ENERGY & ENVIRONMENT AWARDS

EEA Level 3 End-point Assessment for Building Services Engineering Craftsperson

Specification

QAN 610/8153/X
ST0062 v1.1

Internal

Specification for

EEA Level 3 End-point Assessment for Building Services Engineering Craftsperson

QAN 610-8153/X

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Updates to this specification

Since the first publication of Energy & Environment Awards (EEA) Building services engineering craftsperson Specification (BSEC), the following updates have been made.

Version	Date first published	Section updated	Page(s)
v1.0	November 2026	First published	All

Section 1: At a Glance EPA Summary

Qualification name	EEA Level 3 End-point Assessment for Building Services Engineering Craftsperson
Ofqual qualification number	610/8153/X
Standard reference	ST0062
Assessment plan	V1.1
Standard title	Building Services Engineering Craftsperson
Level	3
Entry requirements	Learners must be 16 years of age or above
On-programme duration	Typically 36 months Must spend a minimum of 12 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 • Compile and submit an EPA record of achievement, upon which the professional discussion will be based • Level 3 Heating and Ventilating Craftsperson Qualification 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, Building Services Engineering Craftsperson Supporting Documents 'Gateway Eligibility Form.'
End-point assessment duration	Typically, 3 months after the Gateway
End-point assessment methods and their order	The assessment components **must** be delivered in the following order: • Multiple-choice test • Skills test (in two parts) • Professional discussion based on an EPA record of achievement The apprentice must achieve a minimum of a pass for each component before progressing to the next component.
End-point assessment methods and component grading	All components are graded Fail, Pass, Merit or Distinction. If an apprentice has to re-sit any component, the maximum grade they will achieve for that component is a Pass.
Overall Grading	Fail; Pass, Merit or Distinction
Certification	EEA request Apprenticeship completion certificates from DfE
Glossary of Terms	Appendix A, Building Services Engineering Craftsperson Supporting Documents

Objective

The purpose of the Building Services Engineering Craftsperson (BSEC) end-point assessment (EPA) 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 BSEC end-point assessment requirements successfully and has been certified they could take on the following job role:

- Heating and Ventilating (H&V) Craftsman
- H&V Fitter
- H&V Fitter/Welder
- H&V Pipefitter
- Mechanical Services Fitter

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 BSEC Supporting Documents Appendix B.

Recognition of prior learning (RPL)

Energy & Environment Awards (EEA) does not recognise any apprentice prior learning (RPL) or prior achievement (RPA) for the purpose of amending the assessment requirements of any end-point assessments.

Please refer to Energy & Environment Awards RPL and RPA policy at https://energyenvironmentawards.co.uk/policies-and-fees/

In order for Energy & Environment Awards 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
- components of the EPA cannot be certificated in isolation
- evidence for the record of achievement and professional discussion 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

Component 1: Multiple-choice Test

Overview

The multiple-choice test is a computer-based test which consists of 60 multiple-choice questions.

Apprentices have 90 minutes to complete the test.

The multiple-choice questions will have four possible answers of which one will be correct.

The Pass mark is 36
The Merit mark is 42
The Distinction mark is 48

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.

Apprentices must be given at least **2 weeks notice** of the date and time of the multiple-choice test.

Multiple-choice Test Roles and Responsibilities

Role	Responsibility
Invigilator	Is typically provided by the employer or training provider. Attend induction training as directed by EEA.

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Role	Responsibility
	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 EEA invigilation procedures.
Employer/Training Provider	Ensure that the multiple-choice 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.
Energy & Environment Awards	Arrange for the multiple-choice test to take place, in consultation with the employer/training provider. Mark multiple-choice test answers accurately according to the mark scheme and procedures.

Component 2: Skills Test (parts 1 and 2)

Overview

The skills test comprises two parts and involves an independent assessor, appointed by Energy & Environment Awards, assessing the apprentice's ability to plan, resource, organise and complete a pipework installation to the required standards.

