

ST0373/AP01

Powered Pedestrian Door Installer and Servicer
Apprenticeship Standard, Level 2
End-point Assessment Plan

#Publication Month# 2017

Introduction & Overview

This document sets out the requirements for end-point assessment (EPA) for the Powered Pedestrian Door Installer and Servicer apprenticeship standard. It will be of interest to employers, apprentices, training providers and end-point assessment organisations.

Full time apprentices will typically spend 24 months on-programme working towards the apprenticeship standard, with 20% off-the-job training.

Apprentices without English and mathematics at level 2 must achieve level 1 English and mathematics and take the tests for level 2 prior to taking their EPA.

The EPA should only start once the employer is confident that the apprentice has developed all the knowledge, skills and behaviours defined in the apprenticeship standard.

The EPA must be completed over a period of 2 consecutive days, totalling a maximum ten hours' assessment time.

The EPA will be conducted by independent assessors, appointed by an Apprenticeship assessment organisation (AAO).

The EPA consists of three distinct methods:

- Observation
- Knowledge test
- Interview, underpinned by a log book

Performance in the EPA will determine the apprenticeship grade of fail, pass, merit or distinction.

End-point Assessment Gateway

The EPA should only commence once the employer is confident that the apprentice has developed all the knowledge, skills and behaviours defined in the apprenticeship standard. Employers may wish to take advice from a training provider.

Apprentices without English and mathematics at level 2 must achieve level 1 English and mathematics and take the tests for level 2 prior to taking their EPA

Apprentices must have compiled a log book containing sufficient evidence to demonstrate knowledge, skills and behaviours that will be assessed by the EPA interview (see annex A). Evidence sources may include, a record of the various door types worked on and the tasks completed by the apprentice, such as fault finding, installation and maintenance; examples of risk assessments undertaken, records of supervisor reviews and sign off and any supporting photographs and documents.

End-point Assessment Independent Assessor(s)

Employers must choose an independent assessment organisation approved to deliver the end-point assessment for this apprenticeship from the Education & Skills Funding Agency's Register of Apprentice Assessment Organisations (RoAAO).

The AAO must appoint independent assessors to conduct the end-point assessment.

The independent assessors must meet the following requirements:

- Qualified in an electro mechanical occupation to Level 2.
- Hold an assessor qualification, for example A1.
- Knowledge of Powered Pedestrian Doors and associated standards, gained either through occupation in the industry for a minimum of five years or through training by industry representatives, to a level equivalent to level 2 Powered Pedestrian Door Installer and Servicer or higher.
- Have no connection with the apprentice, their employer or training provider.

End-point Assessment Methods & Timescales

The end-point assessment consists of 3 distinct assessment methods: knowledge test, observation and interview. See Annex A for Knowledge, Skills and Behaviours to be assessed by each assessment method and scope of assessment. Each assessment method will be graded pass, merit or fail - see table 1 for grading criteria. Requirements for each assessment method are detailed below.

Method 1 – Knowledge test

A knowledge test consisting of 40 multiple-choice questions, assessing the majority of the knowledge across the standard, with a duration of 45 minutes. The test may be paper-based or digital. Tests must be sat under invigilated controlled conditions, with a maximum of 16 apprentices per invigilator. The test must be marked by an independent person from the AAO following a marking guide or marked by an on-line IT based system; there are no specific knowledge or experience requirements for such individuals. AAOs must develop a bank of questions, to ensure sufficient variation, in consultation with representative employers from the industry to ensure consistency.

