

# **Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction)**

## **Specification**

NVQ/competence-based qualifications

First registration June 2013 Issue 2

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This specification is Issue 2. Key changes are listed in the summary table on the next page. We will inform centres of any changes to this issue. The latest issue can be found on the Pearson website: [qualifications.pearson.com](http://qualifications.pearson.com)

This qualification was previously known as:

Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction) (QCF)

The QN remains the same.

*References to third party material made in this specification are made in good faith. Pearson does not endorse, approve or accept responsibility for the content of materials, which may be subject to change, or any opinions expressed therein. (Material may include textbooks, journals, magazines and other publications and websites.)*

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## Summary of Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction) specification Issue 2 changes

<b>Summary of changes made between previous issue and this current issue</b>	<b>Page number</b>
All references to QCF have been removed throughout the specification	
Definition of TQT added	1
Definition of sizes of qualifications aligned to TQT	2
TQT value added	7
Guided learning definition updated	12
QCF references removed from unit titles and unit levels in all units	13-62

Earlier issue(s) show(s) previous changes.

If you need further information on these changes or what they mean, contact us via our website at: [qualifications.pearson.com/en/support/contact-us.html](http://qualifications.pearson.com/en/support/contact-us.html).



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# Introducing Pearson Edexcel NVQ/Competence-based qualifications

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## What are NVQ/Competence-based qualifications?

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National Vocational Qualifications (NVQs)/Competence-based qualifications are work-based qualifications that give learners the opportunity to develop and demonstrate their competence in the area of work or job role to which the qualification relates.

NVQs/Competence-based qualifications are based on recognised occupational standards for the appropriate sector. Occupational standards define what employees, or potential employees, must be able to do and know, and how well they should undertake work tasks and work roles. These standards are written in broad terms to enable employers and providers to apply them to a wide range of related occupational areas.

NVQs/Competence-based qualifications are outcomes-based with no fixed learning programme, therefore allowing flexible delivery to meet the individual learner's needs. At Level 2 and above, these qualifications are recognised as approved training and development courses for employees that have been in the workplace for some time or as a way of inducting, training and developing new entrants into the workplace. Qualifications at Level 1 can be used in Traineeships, which enables progression to entry level employment or to Apprenticeship programmes.

Learners will work towards their qualification in the workplace or in settings that replicate the working environment as specified in the assessment requirements. Colleges, training centres and/or employers can offer these qualifications as long as they have access to appropriate physical and human resources and have the necessary quality assurance systems in place.

## Sizes of NVQ/Competence-based qualifications

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For all regulated qualifications, Pearson specify a total number of hours that it is estimated learners will require to complete and show achievement for the qualification – this is the Total Qualification Time (TQT). The TQT value indicates the size of a qualification.

Within the TQT, Pearson identifies the number of Guided Learning Hours (GLH) that we estimate a centre delivering the qualification might provide. Guided learning means activities, such as lessons, tutorials, online instruction, supervised study and giving feedback on performance, that directly involve tutors and assessors in teaching, supervising and invigilating learners. Guided learning includes the time required for learners to complete external assessment under examination or supervised conditions.

In addition to guided learning, other required learning directed by tutors or assessors will include private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

As well as TQT and GLH, qualifications can also have a credit value – equal to one tenth of TQT, rounded to the nearest whole number.

TQT and credit values are assigned after consultation with users of the qualifications.

NVQ/Competence-based qualifications are available in the following sizes:

- Award – a qualification with a TQT value of 120 or less (equivalent to a range of 1–12 credits)
- Certificate – a qualification with a TQT value in the range of 121–369 (equivalent to a range of 13–36 credits)
- Diploma – a qualification with a TQT value of 370 or more (equivalent to 37 credits and above).



## Qualification title covered by this specification

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This specification provides the information you need to offer the Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction):

<b>Qualification title</b>	<b>Qualification Number (QN)</b>	<b>Accreditation start date</b>
Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction)	600/9090/X	10/05/2013

Qualifications eligible and funded for post-16-year-olds can be found on the funding Hub. The Skills Funding Agency also publishes a funding catalogue that lists the qualifications available for 19+ funding.

You should use the QN when you seek public funding for your learners. Each unit in a qualification will also have a unit reference number, which is stated in each unit.

The qualification title and unit reference numbers will appear on learners' final certification document. Learners need to be made aware of this when they are recruited by the centre and registered with Pearson.

This title replaces the following qualification from June 2013:

<b>Qualification title</b>	<b>Qualification Number (QN)</b>	<b>Accreditation start date</b>	<b>Accreditation end date</b>
Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction) (QCF)	600/4070/1	18/11/11	31/05/13

# Key features of the Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction)

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This qualification:

- is nationally recognised
- is based on the ConstructionSkills National Occupational Standards (NOS). The NOS, assessment requirements/strategy and qualification structure(s) are owned by ConstructionSkills.

The Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction) has been approved as a component for the ConstructionSkills Apprenticeship framework.

## What is the purpose of this qualification?

This qualification is appropriate for employees in the construction and built environment sector working across a broad range of areas. It is designed to assess occupational competence in the workplace where learners are required to demonstrate skills and knowledge to a level required in the construction industry.

## Who is this qualification for?

This qualification is for learners aged 16 and above who are capable of reaching the required standards.

Pearson's policy is that the qualification should:

- be free from any barriers that restrict access and progression
- ensure equality of opportunity for all wishing to access the qualification
- be offered to learners who have been recruited with integrity by the centre.

## What are the benefits of this qualification to the learner and employer?

This qualification allows learners to demonstrate competence against National Occupational Standards which are based on the needs of the construction industry as defined by ConstructionSkills, the Sector Skills Council. As such, it contributes to the development of skilled labour in the sector. The qualification may contribute towards the competence element of an Apprenticeship.

## What are the potential job roles for those working towards this qualification?

- Construction operative

## **What progression opportunities are available to learners who achieve this qualification?**

This qualification allows learners to demonstrate competence in post tensioning operations at a level required by the construction and the built environment industry. Learners can progress across the level and size of the construction and the built environment competence and knowledge qualifications and into other occupational areas such as team leading and management.

# What is the qualification structure for the Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction)?

The Total Qualification Time (TQT) for this qualification is 1500 hours.

The Guided Learning Hours (GLH) for this qualification is 500.

## Qualification structure summary

To achieve this qualification, learners must complete a minimum of 150 credits, including 20 mandatory credits from Group A and one of the pathways in Group P.

<b>Pearson Edexcel Level 2 NVQ Diploma in Post Tensioning Operations (Construction)</b>					
<b>Unit No.</b>	<b>Unit Reference number</b>	<b>A - Mandatory units</b>	<b>Credit</b>	<b>Level</b>	<b>GLH</b>
1	T/503/9560	Establishing Work Area Protection and Safety in the Workplace	10	2	33
2	A/503/1170	Conforming to General Health, Safety and Welfare in the Workplace	2	1	7
3	J/503/1169	Conforming to Productive Working Practices in the Workplace	3	2	10
4	F/503/1171	Moving, Handling and Storing Resources in the Workplace	5	2	17
<b>P - Pathways</b>					
<b>Unit No.</b>	<b>Unit reference number</b>	<b>B – Un-bonded (130 credits)</b>	<b>Credit</b>	<b>Level</b>	<b>GLH</b>
5	K/601/6738	Installing and Assembling Post Tensioning Components in the Workplace	60	2	200
6	Y/601/6914	Carrying Out Stressing Operations for Post Tensioning Systems in the Workplace	70	2	233

<b>Unit No.</b>	<b>Unit reference number</b>	<b>C – Bonded (200 credits)</b>	<b>Credit</b>	<b>Level</b>	<b>GLH</b>
5	K/601/6738	Installing and Assembling Post Tensioning Components in the Workplace	60	2	200
6	Y/601/6914	Carrying Out Stressing Operations for Post Tensioning Systems in the Workplace	70	2	233
7	D/601/6946	Grouting or Waxing Post Tensioned Tendons and/or Bars in the Workplace	70	2	233

## How is the qualification graded and assessed?

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The overall grade for the qualification is a 'pass'. To achieve a pass for the full qualification, a learner must achieve all the required units within the specified qualification structure.

To pass a unit a learner must:

- achieve **all** the specified learning outcomes
- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion
- show that the evidence is their own.

The qualification is designed to be assessed:

- in the workplace or
- in conditions resembling the workplace, as specified in the assessment requirements/strategy for the sector.

### Assessment requirements/strategy

The assessment requirements/strategy for this qualification has been included in *Annexe C*. They have been developed by ConstructionSkills in partnership with employers, training providers, awarding organisations and the regulatory authorities. The assessment strategy includes details on:

- the requirements for assessment in the workplace and the circumstances where simulation is permitted
- the criteria for defining a realistic working environment, where it is permitted
- the roles and occupational competence of assessors, expert witnesses, internal verifiers and standards verifiers
- quality control of assessment
- evidence requirements

Learners may provide evidence of occupational competence from:

- **current practice** where evidence is generated from a current job role
- a **programme of development** where evidence comes from assessment opportunities built into a learning/training programme whether at or away from the workplace
- the **Recognition of Prior Learning (RPL)** where a learner can demonstrate that they can meet the assessment criteria within a unit through knowledge, understanding or skills they already possess without undertaking a course of development. They must submit sufficient, reliable and valid evidence for assessment, internal and standards verification purposes. RPL is acceptable for accrediting a unit, several units or a whole qualification
- a **combination** of these.