Part 1: Preliminary activities

- Apprentices will be given a system brief, supplied by EEA, which they will use to design a pipework fabrication and installation

- The apprentice's design is submitted to Energy & Environment Awards where an assessor will review and mark the apprentice's work
- The reviewed design will be returned to the apprentice to refer to in part 2 of the skills test

Part 2: Practical activities

- Apprentices will install the and commission the systems they have designed in Part 1.

Typically, part 2 will take place between 5 and 10 working days after part 1, by agreement with the centre.

Energy & Environment Awards will give the apprentice at least **2 weeks notice** of the assessment.

The following table outlines the procedure for conducting the skills test:

Assessors	1 Independent assessor, approved by EEA.
Invigilator	1 Invigilator from the training provider or employer, approved by EEA
Skills test structure	**Part 1:** Total assessment time is 3 hours. The invigilator must be approved by EEA and may be an independent member of centre staff. **Part 2:** Total assessment time is 10 hours over 2 days. The invigilator must be approved by EEA and may be an independent member of centre staff. Part 2 is observed by an independent assessor. Up to four apprentices may be observed at the same time, subject to EEA approval.
Where will the assessment take place?	Both parts must take place in a venue approved by EEA which may be the training provider's or employer's facilities.

What are the tasks that will be covered?	**Part 1** The apprentice will produce a system design that includes: • a pipe installation design from a brief including expansion • an isometric sketch • selecting materials, valves, brackets and fixings from a specification • a risk assessment and method statement(s) • a list of required tools, equipment and materials **Part 2** Apprentices will be assessed by an Independent Assessor completing the following tasks: • installing pipework to a brief • filling and testing the system • commissioning the system • communicating effectively • working effectively and efficiently • taking responsibility • managing tasks **For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage' below pages 16-28.**
What resources can the apprentice use?	**Part 1** EEA will provide a system design brief and workbook for the apprentice to complete. This will be made available to the centre. **Part 2** The centre will provide a suitable working area and the tools, equipment and components needed to install the systems designed in Part 1. Further information about the resources required and delivery of the Skills Test is available in the **EEA L3 EPA for BSEC Centre Guidance**
Grading	Fail or Pass, Merit, or Distinction

Skills test roles and responsibilities

Role	Responsibility
Part 1 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 the task to prevent malpractice in line with EEA invigilation procedures.
Part 2 Independent Assessor	Explain, to the apprentice, the format and timescales of the skills test before it starts. Conduct and assess the skills test. Use language in the delivery of the EPA that is appropriate to level 3. Invigilate and supervise the apprentice during the skills test, including moving between tasks and breaks, to prevent malpractice in line with EEA invigilation procedures. Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by EEA.
Employer/Training Provider	The training provider must liaise effectively with the employer to ensure the apprentice is prepared for the skills test. Provide the venue for the skills test which must be suitably equipped to allow the apprentice to attempt all aspects of the practical assessment with questions. Provide all necessary tools and equipment for the apprentice. Ensure the apprentice has access to the resources used on a daily basis. Provide EEA with access to any employer-specific documentation as required for example, company policies. Ensure that any required supervision during the EPA period, as stated in this Specification, is in place.

Role	Responsibility
	Employer/training provider must remain independent from the delivery of the EPA.
Energy & Environment Awards	EEA will review the arrangements for the skills test planned by the employer/training provider. Arrange for the skills test to take place, in consultation with the employer/training provider and independent assessor

Component 3: Professional discussion

Overview

The professional discussion is based on the apprentice's EPA record of achievement and focuses on holistic evidence covering the KSBs relating to the professional discussion. The apprentices may refer to their EPA record of achievement to help answer questions.

The EPA record of achievement is **not assessed**.

