Structural Steelwork Erector

Level 2 Assessment Plan

INTRODUCTION

This document sets out the requirements for end-point assessment (EPA) for the Structural Steelwork Erector apprenticeship standard. It is written for end-point assessment organisations who need to know how EPA for this apprenticeship must operate. It will also be of interest to Structural Steelwork Erector apprentices, their employers and training providers.

This EPA is designed to enable Apprentices to demonstrate occupational competence as a Structural Steelwork Erector, and to ensure that they meet the skills, knowledge and behaviour outcomes as defined in the apprenticeship standard. Typically, apprentices would have completed 24 months on-programme working towards the apprenticeship standard, with a minimum of 20% off-the-job training.

The EPA should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the standard, that the pre-requisite gateway requirements for EPA have been met and that they can be evidenced to an EPA organisation. As a gateway requirement, 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. For those with an education, health and care plan or a legacy statement the apprenticeships English and maths minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language.

EPA must be conducted by an organisation approved to offer services against this standard, as selected by the employer, from the Education & Skills Funding Agency's Register of End Point Assessment Organisations.

The EPA consists of two distinct assessment methods:

- Practical Test
- Professional Discussion

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

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ASSESSMENT GATEWAY

The EPA should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the standard, the pre-requisite gateway requirements for EPA have been met and that they can be evidenced to an EPA organisation. Employers may wish to take advice from their apprentice's training provider(s).

Gateway requirements:

- English and mathematics at level 2 or Apprentices without English and mathematics at level 2 must have achieved level 1 English and mathematics and have taken the tests for level 2. For those with an education, health and care plan or a legacy statement the apprenticeships English and maths minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language.
- Portfolio of evidence should be made up of:
    - Evidence of a minimum 10 complex lifts correctly attached to slings
    - Evidence of a minimum 10 sections correctly erected and secured
    - Quarterly employer-written appraisals throughout the duration of the apprenticeship

The portfolio will not in itself be assessed; it is designed to support the professional discussion. It should not include any self-reflective evidence. It should be submitted to the EPAO two weeks prior to the professional discussion taking place.

ASSESSMENT METHODS

The end-point assessment must be completed over a maximum period of two consecutive days and within three months after the apprentice has met the gateway requirements. The methods can be completed in any order.

ASSESSMENT 1: PRACTICAL TEST

Duration: 3 hours and 30 minutes (+10% at the discretion of the independent assessor)
Including breaks in line with the Working Time Directive

The practical test can take place at the employer's premises or at a location designated by the EPA organisation. The test will require the apprentice to complete a structural steel fabrication task designed by the EPA organisation. The specific task should be designed to test the apprentice's ability to:

- Read and interpret erection drawings
- Understand the risk assessment process
- Observe safe working practices and wear appropriate PPE

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- Select the correct tools to complete each task
- Use cranes and lifting equipments to offload fabricated steelwork from delivery vehicles
- Use lifting techniques to ensure component can be connected to its final position
- Prepare and use correct equipment for making the bolting connections
- Complete and dimensionally check the finished framework ready for inspection and report into the production control system

EPAOs must develop practical task specifications and an accompanying question bank of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the specifications they contain, are fit for purposes.

The apprentice will be provided with a task specification at the beginning of the practical test.

During the practical test, the assessor should ask the apprentice a series of six questions drawn from a pre-set question bank to assess underlying knowledge of fabrication principles.

The apprentice may complete the task early but will fail the practical test if it is not completed within the time allowed (+ 10% at the discretion of the assessor). Upon completion of the task the assessor will mark the completed fabrication work, checking that it conforms to the drawings, the correct materials have been used and fixed as instructed and all are within the given tolerances using a critical marking sheet specific to the allocated task. Assessors may assess up to two apprentices at any one time.

