awards invigilation procedures. Before the assessment begins the invigilator must ensure the apprentice: • is provided with both written and verbal instructions to understand the tasks to be performed within the assessment • understand the maximum time allowed overall and for each workbook • be told the timings to start, stop and hand in each workbook • sign the front sheet of each PPT workbook • be informed of the reference materials required to complete each part • be informed to write all answers in the PPT workbook provided • show all markings out where required in the PPT workbook • submits Part 1 of the workbook to the invigilator before starting Part 2 • follows the instructions provided by the invigilator • receives Part 1 back when Part 2 starts • hands both Part 1 and Part 2 to the invigilator at the end of the PPT test • hands in the resource book at the end of Part 2 The invigilator must document the apprentice's request to end the assessment early.

Role	Responsibility
Independent Assessor	Will mark the PPT and award a preliminary grade.
Employer/Training Provider	The training provider must liaise effectively with the employer to ensure the apprentice is prepared for the practical planning test (PPT). Provide an assessment centre where the practical planning test assessment will be conducted, which must be suitably equipped to allow the apprentice to attempt all aspects of the PPT: • Provide all necessary British Standards and regulations • Provide manufacturer's information and data Ensure the apprentice has access to resources stated earlier in the table that outlines the procedure for conducting the practical planning test for the PPT.
Energy & Environment Awards	Arrange for the PPT to take place, in consultation with the employer/training provider and independent assessor. Approve invigilator(s) and independent assessor (s).

Component 3: EEA practical

Overview

In the EEA practical, an independent assessor, appointed by Energy & Environment Awards, observes the apprentice completing practical tasks in an approved assessment centre within a simulated workshop environment. The simulated environment must closely reflect real working conditions.

Centres unfamiliar with this standard are strongly encouraged to use the Energy & Environment Awards Practical Review Service to ensure the simulated test area meets end-point assessment requirements.

The apprentice will complete:

- EEA practical core tasks 1,2 and 3, as detailed in the table below. The independent assessor must ask questions before or during the test. To avoid disrupting the apprentice's workflow, questions will be asked during natural breaks between tasks or after completion of work.

Employers and training providers must give the apprentice at least 2 weeks' notice of the EEA practical test.

The following table outlines the procedure for conducting an EEA practical:

Assessors	1 independent assessor approved by Energy & Environment Awards
Practical competence Test structure	In the EEA practical, an independent assessor observes the apprentice completing a series of tasks set by Energy & Environment Awards. The three core tasks must be completed over one working day for all apprentices. EEA practical core tasks 1 to 3 must take 7 hours. The independent assessor can increase the time of the EEA practical by up to 42 minutes (10%) to allow the apprentice to complete a task or respond to a question if necessary. Before the test begins, the independent assessor will explain the format and timescales. This briefing does not count towards assessment time. The independent assessor may observe up to four apprentices (subject to approval by Energy & Environment Awards) at a time to ensure quality and rigour.

	There may be breaks during the EEA practical to allow the apprentice to move from one location to another and for meal/comfort breaks. During these breaks, the clock will be stopped and then restarted to ensure that the assessment duration is not reduced. The EEA practical will be managed and assessed by an independent assessor. The Centre must ensure that a responsible member of staff is available at all times during the EEA practical. **Ending the EEA practical early:** The apprentice may choose to end the EEA practical early. Before doing so, they must be confident that they have demonstrated competence against all relevant assessment requirements. The independent assessor will ensure the apprentice fully understands the assessment requirements and the potential implications of ending the assessment early. Where appropriate, the independent assessor may advise the apprentice to continue with the assessment.
Where will the assessment take place?	The EEA practical must be conducted in an independent assessment centre with a simulated test area (workshop) that reflects the real working environment. The apprentice must be able to work unhindered and without gaining advantage from others. The simulated test area must be planned by the employer or training provider and reviewed by Energy & Environment Awards. Bays will need to be independent, and the apprentice must not have had any exposure to the bay whilst on-programme. To confirm photographs of the bays must be submitted to Energy & Environment Awards with the 'L3 Plumbing and domestic heating V1.2 EEA practical planning and approval form,' see PDHT V1.2 Supporting Documents Appendix E. The completed planning and approval form must be submitted to Energy & Environment Awards at least 1 month before the assessment is scheduled. Energy & Environment Awards will

	review the form to confirm the suitability of the simulated environment for the assessment tasks.

What are the core tasks that will be covered?	**EEA practical core task 1: Installation and testing of a domestic plumbing system,** including pipe fabrication, jointing techniques, radiator installation, and soundness testing. The apprentice will:
	• fabricate a domestic pipework layout
	• install branch connection from a water closet (WC) and a waste pipe branch from a wash basin to a soil stack
	• connect a hot and cold water tap connections to a wash basin
	• install a double panel radiator, this is also intended to demonstrate manual handling techniques
	• use different pipework materials, including copper, plastic pressure and plastic soil and waste pipe
	• apply jointing techniques including push fit, solvent welded
	• apply complex jointing techniques including soldered, compression and press fit
	• perform pipe bending (Offset and Passover) techniques
	• use brackets and fixings
	• maintain dimensional tolerances of ±2mm on the lengths and ±2° on the angles
	• conduct soundness testing the system:
	  ○ pressure pipework to withstand a pressure test of 3 bar for 5 minutes
	  ○ soil and waste pipework must maintain an air test of 38mm water gauge for 3 minutes. Soundness testing of the soil and waste pipework to require the use of a stepladder or hop up work platform
	
	EEA practical core task 2: Installation, wiring, and commissioning of electrical components for a domestic heating and hot water system. The apprentice will:
	• install and wire either a room thermostat or cylinder thermostat (one of which may be pre-installed)
	• carry out safe isolation
	• test and commission the system

	EEA practical core task 3: Servicing and maintenance of electrical components, including fault finding, diagnosis, and repair. The apprentice will: • find, diagnose and repair 2 electrical faults in the system • test the system after repair Refer to the grading criteria in Section 3 for the details on how the EEA practical assesses coverage of the standard.
What resources can the apprentice use?	The employer/training provider will provide equipment and resources needed for the EEA practical.
How many questions will the apprentice be asked?	The independent assessor must ask a minimum of 3 open questions (one per task), with follow up questions as appropriate, to confirm their understanding of the rationale for actions taken and the choices made to complete the tasks. The time for questioning is included in the overall assessment time.
What will the questions focus on?	Underpinning knowledge and/or skills and behaviours where an opportunity to observe them has not occurred.
Grading	Fail or Pass

EEA practical knowledge and skills coverage

The EEA practical coverage of the standard is listed in the EEA practical Grading Criteria in section 3.