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

The following table outlines the procedure for conducting a professional discussion based on an EPA record of achievement:

Assessors	1 independent assessor approved by EEA will conduct the professional discussion.
Professional discussion structure based on an EPA record of achievement	The apprentice's Manager/Mentor must support the completion of the EPA record of achievement in accordance with company policy and procedures. **Types of questions:** • Standardised open questions which will be based on the contents of the evidence in the EPA record of achievement 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 professional discussion must last 60 minutes **The Professional discussion will be:** • conducted by 1 independent assessor • face to face or remote, as agreed • recorded in writing using the professional discussion record template provided by EEA • 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 record of achievement throughout the professional discussion. Although questioning will cover ALL the elements of the BSEC standard (listed below in this section of the Specification), the independent assessor will prioritise areas according to what they see in the EPA record of achievement. **For further guidance on the EPA record of achievement refer to Section 5 Practical Guidance on an EPA Record of achievement.**
What topics will be covered?	**For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage' below pages 16 - 28**
When will the EPA record of achievement be referred to?	The EPA record of achievement: • will be reviewed by the independent assessor before the professional discussion • can be referred to by the apprentice to illustrate their answers **Note**: the EPA record of achievement is **not** directly assessed.
Grading	Fail, Pass, Merit or Distinction

Professional Discussion based on an EPA record of achievement roles and responsibilities

Role	Responsibility
Independent Assessor	Review the apprentice's EPA record of achievement prior to the professional discussion. Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by EEA.
Employer/Training Provider	The professional discussion 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 record of achievement before and on the day of the professional discussion.
Energy & Environment Awards	Arrange for the professional discussion to take place, in consultation with the employer/training provider and independent assessor.

Knowledge, Skills and Behaviours (KSBs) Coverage – all assessment methods

The table provides and overview of which elements of the standard are covered in each assessment method, and Amplification & Guidance for each element.

T = Knowledge test

S = Skills test

P = Professional discussion

Assessment Method			Element	Amplification and Guidance
T	S	P		
✓			**K1 Working safely** Understand relevant safety legislation and safe working practices applying to themselves and others in building services engineering working environments	1.1 Key health and safety legislation: HASWA, CDM, COSHH, Pressure Systems Safety, Water Supply Regulations 1.2 Roles and responsibilities of employer and employee 1.3 Hazard identification and RAMS 1.4 Safe systems of work 1.5 Manual handling, working at height, confined spaces 1.6 Isolation and lock-off procedures 1.7 PPE and RPE selection and use 1.8 Emergency procedures 1.9 Safe use of tools and equipment 1.10 Accident and incident reporting

Assessment Method			Element	Amplification and Guidance
T	S	P		
✓			**K2 Scientific principles** Understand scientific principles underpinning building services engineering industrial and commercial systems including measurement, force and pressure, heat and power, materials and electricity	2.1 Units and measurement (SI units), and conversion between them 2.2 Force, pressure and fluid behaviour 2.3 Heat transfer: conduction, convection, radiation 2.4 Energy, heat and power relationships 2.5 Material properties • Thermal (conductivity, expansion, heat capacity) • Mechanical (tensile strength, ductility, hardness) • Durability (corrosion resistance, oxidation and scaling, chemical compatibility, galvanic corrosion, density) • Electrical (conductivity, insulation properties) 2.6 Fluid flow and pressure loss 2.7 Basic electrical principles and their application • Voltage, current, resistance and Ohms Law • Single-phase and three-phase supplies • Earthing and bonding 2.8 Engineering calculations: • Heat energy transfer: $Q = mc\Delta T$ (heat required to raise/lower water temperature) • Power/heat output: $P = \frac{Q}{t}$ • Volume flow rate: $Q = A \times v$

Assessment Method			Element	Amplification and Guidance
T	S	P		
				• Pressure relationship: $$P = \frac{F}{A}$$ • Cross-sectional area of pipe: $$A = \pi r^2$$ • Velocity calculations from flow rate • Efficiency calculation: $$\text{Efficiency} = \frac{\text{useful output}}{\text{input}} \times 100$$ • Understanding losses in systems (heat losses, pump inefficiency)
✓			**K3 Environmental protection** Understand environmental protection measures within building services engineering for effective use of material resources, minimising wastage, the legislation surrounding the effective use of energy, gas and water resources.	3.1 Environmental legislation and compliance 3.2 Efficient use of energy, water and materials 3.3 Waste minimisation and segregation 3.4 Environmental impact of systems 3.5 Water hygiene and Legionella awareness 3.6 Sustainable working practices 3.7 Energy efficiency measures