Method 2 – Observation

A synoptic observational assessment of an apprentice completing practical tasks typically undertaken by a powered pedestrian door installer and servicer, assessed by an independent assessor from an AAO. Apprentices must be assessed completing the installation, commissioning, servicing and fault finding on both automatic swing door and sliding door products, in line with written instructions provided, in controlled conditions. Independent assessors may observe up to a maximum of 4 apprentices at any one time, to allow for cost effective use of resources whilst maintaining quality. To support the observation, the independent assessor will ask 10 'open' oral questions during or after task completion to assess underpinning knowledge. For example, 'What factors did you consider when planning your work?' 'Explain the process of your risk assessment?' 'What did you consider when choosing the safety devices?'. Independent assessors can ask follow up questions to probe further or seek clarification as required. The answers to questions must be documented by the independent assessor. During the installation and hand over of the installation the assessor will also play the role of the end customer in order to assess the apprentice's communication skills and how the apprentice interacts with the customer. The assessment must be carried out over a continuous period of one working day – maximum 7 hour's assessment time, with breaks in line with working regulations. AAOs must develop a bank of tasks and associated questions, to ensure sufficient variation, in consultation with representative employers to ensure consistency.

Method 3 – Interview

An interview conducted by an independent assessor from an AAO, on a one-to-one basis with the apprentice, will assess the apprentice on knowledge, skills and behaviours, underpinned by the apprentice's log book. The interview must last a maximum of 60 minutes. The independent assessor will ask 10 standardised questions, with follow up questions to probe further or seek clarification as required. Questions must be open, competency based and synoptic in design, that is each assessing against more than one knowledge, skill or behaviour statement. For example: 'When commissioning a swing door, what factors need to be considered when determining the opening and closing speed of the door?' The answers to questions must be documented by the independent assessor. AAOs must develop a bank of standardised questions, to ensure sufficient variation, in consultation with representative employers to ensure consistency. Apprentices can bring their log book to the interview to refer to and show the independent assessor evidence contained within it to help illustrate their answers.

The EPA must be completed over a period of 2 consecutive days. The order in which apprentices can take assessments is flexible to allow independent organisations flexibility and efficiency in scheduling.

The assessments must be completed in controlled conditions, i.e. not in the workplace – independent assessment organisation may use employers' or suppliers' training facilities or develop their own facilities.

Apprenticeship Grading

The apprenticeship assessor's organisation will collate the results of the different assessment methods, combining the results to determine the apprenticeship grade in line with the requirements outlined below. Grades must not be confirmed until after moderation.

To successfully complete the apprenticeship, apprentice's must as a minimum pass all three assessments methods. Failure of any one assessment method will result in an overall fail.

To achieve an overall **Pass**, an apprentice must gain a pass or above in all three assessment methods. Pass represents full competence against the standard.

To achieve an overall **Merit**, an apprentice must meet the merit criteria in the observation assessment plus merit in one of the other two assessments.

To achieve an overall **Distinction**, an apprentice must meet the merit criteria in all three assessments.

Apprentices can re-take one or more failed assessment methods after retraining. The assessment must be re-taken no earlier than four weeks after the first attempt and no later than six months. If more than six-months elapse, all three assessment methods must be retaken. If any of the assessments have to be re-taken the maximum apprenticeship grade that can be achieved is a Pass, unless the AAO determines the apprentice failed for reasons beyond their control.

Table 1, details the grading criteria that will be applied for each assessment method in conjunction with Annex A.

Grading criteria

To be a competent worker all pass criteria needs to be achieved.

End Point Method	Merit	Pass Criteria	Fail Criteria
Knowledge Test	Score 33 to 40 out of 40 questions	Score 26 to 32 out of 40 questions	Score ≤ 25 out of 40 questions
Interview	Score 8 to 10 out of 10 questions	Score 6 to 7 out of 10 questions	Score ≤ 5 out of 10 questions