EEA practical roles and responsibilities

Role	Responsibility
EEA Independent Assessor	Provide written and verbal instructions for the EEA practical. Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by Energy & Environment Awards.
Employer/Training Provider	In advance of the assessment, the employer is responsible for: • liaising with the training provider to ensure Energy & Environment Awards EEA practical approval and planning review service has been carried out to ensure the assessment centre (simulated area) is fit for purpose for the assessment centre • liaising with the training provider to ensure that the apprentice is prepared for the EEA practical • providing the independent centre which must include secure bays for the EEA practical to take place and must be suitably equipped to allow the apprentice to attempt all elements of the EEA practical. The apprentice must not have had any exposure to the secure bays whilst on-programme • providing the apprentice with all required tools, equipment, PPE and all other resources that may be required to complete the task • advising Energy & Environment Awards in advance to allow arrangements for the EEA practical to take place • advising Energy & Environment Awards of facilities available on site and any site-specific requirements such as access arrangements, safety inductions and PPE • liaising with an ACS approved awarding organisation to deliver the ACS practical

Role	Responsibility
Energy & Environment Awards	Arrange for the EEA practical to take place, in consultation with the employer/training provider and independent assessor. Approve independent assessor (s).

Component 4: EEA interview based on an EPA portfolio

Overview

The EEA interview is based on the apprentice's EPA portfolio and focuses on holistic evidence covering the KSBs relating to the interview. The apprentices may refer to their EPA portfolio to help answer interview questions.

The EPA portfolio is **not assessed**. The EPA Portfolio Template is designed to assist the apprentice during their interview. The apprentice should use the EPA Portfolio Template to collate evidence in preparation for their interview. It should only contain evidence compiled throughout the apprenticeship. The EPA Portfolio Template will be issued to employers/training providers by their EEA Service Delivery Coordinator and must be completed and submitted to EEA at Gateway.

The apprentice will be given at least **2 weeks notice** of the interview.

The following table outlines the procedure for conducting an interview based on an EPA portfolio:

Assessors	1 independent assessor approved by EEA will conduct the interview.
Interview structure based on an EPA portfolio	The apprentice's Manager/Mentor must support the completion of the EPA Portfolio Template tasks in accordance with company policy and procedures. **Types and number of questions:** • The independent assessor must ask a minimum of 10 questions • Standardised open questions which will be based on the contents of the evidence in the EPA portfolio to ensure the apprentice's level of knowledge, skills and behaviours • Additional follow up questions are allowed, to seek clarification **Location:** Employer's premises or a suitable venue for example a training provider's premises. **Time:** • The interview must last 60 minutes (1 hour) • The independent assessor has the discretion to increase the time of the interview by up to 6 minutes (10%) to allow the apprentice to complete their last answer

	The interview will be: • conducted by 1 independent assessor • face to face or remote, as agreed • recorded in writing using the interview record template provided by EEA • video recorded using relevant technology such as Microsoft Teams or an audio recording device • conducted under examination conditions The apprentice must have access to their EPA portfolio throughout the interview. Although questioning will cover ALL the elements of the PDHT V1.2 standard (listed below in this section of the Specification), the independent assessor will prioritise areas according to what they see in the EPA portfolio. **For further guidance on the EPA portfolio refer to Section 5 Practical Guidance on an EPA Portfolio.** **Ending the interview early:** The apprentice may choose to end the interview early. The apprentice must be confident they have demonstrated competence against the assessment requirements. The independent assessor will ensure the apprentice is fully aware of all the assessment requirements and the apprentice understands the implications of ending an assessment early if they choose to do so. The independent assessor may suggest the assessment continues. The independent assessor or EEA cannot suggest or choose to end any assessment method early (unless in an emergency).
What topics will be covered?	Refer to the grading criteria in Section 3 for the details on how the interview assesses coverage of the standard.
When will the EPA portfolio be referred to?	The EPA portfolio: • will be reviewed by the independent assessor before the interview • can be referred to by the apprentice to illustrate their answers **Note**: the EPA portfolio is **not** directly assessed.
Grading	Fail, Pass or Distinction

Interview based on an EPA portfolio roles and responsibilities

Role	Responsibility
Independent Assessor	Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by EEA. Review the apprentice's EPA portfolio prior to the question and answer session. In the event of an apprentice requesting to end the interview early, the assessor must ensure the apprentice is fully aware of all the assessment requirements for the session. Requests must be documented in line with instructions provided by EEA.
Employer/Training Provider	The interview must be scheduled with EEA for a date and time which allow the apprentice to be well prepared. Ensure the apprentice has access to their EPA portfolio before and on the day of the interview.
EEA	Arrange for the interview to take place, in consultation with the employer/training provider and independent assessor.

Component 5: ACS knowledge test

Introduction

The ACS knowledge test is an integrated assessment that covers specific areas of gas safety knowledge. These tests include theory based assessments that form part of the mandatory ACS gas safety qualifications:

- CCN1 - Core Domestic Gas Safety (or equivalent theory tests for the core domestic gas safety qualification)
- CENWAT - Domestic Gas Central Heating Boilers and Water Heaters or equivalent theory test for domestic gas central heating boilers and water heaters

ACS knowledge test delivery

The ACS knowledge tests are delivered and marked by an awarding body approved to offer ACS gas safety qualifications in accordance with Matters of Gas Safety requirements. This ensures full compliance with gas safety regulations.

If an apprentice completed ACS assessments at least six months prior to certification renewal, they are exempt from these tests.

To successfully complete the End-point Assessment (EPA), the apprentice must pass all required ACS tests. Energy & Environment Awards will confirm achievement after the apprentice has completed the non-integrated components.

Component 6: ACS practical

What is the ACS practical?

The ACS practical checks your ability to work safely and competently with gas systems. It is the final part of your End-point Assessment (EPA) and must be completed after all other non-integrated assessments.