Assessment Grading – Practical Test		
Fails - to satisfy the requirements the Structural Steelwork Erector Standard	**Pass – Satisfies the requirements of the Structural Steelwork Erector Standard**	**Distinction – Achieves all pass criteria and at least 2 of the following:**
Fails to meet the pass criteria.	Satisfies health and safety, production and personal development requirements during the planning and execution of allocated tasks. (S1, S3, S9)	Able to identify and offer improvements to health and safety practices.
	Selects and uses the appropriate tools and techniques to execute the given tasks in accordance with stated tolerances and to stated specifications. (S2, S6, B3)	Evaluates a range of techniques, selects and justifies own selections.
	Safely and correctly uses cranes and lifting equipment	Is able to identify possible issues in executing the task as per the specification provided and can take steps

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	appropriate to the stated task. (S4, S5)	to prevent any issues before they occur.
	Completes the erection task accurately ready for inspection in accordance with the specifications and drawings provided. (S8, K8, B4)	Exceeds required levels of accuracy where possible in the provided practical specifications. Offers suggestions for continuous improvement when prompted.
	Dimensionally checks the finished framework ready for inspection and reports into the production control system. (S7, K9)	

ASSESSMENT 2: PROFESSIONAL DISCUSSION
Duration: 60 minutes (+10% at the discretion of the independent assessor)

The professional discussion must be conducted on a 1:1 basis in a controlled environment free from distraction or influence. The discussion can take place remotely if suitable for both parties. The discussion will be audio recorded. The portfolio of evidence will be used by the apprentice to provide evidence to support the discussion and will not in itself be assessed or contribute to the overall grade. The portfolio should be provided at least two weeks in advance to the EPAO.
During the professional discussion, the apprentice will be asked a series of 8 competency-based questions, with follow-up questions to probe further if required. EPAOs must develop question banks of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they are fit for purpose.
Questions must be pre-selected to ensure coverage of all the KSBs assigned to this method as per annex A.

Assessment Grading - Professional Interview		
Fails - to satisfy the Structural Steelwork Erector Standard	**Pass – Satisfies the requirements of the Structural Steelwork Erector Standard**	**Distinction – Achieves pass criteria and 2 of the following:**
Fails to meet the pass criteria.	Explains the causes of typical steel erection defects and how their occurrences can be reduced. (K6)	Able to show instances where they have taken steps to prevent issues and faults before they occur.
	Recognises the importance of, and can explain the reasons why, health and safety regulations are	Able to show instances where they have been able to suggest improvements to

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	important in steelwork erection. Can identify hazards and poor qorking practices, and understands the correct procedure for reporting them (K7, B1, B2)	workplace safety and explain why these improvements have been successful.
	Fully understands the content of drawings and method statements. (K8)	Can evaluate method statements and drawings, identify areas for improvement or clarity.
	Can identify the common steel frame component names and section descriptions. (K3)	Evaluates a range of tools, equipment and materials used in steelwork erection, demonstrating an understanding of the various individual characteristics and correct usage of each.
	Can explain the characteristics of the materials and bolts used in steelwork erection. (K1, K2)	
	Identifies the correct powered and non-powered tools and equipment for a given task or scenario. (K4, K5)	

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OVERALL GRADING

Independent assessors must individually grade each assessment method – fail, pass or distinction, according to the requirements set out in this plan. Restrictions on grading apply where apprentices re-sit/re-take an assessment method – see re-sit/re-take section below.

An independent assessor must combine the grades of all assessment methods to determine the overall EPA grade. Apprentices must at least pass all the assessment methods in order to pass the overall apprenticeship.

Where more than one independent assessor is involved, the independent assessor responsible for the assessment method completed last will be responsible for combining the grades.

Practical Test	Fail	Fail	Pass	Pass	Pass	Distinction	Distinction

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Professional Discussion	Fail	Pass	Fail	Pass	Distinction	Pass	Distinction
Overall Grade	**Fail**	**Fail**	**Fail**	**Pass**	**Pass**	**Distinction**	**Distinction**

The apprentice cannot achieve an overall distinction grade unless a distinction is achieved in the practical test. This is to reflect the greater weight attached to the practical application of skills and health and safety in the workplace.