Assessment Method			Element	Amplification and Guidance
T	S	P		
✓		✓	**K4 Planning** Understand how to utilise resources effectively within building services engineering including the roles and responsibilities of relevant people, how to oversee work; how to produce risk assessments and method statements and how to plan work programmes for self and small teams installing industrial and commercial systems	4.1 Roles and responsibilities within teams 4.2 Interpreting drawings and specifications 4.3 Producing RAMS 4.4 Sequencing and coordinating work 4.5 Resource planning 4.6 Time management and scheduling 4.7 Monitoring progress and quality 4.8 Communication and reporting
✓		✓	**K5 Preparation** Understand the preparation requirements for work areas in new and existing building services engineering sites	5.1 Preparing work areas in new and existing buildings • Work area clearance • Access and access equipment 5.2 Site logistics and material storage 5.3 Checking materials and components 5.4 Preparing tools and equipment 5.5 Identifying existing services

Assessment Method			Element	Amplification and Guidance
T	S	P		
				5.6 Protecting building fabric 5.7 Setting out work 5.8 Pre-installation checks • Site readiness
✓		✓	**K6 Pipework** Understand pipework fabrication and jointing techniques for industrial and commercial systems, including prefabricated And or modularised components and distribution systems	6.1 Types of pipework systems • Hot water, chilled water, potable/non-potable • Condensate • Pressurised and closed 6.2 Pipework materials and applications • Copper, low carbon and stainless steel, plastic 6.3 Fabrication and jointing techniques • Cutting, bending, threading • Soldering, compression, press-fit, threading, welding 6.4 Prefabrication and modular systems 6.5 Pipe supports and expansion allowances 6.6 Installation quality requirements
✓			**K7 Welding** Understand the preparation, procedures, process, standards and codes of	7.1 Principles of welding processes • Typical applications • Heat and fusion principles

Assessment Method			Element	Amplification and Guidance
T	S	P		
			practice required to undertake welding of industrial and commercial systems pipework	7.2 Preparation of materials and joints • Beveling and cleaning • Butt joints, Fillet joints 7.3 Welding procedures and techniques • Awareness of MMA, MIG and TIG 7.4 Standards and codes of practice • BS 9606 qualification of welders • BS 15609 welding procedure specification • BESCA COP 7.5 Inspection, testing and quality requirements • BS 5817 welding quality levels • Destructive and non-destructive testing 7.6 Welding safety • Company procedures and QA systems • Hot work permits • HSE guidance on welding 7.7 Identification of defects • Lack of fusion, porosity • Cracking, undercutting

Assessment Method			Element	Amplification and Guidance
T	S	P		
✓		✓	**K8 Water and heating systems** Understand the design principles, layout, and operating principles, installation, testing, pre-commissioning, commissioning and decommissioning techniques for new and existing industrial and commercial cold water systems, hot water systems, heating systems, chilled water systems, compressed air systems and steam systems	8.1 System design principles and layouts • Flow and return principles • Temperature regimes and ΔT • Open vs closed systems, systems zoning • Air removal and venting • Drainage and maintenance access • 2-pipe and 4-pipe systems • Horizontal and vertical distribution 8.2 Components and functions • Pumps and measurement components • Isolation and control components • Heat transfer components • Water storage and expansion components • Air and dirt removal components 8.3 Operating principles (relate to 8.1) • Closed loop circulation • Heat transfer • Flow and pressure • System pressurization • Thermal expansion • Balancing systems

Assessment Method			Element	Amplification and Guidance
T	S	P		
				8.4 Installation methods 8.5 Testing procedures 8.6 Pre-commissioning activities 8.7 Commissioning processes 8.8 System controls 8.9 Decommissioning procedures 8.10 Diagnostics and optimisation
✓		✓	**K9 Fuel systems** Understand the principles and requirements of industrial and commercial gas, oil and solid fuel systems and mechanical sustainable energy systems	9.1 Principles of gas, oil and solid fuel systems • Fuel properties and characteristics • Fuel supply and delivery systems • Burner operation • Flue systems 9.2 Combustion principles • Combustion=fuel+oxygen+heat= energy • Complete vs incomplete combustion 9.3 Fuel system components • Storage • Supply and distribution • Burners and air supply • Heat generation