What Will You Need to Do?

To pass this test, you must successfully complete two key ACS qualifications:

- CCN1 – Core Domestic Gas Safety
- CENWAT – Domestic Gas Central Heating Boilers and Water Heaters

(If you already hold equivalent qualifications, these may count.)

Who Arranges the Test?

You do not need to arrange this test yourself. It will be scheduled by an ACS approved awarding body once you have finished all other EPA components.

Your responsibility is to:

- Be prepared for the ACS practical
- Attend the sessions arranged by the awarding body

How Is It Assessed?

The ACS approved awarding body will assess and grade your ACS practical in line with Gas Safe and ACS requirements.

What Happens After You Pass?

Before Energy & Environment Awards can sign off your apprenticeship, they need proof that you have passed CCN1 and CENWAT (or equivalent).

Acceptable proof includes:

- A copy of your certificate, or
- An official confirmation report from the awarding body

Without this evidence, your apprenticeship cannot be fully completed.

Section 3: Grading and Grading Descriptors

Component 1: EEA knowledge test

The following grade boundaries apply to the EEA knowledge test:

Grade	Minimum mark	Maximum mark	%
Fail	0	35	NA
Pass	36	49	60%
Distinction	50	60	83.3%

Component 2: EEA practical planning test

The apprentice must demonstrate core knowledge and skills in an integrated way.

The practical planning test comprises 2 parts:

Practical Planning Test (PPT)	Total Marks
Part 1 - Task 1 planning the job before starting work	42
Part 2 – Task 2 technical planning and risk – looking at safety and technical details in your plan	40
Grand Total	82

To achieve a Pass, apprentices must

- complete all tasks
- achieve an overall minimum mark of 41

Once all of the elements have been marked the Independent Assessor will recommend a preliminary grade for the independent Examiner.

Note: Grading Descriptor (GD) references are taken from the Assessment Plan. Some learning outcomes share the same grading descriptors.

EEA practical planning test core theme and KSBs: Task planning and risk

S4: Plan tasks within plumbing and domestic heating systems industry.

S5: Identify and document hazards for the plumbing and domestic heating systems work. Apply control measures.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
Understand and produce work programme for tasks in the plumbing and domestic heating systems industry.	Produce a simple work programme including: a) planning work with other trades b) material deliveries c) simple work programmes d) simple bar (progress) charts underpinned by: • identify factors to consider when planning activities to job specifications • interpret information to complete a detailed materials list	GD61 Produces a simple work programme including: a) planning work with other trades b) material deliveries c) simple work programmes d) simple bar (progress) charts in line with the task requirements.
Produce risk assessments and method statements for the plumbing and domestic heating systems industry.	Produce a risk assessment and method statement for the work to be carried out, in accordance with: a) the plumbing and domestic heating system's design b) the conditions of the working environment c) organisational procedures	GD62 Produce a risk assessment and method statement for the work to be carried out, in accordance with: a) the plumbing and domestic heating system's design b) the conditions of the working environment

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
	Produce a risk assessment for a task underpinned by: • identify different hazards • identify levels of risk Produce a method statement for a task.	c) organisational procedures
Understand information sources in the building services industry.	Comply with company policies and procedures underpinned by: • interpret workplace information.	GD63 Complies with company policies and procedures.

EEA practical planning test core theme and KSBs: Technical planning

S12: Plan, size and select domestic cold and hot water systems to meet customers' needs in accordance with manufacturers' guidance, regulatory requirements and industry recognised standards and procedures.

underpinned by:

K6: The legislative requirements and sources of information applicable to plumbing and domestic heating systems system installation, service and repair. K8: Core The layout features, working principles and legislative requirements of plumbing and domestic heating systems.

K8: The layout features, working principles and legislative requirements of plumbing and domestic heating systems.

K9: The basic factors which influence system choice for particular applications with regard to the installation of plumbing and domestic heating systems.

K17: The procedures for sizing and selecting plumbing and domestic heating systems and components to meet customers' needs

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
Understand and install cold water systems.	Plan cold water systems underpinned by: • identify sources of information required when undertaking work on cold water systems • identify types and typical pipe sizes used in cold water systems within dwellings • plan cold water systems	GD64 Plans a cold water system in line with task requirements, manufacturers' guidance, regulatory requirements and industry recognised standards.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
Size and select cold water systems and components for dwellings.	• Apply factors that affect the selection of cold water systems for dwellings • Use information sources required to size and select cold water systems and components • Consider recommended design temperatures within cold water system • Calculate cold water system requirements used in dwellings • Select cold water components in accordance with calculations from predetermined data • Present calculations and information in a suitable format for quotation and tender • Interpret information to complete a detailed materials list	GD64 Plans a cold water system in line with task requirements, manufacturers' guidance, regulatory requirements and industry recognised standards.
Understand and install hot water systems.	Plan hot water systems underpinned by: • identify sources of information required when undertaking work on hot water systems • identify location and function of unvented system components • consider factors that affect the selection of hot water systems for dwellings o use information sources	GD65 Plans a hot water system in line with task requirements, manufacturers' guidance, regulatory requirements and industry recognised standards.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
	required to size and select hot water systems and components • consider recommended design temperatures within hot water systems • calculate hot water system requirements used in dwellings • select hot water components in accordance with calculations from predetermined data • present calculations and information in a suitable format for quotation and tender	
Size and select hot water systems and components for dwellings.	• Consider factors that affect the selection of hot water systems for dwellings • Use information sources required to size and select hot water systems and components • Consider recommended design temperatures within hot water systems • Calculate hot water system requirements used in dwellings • Select hot water components in accordance with calculations from predetermined data	GD65 Plans a hot water system in line with task requirements, manufacturers' guidance, regulatory requirements and Use information sources required industry recognised standards.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
	• interpret information to complete a detailed materials list • Present calculations and information in a suitable format for quotation and tender	
Understand and perform preinstallation activity prior to undertaking electrical work on plumbing and domestic heating systems.	Produce a risk assessment and method statement for the work to be carried out, in accordance with: a) the plumbing and domestic heating system's design b) the conditions of the working environment c) organisational procedures.	GD62 Produce a risk assessment and method statement for the work to be carried out, in accordance with: a) the plumbing and domestic heating system's design b) the conditions of the working environment organisational procedures

Component 3: EEA practical

The apprentice must demonstrate core KSBs in an integrated way.