RE-SIT AND RE-TAKE INFORMATION

Apprentices who fail one or both assessment methods will be offered the opportunity to take a re-sit/re-take. Re-sits/re-takes must not be offered to apprentices wishing to improve their grade. A re-sit does not require further learning, whereas a re-take does.

The apprentice's employer will need to agree that a re-sit/re-take is an appropriate course of action. Apprentices should have a supportive action plan to prepare for the re-sit/re-take.

The apprentice will only have to re-sit/re-take the specific assessment method that was failed. If a re-sit/re-take is not successful completed within 6 months of the original EPA, the entire EPA will have to be taken again. Re-sits and re-takes are restricted to a pass mark unless in exceptional circumstances, which can be taken into account at the discretion of the EPA organisation.

END-POINT ASSESSMENT ORGANISATIONS

Employers must choose an independent EPA organisation approved to deliver the EPA for this apprenticeship from the Education & Skills Funding Agency's Register of End Point Assessment Organisations (RoEPAO).

Requirements for Independent Assessors

EPA organisations must appoint independent assessors to oversee the practical assessment and conduct the professional discussion. They must meet the following criteria:

- Be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest
- Have structural steelwork erection workplace experience, including as a minimum experience in a Structural Steelwork Erector role, to ensure current and relevant sector knowledge and understanding

INTERNAL QUALITY ASSURANCE

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

- Appoint independent assessors that meet the requirements as detailed in this plan – see above
- 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 moderation of assessment activity and decisions, through examination of documentation and observation of activity, with a minimum of 20% of each independent assessors' assessments moderated each year
- operate regular standardisation events that enable assessors to attend a minimum of two events per year
- Operate an appeals process

EXTERNAL QUALITY ASSURANCE

External quality assurance will be provided by the Institute for Apprenticeships.

STARTS

It is anticipated that there will be 50 starts per year on this apprenticeship.

AFFORDABILITY

Affordability has been built into the plan in the form of allowing the practical assessment to take place at the employer's premises and the ability for the EPAO to conduct the professional discussion remotely.

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ANNEX A: MAPPING EXERCISE

SKILLS	PT	PD
Plan and prepare to ensure production and personal development goals are achieved. (S1)	X	
Identify the fabricated steel frame components for the correct sequence of erection for the structural steelwork. (S2)	X	
Prepare the working area, equipment, consumables and materials for laying down and storage of steelwork components. (S3)	X	
Identify and use the lifting accessories required to offload fabricated steelwork from delivery vehicles. (S4)	X	
Use established lifting techniques to ensure the component can be connected into its final position. (S5)	X	
Prepare and use the equipment for making the bolting connections. (S6)	X	
Complete and dimensionally check the finished framework ready for inspection and report into the production control system. (S7)	X	
Achieve a quality of work to meet international standards for dimensional inspection. (S8)	X	
Ensure that health and safety requirements are fully accounted for in all of the above. (S9)	X	

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KNOWLEDGE		
The various sizes of materials used. (K1)		X
The different types of Bolts used and if required knowledge and training to cover sector specific schemes. (K2)		X
Identify the common steel frame component names and section descriptions (beam, column, channel, plate, round hollow, square hollow, angle, fin plates, gusset plates, etc). (K3)		X
The main non powered hand tools needed in structural steel erection work (hammer, podger spanner, measuring tape, chalk, etc). (K4)		X
The main powered equipment needed in structural steel erection (mobile elevated working platform grinder, hydraulic jack, gas cutting equipment, etc). (K5)		X
The causes of typical steel erection defects and how their occurrence can be reduced. (K6)		X
Identifying hazards and basic health, safety and quality requirements. (K7)		X
How to interpret method statements and work to fabrication drawings. (K8)	X	X
The basics of quality documents and reporting systems. (K9)	X	
BEHAVIOURS		
A questioning attitude. (B1)		X
Intervention, to challenge poor practices and channel feedback to the right management/authorities to implement change. (B2)		X
Reliability and dependability to consistently deliver expectations in production, quality, work ethics, self-development, teamwork and self motivation. (B3)	X	
Accountability, to follow the specified procedures and controls and be personally responsible for their production work and personal development. (B4)	X	

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