Assessment Method			Element	Amplification and Guidance
T	S	P		
				• Flue/exhaust • Safety and control, and monitoring 9.4 Safety requirements 9.5 Sustainable energy systems • Air source heat pumps • Solar thermal • Solar PV • Heat recovery • Bio-mass 9.6 Efficiency considerations • What makes fuel systems efficient • How combustion, maintenance and heat transfer affects performance
	✓	✓	**S1 Working safely** Apply relevant safety legislation, codes of practice and safe working practices to self and others in building services engineering working environments	• Key health and safety legislation (HASAWA, COSHH, PUWER, Working at Height) • Risk assessments and method statements (RAMS) • Safe systems of work • Hazard identification (mechanical, electrical, pressure, heat, confined spaces) • PPE and RPE use • Safe use of tools and access equipment • Manual handling techniques (LOLER awareness)

Assessment Method			Element	Amplification and Guidance
T	S	P		
				• Fire safety and hot works permits • Isolation procedures (lock-off/tag-out) • Environmental protection and waste control • Communication of safety information • Emergency procedures
	✓	✓	**S2 Planning** Plan, organise and undertake the installation of industrial and commercial systems in ways which use resources effectively to complete work, with consideration for cost, quality, safety, security and environmental impact, within relevant legislative requirements, codes of practice and industry recognised practices	• Interpretation of drawings and specifications • Understanding work schedules and programmes • Sequencing work and coordination with trades • Resource planning (materials, tools, labour) • Material selection and quantities • Cost awareness and waste minimisation • Quality standards and tolerances • Compliance with codes and standards • Logistics planning (delivery, storage) • Environmental considerations • Site security • Progress recording and reporting
	✓	✓	**S3 Preparation** Prepare work areas in new and existing sites to	• Site readiness checks • Hazard identification and controls • Setting out from drawings

Assessment Method			Element	Amplification and Guidance
T	S	P		
			undertake building services engineering industrial and commercial systems installation	• Marking out routes and positions • Dimensional verification • Preparing surfaces and supports • Tool and equipment checks • Material checks for specification and defects • Establishing safe work zones • Temporary barriers and signage • Coordination with other trades • Permits and authorisations
	✓	✓	**S4 Pipework** Apply pipework fabrication and jointing techniques for industrial and commercial systems, including prefabricated and or modularised components and distribution systems and natural gas distribution pipework	• Pipe material identification (copper, steel, plastics) • Pipe sizing and ratings • Measuring, marking and cutting • Pipe bending techniques • Fabrication of pipe assemblies • Jointing methods (soldering, compression, threaded, press-fit, flanged, welded awareness) • Installation of modular pipework • Gas distribution pipework awareness • Pipe supports and expansion allowance • Thermal expansion considerations • Contamination prevention • Inspection and testing of pipework

Internal

Assessment Method			Element	Amplification and Guidance
T	S	P		
	✓	✓	**S5 Installing systems** Apply installation, testing, pre-commissioning, commissioning and decommissioning techniques for industrial and commercial; cold water systems; hot water systems, heating systems, chilled water systems	• Installation of cold water, hot water, heating and chilled systems • Positioning plant and equipment • Connection of systems and components • System flushing and cleaning • Pressure testing and leak detection • Filling, venting and balancing • Pre-commissioning checks • Commissioning processes • Use of test instruments • Recording results • Fault identification and rectification • Decommissioning procedures • Handover documentation
	✓	✓	**B1 Communicating effectively**	Use oral, written and electronic methods to communicate technical and other information effectively with work colleagues, other tradespeople, clients representatives, supervisors, and other members of the building services engineering and wider construction team
	✓	✓	**B2 Work effectively**	Work reliably and effectively without supervision, to the appropriate codes of practice and be aware of the needs and concerns of others, especially where related to diversity and equality