It is important that the evidence provided to satisfy the unit and learning outcomes' assessment criteria is:

<b>Valid</b>	relevant to the standards for which competence is claimed
<b>Authentic</b>	produced by the learner
<b>Current</b>	sufficiently recent to create confidence that the same skill, understanding or knowledge persist at the time of the claim
<b>Reliable</b>	indicates that the learner can consistently perform at this level
<b>Sufficient</b>	fully meets the requirements of the standards.

### **Types of evidence (to be read in conjunction with the assessment strategy in *Annexe C*)**

To successfully achieve a unit the learner must gather evidence which shows that they have met the required standard specified by the assessment criteria. Evidence can take a variety of different forms including the examples below. Centres should refer to the assessment strategy for information about which of the following are permissible.

- direct observation of the learner's performance by their assessor (O)
- outcomes from oral or written questioning (Q&A)
- products of the learner's work (P)
- personal statements and/or reflective accounts (RA)
- outcomes from simulation, where permitted by the assessment strategy (S)
- professional discussion (PD)
- assignment, project/case studies (A)
- authentic statements/witness testimony (WT)
- expert witness testimony (EPW)
- evidence of Recognition of Prior Learning (RPL).

The abbreviations may be used for cross-referencing purposes.

Learners can use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units. It is, therefore, not necessary for learners to have each assessment criterion assessed separately. Learners should be encouraged to cross-reference their evidence to the relevant assessment criteria.

Evidence must be made available to the assessor, internal verifier and Pearson standards verifier. A range of recording documents is available on our website [qualifications.pearson.com](http://qualifications.pearson.com). Alternatively, centres can develop their own recording documents.



# Centre recognition and approval

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## Centre recognition

Centres that have not previously offered Pearson accredited qualifications need to apply for and be granted centre recognition and approval as part of the process for approval to offer individual qualifications. New centres must complete a centre recognition and approval application and a qualification approval application.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by the new qualification and the conditions for automatic approval are met.

Centres already holding Pearson approval and which have a history of good external quality assurance outcomes are able to gain qualification approval for a different level or different sector via Edexcel online.

## Approvals agreement

All centres are required to enter into an approvals agreement which is a formal commitment by the head or principal of a centre to meet all the requirements of the specification and any linked codes or regulations. If centres do not comply with the agreement, Pearson will act to protect the integrity of the awarding of qualifications. This could result in the suspension of certification or withdrawal of approval.

## Quality assurance

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Detailed information on Pearson's quality assurance processes is given in *Annexe A*.

## What resources are required?

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Each qualification is designed to support learners working in the construction and built environment sector. Physical resources need to support the delivery of the qualifications and the assessment of the learning outcomes and they must be of industry standard. The centre and staff involved in the delivery of a qualification must take health and safety requirements into account.

Where provision is made by the Sector Skills Council or Standards Setting Body for assessment to be undertaken in a Realistic Working Environment (RWE), the RWE must provide the same conditions as the normal day-to-day working environment, with a similar range of demands, pressures and requirements for cost-effective working.

Centres must meet any specific resource requirements given in *Annexe C: Assessment requirements/strategy*. Staff assessing learners must meet the requirements within the overarching assessment strategy for the sector.

## Unit format

Each unit in this specification contains the following sections.

<b>Unit title:</b>					This is the formal title of the unit that will appear on the learner's certificate
<b>Unit reference number:</b>					This is the unit owner's reference number for the specified unit.
<b>Level:</b>					All units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors by Ofqual, the qualifications regulator.
<b>Credit value:</b>					All units have a credit value. The minimum credit value is one, and credits can only be awarded in whole numbers. Learners will be awarded credits when they achieve the unit.
<b>Guided learning hours:</b>					Guided Learning Hours (GLH) is the number of hours that a centre delivering the qualification needs to provide. Guided learning means activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study.
<b>Unit summary:</b>					This provides a summary of the purpose of the unit.
<b>Assessment requirements/evidence requirements:</b>					The assessment/evidence requirements are determined by the SSC. Learners must provide evidence for each of the requirements stated in this section.
<b>Assessment methodology:</b>					This provides a summary of the assessment methodology to be used for the unit.
<b>Learning outcomes:</b>	<b>Assessment criteria:</b>	<b>Evidence type:</b>	<b>Portfolio reference:</b>	<b>Date:</b>	
			The learner should use this box to indicate where the evidence can be obtained eg portfolio page number.	The learner should give the date when the evidence has been provided.	
Learning outcomes state exactly what a learner should know, understand or be able to do as a result of completing a unit.		The assessment criteria of a unit specify the standard a learner is expected to meet to demonstrate that a learning outcome, or a set of learning outcomes, has been achieved.		Learners must reference the type of evidence they have and where it is available for quality assurance purposes. The learner can enter the relevant key and a reference. Alternatively, the learner and/or centre can devise their own referencing system.	