	<p>A question response will be marked as incorrect if the apprentice fails to demonstrate the knowledge/skill/behaviour being assessed by a particular question or cannot support their answer with an illustrative real-life example.</p> <p>A question response will be marked as correct if the apprentice can demonstrate the knowledge/skill/behaviour being assessed by a particular question with an illustrative real-life example.</p> <p>If the assessor feels as though a question response is not sufficient so as to be marked as correct, but is worthy of a partial credit, the assessor may award the apprentice a half mark.</p>		
<p>Observation</p>	<p>Meets all the pass criteria and in addition:</p> <p>Demonstrates good customer care skills, by discussing with the assessor (acting as the customer) recommendations which are beneficial to the customer and the benefits of them.</p> <p>Planning and methodology are done in a logical order without the need to undo or redo any work already completed.</p> <p>Produces a completed task taking into account best practices to include, wiring</p>	<p>Meets all the following criteria:</p> <p>Completes all the tasks required.</p> <p>All sensors are positioned and adjusted to meet the requirements of BS EN16005.</p> <p>All safety distances to avoid entrapment are correct to meet the requirements of BS EN16005.</p> <p>Cables are routed correctly and fitted with suitable gland protection when passing through materials.</p> <p>Correct locking off of the mains supply was carried out.</p> <p>Working practices ensure the health & safety of self and others.</p>	<p>One or more of the following criteria applies:</p> <p>Fails to complete all the tasks required.</p> <p>Compromises own or others Health & Safety.</p> <p>Accuracy and finish of work does not meet minimum task requirements.</p> <p>Correctly answers ≤ 5 out of 10 questions</p>

	<p>neatness and identification.</p> <p>Provides a detailed documented assessment of any improvements or recommendations, during hand over of the finished task to the customer/assessor</p> <p>Speaks confidently when answering questions.</p> <p>Correctly answers >7 out of 10 questions</p>	<p>Accuracy and finish of work meets minimum task requirements.</p> <p>Completes all documents accurately.</p> <p>Maintains a clean and tidy working environment, free of obstructions, debris and tripping hazards.</p> <p>Correctly answers >5 out of 10 questions</p>	
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Table 1. Grading Criteria

Apprenticeship Assessment Organisations

AAOs must be approved to deliver the end-point assessment for this apprenticeship and be on the Education & Skills Funding Agency’s Register of Apprentice Assessment Organisations (RoAAO). AAOs must develop test centres where apprentices can complete the three assessment methods, under controlled conditions - ensuring apprentices have access to fair and consistent assessment. There are a number of employers/suppliers with facilities that AAO could use as test centres to reduce costs or they could develop their own facilities. It is anticipated that there will only be a small number of test centres, that is 3-4. This is due to the specialist nature of the apprenticeship meaning numbers will be relatively low and potential high costs involved in setting up test centres.

Therefore, apprentices may be required to travel to access a test centre. AAOs will need to develop EPA tools, processes and supporting materials, including:

- a bank of multi-choice questions for the knowledge test
- a bank of practical tests for the observation, with written instructions for the apprentice and standardised questions for the independent assessor and documentation to record the observation and answers to questions
- a bank of interview questions and documentation to record the answers
- guidance for apprentices on the EPA and compiling a log book

Internal quality assurance

Internal quality assurance refers to the requirements that AAO must have in place to ensure consistent (reliable) and accurate (valid) assessment decisions. AAOs for this standard must undertake the following:

- appoint independent assessors that meet the requirements as detailed in this plan
- appoint independent persons to mark the knowledge test and conduct internal quality assurance
- produce assessment tools and supporting materials for the EPA that follow best assessment practice, including consulting with representative employers from the sector to ensure consistency
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- have quality assurance systems and procedures that support fair, reliable and consistent assessment across organisation and over time
- operate regular standardisation events that enable assessors to attend a minimum of two events per year
- operate moderation of assessment activity and decisions, through examination of documentation and observation of activity, with a minimum of 20 percent of each independent assessor's assessments checked

External Quality Assurance

External quality assurance arrangements will ensure that AAOs delivering EPA for this standard operate consistently and in line with this plan.

External quality assurance for this apprenticeship standard will be undertaken by the Institute for Apprenticeships. The trailblazer group would like the Institute for Apprenticeships to undertake external quality assurance. The other options have been considered and deemed not appropriate for the following reasons. An employer-led option is not viable as employers in the sector do not have the necessary time or expertise and it would not be cost effective to develop arrangements just for one standard. The standard is at level 2 and thus a professional body would not be interested in providing external quality assurance. We do not want the assessment organisation market to be limited to organisations that can meet Ofqual's conditions.