Assessment Method			Element	Amplification and Guidance
T	S	P		
	✓	✓	**B3 Problem solving**	Solve problems within their own scope of responsibility, by applying technical and behavioural skills and knowledge to define the problem, identify, evaluate and select alternatives and implement solutions
		✓	**B4 Taking responsibility**	Accept responsibility for the work of self and others under their control
	✓	✓	**B5 Managing tasks**	Accept, allocate and supervise technical and other tasks
	✓	✓	**B6 Working with others**	Work effectively with colleagues, the public, other tradespeople, clients representatives, supervisors, and other members of the building services engineering and wider construction team
	✓	✓	**B7 Learning and development**	Support the learning and development of others through activities such as mentoring, and sharing professional expertise and knowledge
✓		✓	**B8 CPD**	Maintain and enhance competence in own area
✓	✓	✓	**B9 Working ethically**	Exercise responsibilities in an ethical manner

Section 3: Grading and Grading Descriptors

Component 1: Multiple-choice Test

The following grade boundaries apply to the multiple-choice test assessment:

	Marks	Points
Pass	36-41	3
Merit	42-47	6
Distinction	48-60	9

Component 2: Skills test

Apprentices will need to demonstrate the following grading criteria in order to meet the stated grades. Merit builds on demonstration of the Pass characteristics and distinction builds on both Pass and Merit.

Pass	Merit	Distinction
The apprentice has: - completed the task of planning and producing a fabrication of pipework that is tested and drained within the provided time frame - produced a drawing which is labelled showing components selected suitable components for the fabrication that are to the brief that has been provided - fixed the fabrication securely with suitable use of brackets - produced a fabrication that passes a soundness test to industry standards - produced a fabrication	The apprentice must meet all Pass criteria and has: - completed the task without requesting further materials due to errors or miscalculations - avoided damage to fittings and components, avoided tool marks and damage to building fabric and surfaces - produced a fabrication with 70% of measurements within the defined tolerance (+ or 2mm) plumb and level - produced a drawing which is clearly labelled showing components in the correct position relative to the fabrication they intend to install with	The apprentice must meet all Pass and Merit criteria and has: - completed the task in at least 10% less than the time frame that is given -completed the task without requesting further materials due to errors or miscalculations - produced a fabrication with 80% of measurements within the defined tolerance (+or 2mm) plumb and level - produced a fabrication which is water tight upon the first soundness test - presented the work completed within the preliminary activities in a highly professional format

without damage to fittings and components and without tool marks present -produced a fabrication with 60% of measurements within the defined tolerance (+ or 2mm) plumb and level - worked safely in accordance with health and safety procedures - maintained a safe and clear working environment for the duration of the task	minimal feedback or recommendations	(technically accurate, grammatically correct, clear and logical structure) - produced a drawing which is clearly labelled showing components in the correct position relative to the fabrication they intend to install without any feedback or recommendations
Points awarded for overall grading		
5	10	15

Component 3: Professional Discussion based on an EPA record of achievement

Apprentices will need to demonstrate the following grading criteria in order to meet the stated grades. Merit builds on demonstration of the Pass characteristics and distinction builds on both Pass and Merit.

Pass	**Merit**	**Distinction**
The apprentice: - provides documented evidence examples and explains them, demonstrating an **accurate** knowledge and ability to apply the relevant skills and behaviours, to the range of systems and their installation requirements with particular emphasis on: - health and safety -	The apprentice meets all the Pass characteristics. In addition the apprentice: - provides documented evidence examples and explains them in sufficient detail to demonstrate a **comprehensive** knowledge and ability to apply relevant skills and behaviours, with particular emphasis on: - communication and	The apprentice meets all the merit characteristics. In addition the apprentice provides documented evidence examples and explains them in sufficient detail to demonstrate an **exceptional** knowledge and ability to apply relevant skills and behaviours, with particular emphasis on: - working independently and taking