To gain a Pass, an apprentice must successfully achieve **all** the assessment descriptors for each KSB, as shown below.

Note: Grading Descriptor (GD) references are taken from the Assessment Plan. Some learning outcomes share the same grading descriptors.

EEA practical theme and KSBs: Installation and test (mechanical)

S2: Carry out and apply the common processes and techniques used in the installation and test of plumbing and domestic heating systems (cold water, hot water, central heating and sanitary appliances and pipework).
K2: The common processes and techniques used in the installation and test of plumbing and domestic heating systems (cold water systems, hot water systems, domestic wet central heating systems, sanitation systems).
K10:The installation and testing requirements applicable to plumbing and domestic heating systems and components (cold water, hot water, central heating, sanitary appliances and pipework).

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
Use hand and power tools in plumbing and domestic heating systems work.	Use and maintain hand and power tools. Apply the methods of safe storing of tools and equipment. Both underpinned by: • identify the purpose of hand tools and power tools	GD1 Uses and maintains hand and power tools in line with manufacturers' instructions. GD2 Applies the methods of safe storing of tools and equipment in line with organisational procedures.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
Apply site preparation techniques for plumbing and domestic heating systems work.	Apply work methods for preparing and protecting the building for installation work underpinned by: • identify the pre-existing damage checks to the building fabric or customer property before the work commences • use sources of information for carrying out preparatory work	GD3 Applies work methods for preparing and protecting the building for installation work in line with industry guidance.
Understand and Use clips and brackets to support plumbing and domestic heating pipework and components.	Use clips and brackets appropriate to the system pipework and the industry recommended spacing underpinned by: • measure and mark out fixings for pipework and plumbing and heating components	GD4 Uses clips and brackets appropriate to the system pipework and the industry recommended spacing.
Install plumbing and domestic heating system pipework.	Join pipework to specification underpinned by: • identify pipework installation requirements • select pipework materials and fittings from instructions • measure, mark and cut pipework materials for installation	GD5 Joins pipework to specification.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
	• fabricate pipework bends to clear obstacles • select, position and fix pipework materials to specifications	
Understand and install cold water systems. Understand and install hot water systems. Understand and install domestic central heating systems Install sanitary appliances and pipework systems	Apply the processes and techniques used in the installation of: a) a cold water system b) a hot water system c) a central heating system d) a sanitary appliances and pipework system underpinned by: • identify the positioning and fixing of pipework within the building fabric	GD6 Applies the installation processes and techniques used in the installation of: a) a cold water system b) a hot water system c) a central heating system d) a sanitary appliances and pipework system in line with task requirements.
Understand and perform a soundness test and commission cold water systems and components.	Apply the processes and techniques used in the soundness testing of: a) a cold water system b) a hot water system c) a central heating system d) a sanitary appliances and pipework system	GD7 Applies the processes and techniques used in the soundness testing of: a) a cold water system b) a hot water system c) a central heating system

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:

Understand and perform a soundness test and commission hot water systems and components.
 	
Understand and perform a soundness test and commission central heating systems and components.
 	
Understand and perform a soundness test and commission sanitary appliances, pipework systems and components.
	underpinned by:
	• carry out a visual inspection of:
	  ○ a cold water system
	  ○ a hot water system
	  ○ a central heating system
	  ○ a sanitary appliances and pipework system to confirm that it is ready to be soundness tested
	• apply soundness test industry requirements on:
	  ○ a cold water system and components
	  ○ a hot water systems and components
	  ○ a central heating system and components
	  ○ a sanitary appliances and pipework system and components
		d) a sanitary appliances and pipework system
		in line with company procedures.

EEA practical core theme and KSBs: Installation, fault finding, repair, test and commissioning (electrical)

S7: Install, test, and commission, electrical and electrical control systems applicable to plumbing and domestic heating systems.

S9: Perform routine service, maintenance, fault diagnosis and rectification procedures and techniques on electrical and electrical control systems applicable to plumbing and domestic heating systems including industry safe isolation procedures.

K13: The testing and commissioning requirements applicable to electrical control systems and components.

K18: The legislative requirements, processes and procedures of electrical supply and control systems applicable to plumbing and domestic heating systems and work including limits to operative competence.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
Apply procedures for electrical safety.	Prioritise the electrical safety of tools and equipment underpinned by: • identify common electrical dangers encountered on construction sites and in private dwellings • demonstrate methods of safe supply for electrical tools and equipment on site • demonstrate the procedure that should be applied for tools and equipment that fail safety checks • identify safe isolation procedure when replacing attachments to power tools	GD8 Prioritises electrical safety of tools and equipment in line with company procedures and industry practice.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
	• conduct a visual inspection of a power tool for safe condition before use o use • temporary continuity bonding when working on pipework components.	
Understand and perform pre-installation activity prior to undertaking electrical work on plumbing and domestic heating systems. Apply standard safe isolation procedures.	Carry out the safe isolation of electrical equipment and components associated with the electrical supply of the plumbing and domestic heating system underpinned by: • confirm the status of the electrical supply • confirm, as necessary, that the electrical supply is suitable for the plumbing and domestic heating systems.	GD9 Carries out the safe isolation of electrical equipment and components associated with the electrical supply of the plumbing and domestic heating system in line with company procedures and industry practice.
	Select, as required, electrical equipment, cables, wiring and components and confirm that they are: a) of the right type and size	GD10 Selects, as required, electrical equipment, cables, wiring and components and confirm that they are: a. of the right type and size b. fit for purpose in accordance with the plumbing and domestic heating system's design.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
	b) fit for purpose in accordance with the plumbing and domestic heating system's design.	
Carry out the safe installation, testing, commissioning and decommissioning of electrical systems.	Carry out work on electrical equipment, cables, wiring and components associated with the electrical supply and control of the plumbing and domestic heating system in accordance with the requirements of: a) industry recognised methods and procedures b) manufacturers' instructions.	GD11 Carries out work on electrical equipment, cables, wiring and components associated with the electrical supply and control of the plumbing and domestic heating system in accordance with the requirements of: a) industry recognised methods and procedures b) manufacturers' instructions.
	Check that the electrical equipment, cables, wiring and components are in accordance with the requirements of the plumbing and domestic heating system.	GD12 Checks that the electrical equipment, cables, wiring and components are in accordance with the requirements of the plumbing and domestic heating system.
	Check that the electrical equipment, cables, wiring and components are of proper construction in accordance with the	GD13 Checks that the electrical equipment, cables, wiring and components are of proper construction in