Implementation

Affordability: It is anticipated that the EPA will not represent more than 20% of the maximum funding band for this apprenticeship.

Volumes: It is anticipated that there will be 150 starts per year on this apprenticeship.

Annex A – Knowledge, Skills and Behaviours to be assessed by each assessment method and scope of assessment

	KNOWLEDGE	Practical & Observation	Multiple Choice Questions	Interview
Drive Systems	Principles such as , elec mech, hydraulic, pneumatic. System make up and adjustments (transformer, motor, control board, lock, end gear etc) . Signals and commands.	✓	✓	✓
Electricity	Safe Isolation. AC/DC Extra low voltage, low voltage. Bridge rectifiers, relays, switches, resistance, metering, wiring diagrams, applicable regulations.	✓	✓	✓
Sensors	Types and principles of operation, Infra red active and passive, ultrasonic, radar, lazer, induction loops, PSPE, remote control, environmental influences.	✓	✓	✓
Switching technology	Analogue and digital switching, push buttons, access control	✓	✓	
Machinery safety	Principles of risk assessing and scoring, Machinery Directive, guarding, signage, sensors, end user training, OEM manuals, EN349, BS7036-0	✓	✓	✓
Legislation/Standards	Full Knowledge of BS7036 pt 0. BS EN 16005. Awareness of BS7036 pt 1-5, Building Regs fire and escape, glazing, electricity, machinery directive, Accessibility standard.	✓	✓	
Data Analysis	Requirments of BS EN 16005, using and reading measuring tools and gauges, calculating low energy movement, basic drawing skills, survey, setting out.	✓	✓	
System Fundamentals	Door construction and hardware (pivots, locks), glazing and glass, assembling and fitting framework, different door types and why you would use them, interfacing with access control devices and fire alarms, electric locking systems failsafe/fail secure mag locks/strikes etc.	✓	✓	

Annex A - Cont.

	SKILLS	Practical & Observation	Multiple Choice Questions	Interview
Control circuit application	Electrical wiring and control systems setting, testing and fault finding; and their integration with motors, control boards and safety sensors applicable to powered pedestrian doors.	✓	✓	✓
Mechanical operations	Measuring building openings and correctly positioning and fixing the door components and automatic drive unit. Connecting, adjusting and testing the installed system and relevant activation and safety sensors. Appropriate selection and correct use of hand and power tools: drills, laser level, powered saws, socket set, multi meter	✓	✓	✓
Safe working practices	Dynamic hazards analysis and risk assessment during the working process, installation, commissioning, testing, fault diagnostics and servicing of powered pedestrian doors. Working with mechanical, electrical circuits and systems. Within the process of decommissioning and dismantling powered pedestrian doors - the safe disposal of equipment and waste transfer.	✓	✓	✓
Data application	Ability to interpret and apply door systems safety data using charts, tables and formulae. Ensuring maximum door speeds and kinetic energy levels are not exceeded.	✓	✓	
Logical problem solver	Employs systematic processes, and a logical approach to problem solving and technical challenges within powered pedestrian door applications.	✓		
	BEHAVIOURS	Practical & Observation	Multiple Choice Questions	Interview
Personal responsibility	Takes responsibility for personal presentation, work and interactions with colleagues, customers, suppliers and subcontractors.	✓		✓
Self-motivated	Willingness to learn and commitment to professional development and to applying principles of sound engineering.		✓	✓
Safety approach	Self-disciplined approach to assessing, managing, mitigating and avoiding risk in a variety of situations to themselves, colleagues, the public and the environment.	✓		✓
Strong work ethic	Positive ethical attitude and behaviours including reliability, willingness to take responsibility. Commitment to completing tasks and ability to work as part of a multi-disciplined team.			✓
Focus on quality	Attention to detail, following procedures, planning and preparation.	✓		✓
Adaptable	Able to adapt to changes in conditions, technologies, situations and a wide variety of different working environments.			✓
Communicates well	Uses a range of communications methods effectively, positively and in timely fashion.	✓		✓