compliance with company procedures - task management - promoting business image (personal presentation, punctuality, diligent and methodical approach to work aligned with company and industry values (i.e. working ethically) - is able to answer questions accurately, but gives limited explanation or expansion when answering - is able to draw on limited examples of their experience to answer questions - understanding of relevant knowledge, skills and behaviours is basic but accurate	working with others - time management and attendance - is able to answer questions comprehensively and provide supporting explanations - is able to draw on a wide range of examples and experience to answer questions - consistently shows attention to detail	responsibility - management of site personnel or task allocation - Problem solving - is able to provide expansive detailed answers to the questions - responses are considered and use an extensive range of examples and experiences from the workplace responses show in-depth understanding of the relevant knowledge, skills and behaviours
Point allocated for overall grading		
2	4	6

Overall Grading

The apprentice must achieve at least a pass in all of the End Point Assessment components in order to pass the EPA.

The overall grade will be awarded using the points-based system shown below. Points are allocated for each assessment component as follows.

Assessment Component	Pass	Merit	Distinction
Knowledge Test	3	6	9
Skills Test	5	10	15
Professional Discussion	2	4	6

Points from each assessment component are combined to establish the overall grade:

Overall Grade		
Pass	Merit	Distinction
10-17	18-20	25-30

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 Energy & Environment Awards 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 3 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-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

The apprentice will get a maximum grade of a pass for any component they need to re-sit or re-take, unless Energy & Environment Awards determines there are exceptional circumstances.

Energy & Environment Awards resit and re-take policy can be found at: https://energyenvironmentawards.co.uk/policies-and-fees/

Section 5: Practical Guidance

Preparing for the Skills test

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

The employer/training provider should prepare a practice skills test which includes Part 1: Preliminary activities and Part 2: Practical activities, using tasks similar to, but not identical to, those used in the live assessment. A suitable person should be chosen to play the role of the assessor.

Templates are provided for both parts of the practice skills test to help ensure that the activities assessed will give complete coverage of the standard. See Appendix D, BSEC Supporting Documents 'Practice Skills Test Template.'

Preparing for the Professional Discussion based on an EPA Record of Achievement

A professional discussion based on an EPA record of achievement should take place between the apprentice and the person acting the role of an assessor. The apprentice should draw on evidence from their EPA record of achievement during the discussion.

Guidance on an EPA Record of Achievement

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

The EPA record of achievement 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 record of achievement is one of the Gateway requirements.

The EPA record of achievement 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 professional discussion
- A carefully prepared EPA record of achievement will support the apprentice during the professional discussion
- It allows the assessor to review the EPA record of achievement before the professional discussion to help focus and contextualise the questions the apprentice will be asked

The EPA record of achievement is a record of how each apprentice demonstrated the knowledge, skills and behaviours that are assessed in the professional discussion. Apprentices will have access to their EPA record of achievement during the professional discussion.

The role of the employer/training provider

Employer/training providers are expected to support the apprentice in preparing their record of achievement by:

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

What to expect in the practice professional discussion?

The practice professional discussion will be based on the EPA record of achievement 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 record of achievement using their associated evidence. A suitable person should be chosen to play the part of the assessor.

A practice professional discussion template is provided to help prepare the appropriate questions to ask and to record the apprentices' performance. See Appendix E, BSEC Supporting Documents 'Practice Professional Discussion based on an EPA record of achievement Form.'

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

Preparing for the multiple-choice test

While on-programme, the employer and/or training provider should brief the apprentice on the areas to be assessed by the multiple-choice 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 multiple-choice 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 Building services engineering craftsperson role 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 multiple-choice test. This should be undertaken in advance of the live multiple-choice test, with enough time to mark the test, and provide feedback to the apprentices. A 30-question practice multiple-choice test is available as a printable copy – See Appendix C, BSEC Supporting Documents 'Practice multiple-choice test.'

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

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 record of achievement, training providers and employers must be satisfied that the evidence in the record of achievement 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 Professional discussion based on an EPA record of achievement
- **recent and up to date**: all evidence must be recent and current which demonstrate the apprentice's competence. The independent assessors, appointed by EEA, will assess current competencies. Apprentices must gather evidence during their on-programme training

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