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
	requirements of the plumbing and domestic heating system.	accordance with the requirements of the plumbing and domestic heating system.
	Undertake functional testing of the electrical equipment and components associated with the electrical supply and control of the plumbing and domestic heating system in accordance with: a) industry recognised methods and procedures b) manufacturers' instructions.	GD14 Undertakes functional testing of the electrical equipment and components associated with the electrical supply and control of the plumbing and domestic heating system in accordance with: a) industry recognised methods and procedures b) manufacturers' instructions
	Commission electrical control systems in accordance with: a) industry recognised methods and procedures b) manufacturers' instructions c) legislative requirements.	GD15 Commissions electrical control systems components in accordance with: a) industry recognised methods and procedures b) manufacturers' instructions c) legislative requirements.
Carry out the identification of faults and safe repair of electrical work.	Identify and rectify electrical faults and deficiencies on plumbing and domestic heating systems in accordance with:	GD16 Identifies and rectifies electrical faults and deficiencies on plumbing and

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
	a) industry recognised methods and procedures b) manufacturers' instructions.	domestic heating systems in accordance with: a) industry recognised methods and procedures b) manufacturers' instructions.

EEA practical core theme and KSBs: Ownership

B2: Takes ownership of work within limits of own competence, knowing when to seek advice or assistance.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:
Use hand and power tools in plumbing and domestic heating systems work.	NA	Takes ownership by completing the tasks and outlines the limits of the role and how they escalate, seek advice and assistance, in line with company policy.

Component 4: EEA interview based on an EPA portfolio

The apprentice must demonstrate core KSBs in an integrated way.

To gain a Pass, an apprentice must successfully achieve **all** the assessment descriptors for each KSB, as shown below.

To achieve a Distinction, an apprentice must successfully achieve **all** the Pass assessment descriptors and **all** descriptors from each of the Distinction boxes.

Note: Grading Descriptor (GD) references are taken from the Assessment Plan. Some learning outcomes share the same grading descriptors.

EEA interview based on an EPA portfolio - Core theme and KSBs: Health and Safety

S1: Operate in a safe working manner by adhering to health and safety legislation, approved codes of practice and guidance and applying safe working practices.

underpinned by:

K1: The health and safety legislation, approved Codes of Practice and guidance and safe working practices applicable to work in the building services and wider construction industry.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
Apply personal protection measures.	Explain how to apply and use personal protective equipment (PPE) underpinned by: • understand the purpose of personal protective equipment (PPE).	GD47 Explain how they apply and use personal protective equipment (PPE) in line with regulatory requirements and company procedures.	GD47 Explain the importance of using PPE correctly and the consequences of not doing so.
	Explain how to carry out correct manual handling. underpinned by: • understand procedures for manual handling.	GD48 Explain how they carry out correct manual handling in line with industry standards.	GD48; G49 & G50. Explain the importance of safe manual handling techniques to

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	Explain how to use mechanical lifting aids.	GD49 Explains how they use mechanical lifting aids in line with manufacturers' instructions.	the individual and the business. Explain the importance of using manufacturers' instructions when using mechanical lifting aids or access equipment.
Understand and safely use access equipment.	Explain how to use access equipment underpinned by: • identify safety checks to be carried out on access equipment.	GD50 Explain how they use access equipment in line with manufacturers' instructions.	
Know and apply health and safety legislation that applies to the building services.	Explain how to operate in a safe working manner by adhering to health and safety legislation, approved codes of practice and guidance and applying safe working practices.	GD69 Explains how to operate in a safe working manner by adhering to health and safety legislation, approved codes of practice and guidance and applying safe working practices.	GD69 Explains the importance to individuals and the business of operating safely and adhering to health and safety legislation, approved codes of practice and guidance.

EEA interview based on an EPA portfolio - Core theme and KSBs: Installation and test of domestic rainwater systems

S3: Carry out and apply the common processes and techniques used in the installation and test of rainwater systems.

underpinned by:

K3: The common processes and techniques used in the installation and test of rainwater systems.

K11: The installation and testing requirements applicable to rainwater systems and components

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
Understand and install rainwater systems.	Explain how to install rainwater systems underpinned by: • identify working principles of rainwater systems (positioning fixing, connection and operation of components) • identify sources of information required when undertaking work on rainwater systems • identify the working principles of rainwater recycling systems	GD51 Explains how to install rainwater systems in-line with manufacturer's guidance and customer requirements.	GD51 Explains how they accommodate changes to customer requirements during installation.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
Understand and perform a soundness test and commission rainwater systems and components.	Explain how to carry out a soundness test underpinned by: • apply soundness test industry requirements on rainwater systems and components • carry out a visual inspection of a rainwater system to • confirm that it is ready to be soundness tested. **And associated with:** • carry out a visual inspection of a rainwater systems in non-domestic premises to confirm that it is ready to be soundness tested • carry out a soundness test to industry requirements on rainwater/gutter systems	GD52 Explains how to carry out a soundness test in-line with company procedures	NA

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	pipework and components in nondomestic premises		

EEA interview based on an EPA portfolio - Core theme and KSBs: Commissioning

S6: Carry out commission and handover procedures and techniques on plumbing and domestic heating systems (cold water, hot water, central heating, sanitary appliances and rainwater).

Underpinned by.

K12: The commissioning requirements applicable to plumbing and domestic heating systems and components

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
Understand and perform a soundness test and commission cold water systems and components.	Describe how to carry out commissioning procedures for: a) cold water systems and components b) hot water systems and components c) central heating systems and components d) sanitary appliances, pipework systems and components e) rainwater systems and components **underpinned by:**	GD53 Describes how they carry out commissioning procedures for: a) cold water systems and components b) hot water systems and components c) central heating systems and components d) sanitary appliances, pipework systems and components	GD53 Justifies their decisions when their commissioning has found defects.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	• identify operational checks required during commissioning • identify the range of information that would be detailed on commissioning documentation • identify actions that must be taken when commissioning reveals defects. **And associated with:** • identify information sources required to complete testing and commissioning of rainwater systems in nondomestic properties • know operational checks required during commissioning of rainwater	e) rainwater systems and components in line with company procedures.	

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	systems in nondomestic properties • identify actions that must be taken when commissioning of rainwater systems in nondomestic premises reveals defects • carry out soundness testing commissioning procedures on rainwater systems.		
	Describe the procedure for handing over to the end user: a) cold water systems and components b) hot water systems and components c) central heating systems and components	GD54 Describes the procedure for handing over to the end user: a) cold water systems and components b) hot water systems and components c) central heating systems and components	NA

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	d) sanitary appliances, pipework systems and components e) rainwater systems and components f) electrical control systems and components. **And associated with:** a) carry out the procedure for handing over rainwater systems in non-domestic properties to the end user	d) sanitary appliances, pipework systems and components e) rainwater systems and components f) electrical control systems and components in line with company procedures.	

EEA interview based on an EPA portfolio - Core theme and KSBs: Servicing, maintenance, fault diagnosis and rectification (mechanical parts)

S8: Perform routine service, maintenance, fault diagnosis and rectification procedures and techniques on the non-electrical components of plumbing and domestic heating systems.

underpinned by:

K15: The routine service and maintenance procedures applicable to plumbing and domestic heating systems.

K16: The fault finding, diagnosis and rectification procedures applicable to plumbing and domestic heating systems.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
Perform fault diagnosis and rectification procedures on cold water systems and components.	Explain how to carry out identification and rectification procedures and techniques to deal with a range of faults on: a) cold water systems and components b) hot water systems and components c) central heating systems and components	GD55 Explain how to carry out identification and rectification procedures and techniques to deal with a range of faults on: a) cold water systems and components b) hot water systems and components c) central heating systems and components	GD55 Justifies their fault finding approach.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	d) sanitary appliances, pipework systems and components e) rainwater systems and components **underpinned by:** • carry out diagnostic checks for a range of faults for: ○ cold water systems and components ○ hot water systems and components ○ central heating systems and components ○ sanitary appliances, pipework systems and components	d) sanitary appliances, pipework systems and components e) rainwater systems and components in line with company procedures.	

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	○ rainwater systems and components • apply methods of obtaining information on system faults for: ○ cold water systems and components ○ hot water systems and components ○ central heating systems and components ○ sanitary appliances, pipework systems and components ○ rainwater systems and components. **And associated with:**		

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	• identify methods of obtaining information on system faults for rainwater systems in non-domestic premises • carry out diagnostic checks for a range of faults on rainwater systems in non-domestic premises • carry out repair and rectification procedures to deal with a range of faults on rainwater systems in non-domestic premises.		
Understand and carry out service and maintenance on cold water systems.	Explain how to carry out: a) service or maintenance of cold water systems b) service or maintenance of hot water systems	GD56 Explain how to carry out: a) service or maintenance of cold water systems	NA

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	c) service or maintenance of central heating systems d) routine checks of sanitary appliances and pipework systems **underpinned by:** • understand routine checks required on: ○ cold water system components and pipework ○ hot water system components and pipework ○ central heating system components and pipework ○ sanitary appliances and pipework	b) service or maintenance of hot water systems c) service or maintenance of central heating systems d) routine checks of sanitary appliances and pipework systems in line with company procedures.	

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	systems as part of a periodic maintenance programme.		

EEA interview based on an EPA portfolio - Core theme and KSBs: Decommissioning

S10: Decommission plumbing and domestic heating systems.

S11: Decommission electrical and electrical control systems applicable to plumbing and domestic heating systems.

underpinned by:

K14:The decommissioning procedures applicable to plumbing and domestic heating systems.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
Carry out the safe installation, testing, commissioning and decommissioning of electrical systems.	Explain how to carry out decommissioning of: a) cold water systems b) hot water systems c) central heating systems d) sanitary appliances and pipework systems e) rainwater systems f) electrical systems in accordance with company procedures.	GD57 Explains how they carry out decommissioning of: a) cold water systems b) hot water systems c) central heating systems d) sanitary appliances and pipework systems e) rainwater systems f) electrical systems in accordance with company procedures.	GD57 Explains the impact of not decommissioning correctly, on the customer and on the business.

EEA interview based on an EPA portfolio - Core theme and KSBs: Technical planning

S13: Plan, size and select domestic heating and rainwater systems to meet customers' needs in accordance with manufacturers' guidance, regulatory requirements and industry recognised standards and procedures.

underpinned by:

K6: The legislative requirements and sources of information applicable to plumbing and domestic heating systems system installation, service and repair.

K8:The layout features, working principles and legislative requirements of plumbing and domestic heating systems.

K9: The basic factors which influence system choice for particular applications with regard to the installation of plumbing and domestic heating systems.

K17: The procedures for sizing and selecting plumbing and domestic heating systems and components to meet customers' needs.

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
Understand and install domestic central heating systems.	Explain how to plan central heating systems underpinned by: • identify sources of information required when undertaking work on central heating systems • identify typical pipe sizes used in central heating systems, types and layouts within dwellings • consider factors that affect the selection of central heating systems for dwellings • use information sources required to size and select hot central heating systems and components • consider the principles of heat loss and heat gain and	GD66 Explains how to plan central heating systems in line with task requirements, manufacturers' guidance, regulatory requirements and industry recognised standards.	NA

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	how this affects heating requirements • calculate central heating system requirements used in dwellings • select central heating system components in accordance with calculations from predetermined data • present calculations and information in a suitable format for quotation and tender • interpret information to complete a detailed materials list.		

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
Install sanitary appliances and pipework systems.	Explain how to plan sanitary appliances and pipework systems underpinned by: • identify sources of information required when undertaking work on sanitary appliances and pipework systems • identify typical pipe sizes and maximum and minimum distances permitted in sanitary appliances pipework systems within dwellings • identify jointing methods used in sanitary appliances pipework systems • consider factors that affect the selection of sanitary	GD67 Explains how to plan sanitary appliances and pipework system in line with task requirements, manufacturers' guidance, regulatory requirements and industry recognised standards.	NA

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	appliances pipework systems for dwellings • use information sources required to size and select sanitary appliances pipework systems • consider the principles of heat loss and heat gain and how this affects heating requirements • calculate sanitary appliance pipework system requirements used in dwellings • select sanitary system components in accordance with calculations from predetermined data • present calculations and information in a suitable		

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	format for quotation and tender • interpret information to complete a detailed materials list.		
Understand and install rainwater systems.	Explain how to plan rainwater harvesting or greywater reuse systems underpinned by: • consider the design requirements for types and layouts of rainwater harvesting systems • consider the design requirements for types and layouts of greywater reuse systems • consider the information requirements used to	GD68 Explains how to plan rainwater harvesting or greywater reuse systems in line with task requirements, manufacturers' guidance, regulatory requirements and industry recognised standards.	NA

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	select, size and position components • confirm the pre-installation design requirements • calculate rainwater harvesting or greywater reuse system requirements used in dwellings • consider factors that affect the selection of rainwater systems for dwellings • use information sources required to size and select rainwater systems components • calculate rainwater systems requirements used in dwellings • select rainwater system components in accordance		

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
	with calculations from predetermined data • interpret information to complete a detailed materials list • present calculations and information in a suitable format for quotation and tender		

EEA interview based on an EPA portfolio - Core theme and KSBs: Professionalism

B1: Acts professionally and ethically to collaborate with colleagues and customers.

B3: Committed to continuous professional development.

B4: Committed to keeping up to date with industry best practice.

underpinned by:

K7: How to communicate with customers, suppliers, co-workers and members of the public who may come into contact with the work area

Learning outcome	Assessment criteria	To achieve a Pass, the apprentice must achieve **ALL** of the following grading descriptors:	To achieve a Distinction, the apprentice must achieve **ALL** of the following grading descriptors:
Professionalism	NA	Explains how their collaboration and communication with customers and colleagues is achieved by acting professionally and upholding ethical principles. Outlines the planned and unplanned learning and development activities they have carried out and shows a commitment to future continued professional development to maintain and enhance competence. Describes how they keep up to date with industry best practice.	NA

Component 5: ACS knowledge test

ACS knowledge test	
Achievement of a UKAS-approved Nationally Accredited Certification Scheme (ACS) for Gas fitting Operatives - theory test (paper 2).	
Grading	Fail or Pass

This assessment is organised and delivered by the ACS approved awarding body used by the Centre.

Component 6: ACS practical

The ACS Practical Test is graded as:

- Pass
- Fail

To achieve a Pass, the apprentice must obtain the UKAS approved Nationally Accredited Certification Scheme (ACS) Certificate of Competence for Gas Fitting Operatives (ACS practical).

Delivery

This assessment is organised and delivered by the ACS approved awarding body used by the by the training provider. The approved awarding body is responsible for scheduling, assessing, and grading the ACS practical in accordance with ACS and Gas Safe requirements.

Overall grading

The apprenticeship will be graded fail, pass, or distinction. The final grade will be determined by collective performance in the four assessment components.

In order to gain a pass, an apprentice must achieve at minimum of a pass in each EPA component. A pass represents full competence against the standard. To achieve an overall distinction the apprentice must achieve a distinction in the interview based on an EPA portfolio and a pass in the knowledge test.

The practical planning test, practical competence test, interview based on an EPA portfolio and knowledge test are all marked separately and awarded a fail, pass, or distinction.

The knowledge test and practical planning test are based on the percentage score achieved. The grade and mark for the practical competence test are interview based on an EPA portfolio are based on the number and level of descriptors achieved.

The overall grade for the PDHT V1.2 Standard is based on the grades in individual components as follows:

EEA knowledge test	EEA practical planning test	EEA practical competence test	EEA interview based on an EPA portfolio	Overall grading
Fail in any component				Fail
Pass	Pass	Pass	Pass	Pass
Distinction	Pass	Pass	Pass	Pass
Pass	Pass	Pass	Distinction	Pass
Distinction	Pass	Pass	Distinction	Distinction

The grading descriptors that will be applied for each assessment descriptors along with additional details can be found in Section 3 of this Specification.

Section 4: Resits and retakes

Apprentices who fail one or more EPA components can re-sit or re-take the failed component at the employer's discretion. The apprentice's employer needs to agree that a re-sit or re-take is appropriate. A re-sit does not need further learning, but a re-take does. Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

The employer and EEA should agree the timescale for a re-sit or re-take. A re-sit is typically taken within 3 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 6 months of the EPA outcome notification.

Failed assessment methods must be re-sat or re-taken within a 6-month period from the EPA outcome notification, otherwise the entire EPA will need to be re-sat or re-taken in full.

Re-sit and Re-take Rules

- If an apprentice needs to re-sit or re-take more than one assessment component:
    - Complete all non-integrated assessments first
    - Then complete the integrated assessment
- Any re-sit or re-take of the integrated assessment must happen within the usual EPA timeframe
- This rule ensures apprentices are not disadvantaged by limited assessment windows (for example, when qualification assessments are only available once a year)

ACS knowledge test:

- follow the re-sit and re-take rules provided by the approved awarding body

Practical Competence Test

- EEA practical: core tasks 1, 2 and 3, only those tasks failed will need to be re-sat or retaken
- ACS practice: Follow the re-sit and re-take rules provided by the ACS approved awarding body approved to deliver the ST0303 V1.2 Level 3 Plumbing and Domestic Heating Technician apprenticeship.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

The apprentice will get a maximum EPA grade of a pass if they need to re-sit or re-take one or more assessment methods, unless EEA determines there are exceptional circumstances.

The EEA resit and re-take policy can be found at: https://energyenvironmentawards.co.uk/wp-content/uploads/2025/08/Re-sit-and-Re-take-Policy-v-6.0.pdf

Section 5: Practical Guidance

Preparing for the EEA knowledge test

While on-programme, the employer and/or training provider should brief the apprentice on the areas to be assessed by the EEA knowledge test, as detailed in Section 2 in this specification. It is good practice to identify the areas within the learning programme where the relevant knowledge is delivered, ensuring that apprentices are aware that elements of these might come up in the test.

The knowledge test is aligned to the standard rather than a specific job role that the apprentice may be doing. The questions have been written to reflect the PDHT V1.2 and specialist option 1 as a whole and not focussed on specific plant, machinery, or employer-specific processes.

In readiness for end-point assessment, the apprentice should complete a practice knowledge test . This should be undertaken in advance of the live knowledge test, with enough time to mark the test, and provide feedback to the apprentices. A practice knowledge test is available as a printable copy – See Appendix C, 'PDHT V1.2 Supporting Documents 'Practice Knowledge Test.'

For maximum effect, ensure the test is taken in exam conditions similar to those that will be experienced in a live test.

Level 3 PDHT V1.2 EEA practical with questions planning and approval form

Purpose

Energy & Environment Awards must approve the employer's assessment centre where the practical competence test will take place. The purpose of the approval is to provide Energy & Environment Awards with assurance that the EEA practical assessment will be conducted in line with the PDHT V1.2. assessment plan. The approval must take place before the first EEA practical is carried out. To access the service, see Appendix D, PDHT V1.2 Supporting Documents 'Level 3 Plumbing and domestic heating technician V1.2 EEA practical planning and approval form.'

Submitting the form to EEA

To obtain approval, employers must complete the 'Level 3 Plumbing and domestic heating technician V1.2 EEA practical planning and approval Form'. This must be submitted to the Energy & Environment Awards Service Delivery Team for approval at least 1 month before Gateway.

Energy and Environment Awards Approval Process

Once the PDHT V1.2 EEA practical planning and approval form has been received the approval process will be conducted by Energy & Environment Awards. The outcomes will be shared with the employer/training provider no later than 5 working days following the review.

The employer/training provider must ensure:

- the secure bays are suitable and sufficient
- the assessment centre is a suitable premises. Site access for the assessor and any specific requirements must be advised in advance
- all equipment and resources are suitable for the task, in good safe working condition and certification where applicable

Please be aware:

- EEA practical approval does not guarantee the apprentice will pass the assessment
- No health and safety risk assessment has been carried out by EEA

- Energy & Environment Awards approval does not remove any of the training provider obligations to ensure full coverage of the standard, and full compliance with relevant legislation
- EEA approval is based only on information supplied and is not a guarantee that the selected plant/machinery/equipment on the day of the assessment will be sufficient for the practical competence test
- The information provided in the Level 3 PDHT EEA practical planning and approval form must not be shared with the apprentice

Preparing for the EEA practical

Where possible, the employer/training provider should provide the apprentice with the opportunity to carry out a practice EEA practical as close to the real assessment described in Section 2 of the specification (Component 3).

The employer/training provider should prepare a practical task. A suitable person should be chosen to play the part of the assessor.

A template is provided to help ensure that the activities assessed during the practical competence test will give complete coverage of the standard. See Appendix E, PDHT V1.2 Supporting Documents 'Practice EEA practical template.'

Preparing for the EEA interview based on an EPA portfolio

An Interview based on an EPA portfolio should take place between the apprentice and the person acting the role of an assessor. The apprentice should draw on evidence from their EPA portfolio during the discussion.

Guidance on an EPA portfolio

Throughout the on-programme part of their apprenticeship, the apprentice must compile an EPA portfolio to support them in the interview. The interview will draw on the evidence contained in the EPA portfolio.

The EPA portfolio should reflect their individual experiences and the activities carried out during this period and meet the requirements outlined in the assessment plan.

A completed EPA portfolio is one of the Gateway requirements.

The EPA portfolio is **not assessed**. It serves the following purposes:

- It provides the opportunity for each apprentice to provide examples of the knowledge, skills and behaviours that will be assessed in the interview
- A carefully prepared EPA portfolio will support the apprentice during the interview
- It allows the assessor to review the EPA portfolio before the interview to help focus and contextualise the questions the apprentice will be asked

The EPA portfolio is a record of how each apprentice demonstrated the knowledge, skills and behaviours that are assessed in the interview. Apprentices will have access to their EPA portfolio during the interview. When the employer/training provider registers their apprentices with Energy & Environment Awards they will have access to the EPA Portfolio Template.

The role of the employer/training provider

Employer/training providers are expected to support the apprentice in preparing their portfolio by:

- providing clear instruction and deadlines to allow the apprentice to plan and compile their portfolio in preparation for the Gateway meeting
- advising on which pieces of evidence to select
- authenticating evidence as valid
- signing off the EPA portfolio
- submitting the portfolio to Energy & Environment Awards as part of Gateway requirements.

What to expect in the practice interview?

The practice interview will be based on the EPA portfolio which will provide the apprentice with the opportunity to practice discussing their KSBs gained throughout their on-programme and by referring to the evidence from their portfolio using their responses to the tasks and associated evidence. A suitable person should be chosen to play the part of the assessor.

A practice interview template is provided to help prepare the appropriate questions to ask and to record the apprentices' performance. See Appendix F, PDHT V1.2 Supporting Documents 'Practice Interview Based on an EPA Portfolio Template.'

As part of the practice exercise, apprentices should have access to their EPA portfolio to support their responses.

Section 6: Authenticity and security of apprentice work

The apprentices must be advised by their training provider and employer that copying of any work (whether it is from another apprentice or from internal, external documents or source) and presenting it as their own will be deemed as malpractice and will lead to their work being disqualified. Apprentices must not share their work or allow any person to copy their work as this is not allowed and would also be deemed as malpractice.

In signing off the portfolio, training providers and employers must be satisfied that the evidence in the portfolio is:

- **adequate**: evidence must cover all relevant KSBs within the assessment plan. Adequate does not mean a large quantity of evidence. The evidence should focus on quality rather than quantity
- **authentic**: apprentices must be able to confirm and talk about the evidence that they submit with the independent assessor, appointed by EEA. It is vitally important apprentices only submit evidence relating to them
- **appropriate**: all evidence must be relevant to the KSBs assessed during the interview based on an EPA portfolio
- **recent and up to date**: all evidence must be linked to the tasks in the EPA portfolio template. The evidence must be recent and current which demonstrate the apprentice's competence. The independent assessors, appointed by Energy and Environment Awards, will assess current competencies. Apprentices must gather evidence during their on-programme training