# Units



## **Unit 1: Establishing Work Area Protection and Safety in the Workplace**

**Unit reference number:** T/503/9560

**Level:** 2

**Credit value:** 10

**Guided learning hours:** 33

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### **Unit summary**

The aim of this unit is to illustrate the skills, knowledge and understanding required to confirm competence in establishing work area protection and safety in the workplace within the relevant sector of industry.

### **Assessment requirements/evidence requirements**

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ in the QCF
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

This unit must be assessed against the following endorsement:

- own occupational area of work.

### **Assessment methodology**

Evidence of achievement of this unit should be drawn from the workplace, except where ConstructionSkills makes provision for evidence to be produced through simulation, as specified in the ConstructionSkills overarching assessment strategy.

An assessment record must be created that identifies the assessment criteria that have been met and cross-references these to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment.

The unit specification or suitable centre documentation could be used to form an assessment record.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Interpret the given information relating to the work and resources when establishing work area protection and safety</p>	<p>1.1 interpret and extract relevant information from drawings, plans, risk assessments, method statements, specifications, schedules, site inspections and manufacturers' information</p> <p>1.2 comply with information and/or instructions derived from risk assessments and method statements</p> <p>1.3 describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented</p> <p>1.4 describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, plans, risk assessments, method statements, specifications, schedules, site inspection reports, manufacturers' information, regulations and official guidance associated with protecting work areas</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Know how to comply with relevant legislation and official guidance when establishing work area protection and safety	2.1 describe their responsibilities regarding potential accidents and health hazards, whilst working: <ul style="list-style-type: none"> <li>- in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting</li> </ul> 2.2 describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative 2.3 explain what the accident reporting procedures are and who is responsible for making reports			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>3 Maintain safe and healthy working practices when establishing work area protection and safety</p>	<p>3.1 use health and safety control equipment and access equipment safely to carry out the activity in accordance with current legislation and organisational requirements when establishing work area protection and safety</p> <p>3.2 comply with information relating to specific risks to health when establishing work area protection and safety</p> <p>3.3 explain why and when health and safety control equipment, identified by the principles of protection, should be used, relating to establishing work area protection and safety, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> <li>- local exhaust ventilation (LEV)</li> </ul> <p>3.4 describe how the relevant health and safety control equipment should be used in accordance with the given instructions</p> <p>3.5 describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related hazards</p>			



Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
4 Select the required quantity and quality of resources for the methods of work to establish work area protection and safety	4.1 select resources associated with own work in relation to materials, components and fixings, and tools and equipment 4.2 describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources in relation to: 4.3 describe how the resources should be used correctly and how problems associated with the resources are reported 4.4 explain why the organisational procedures have been developed and how they are used for the selection of required resources 4.5 describe any potential hazards associated with the resources and methods of work 4.6 describe how to calculate quantity, length and area associated with the method/procedure to establish work area protection and safety			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Minimise the risk of damage to the work and surrounding area when establishing work area protection and safety	5.1 protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures 5.2 minimise damage and maintain a clean work space 5.3 dispose of waste in accordance with current legislation 5.4 describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions 5.5 explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance			
6 Complete the work within the allocated time when establishing work area protection and safety	6.1 demonstrate completion of the work within the allocated time 6.2 describe the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>- types of progress charts, timetables and estimated times</li> <li>- organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
7 Minimise the risk of damage to the work and surrounding area when establishing work area protection and safety	7.1 demonstrate the following work skills when establishing work area protection and safety: <ul style="list-style-type: none"> <li>- measuring, setting out, positioning, assembling, constructing, securing and dismantling</li> </ul> 7.2 install, maintain and remove temporary protection and safety arrangements for the work area, to given working instructions, relating to barriers/temporary structures and one of the following: <ul style="list-style-type: none"> <li>- protection and safety notices</li> <li>- safety lighting</li> </ul> 7.3 safely use materials, hand tools, portable power tools and ancillary equipment           7.4 safely store the materials, tools and equipment used when establishing work area protection and safety			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>7.5 describe how to apply safe and healthy work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- plan for the protection and the safety of the work and surrounding environment</li> <li>- install, check and maintain the protection and safety equipment</li> <li>- dismantle and remove protection and safety equipment</li> <li>- install safety notices</li> <li>- install lighting systems</li> <li>- use hand tools, power tools and equipment</li> <li>- work at height</li> <li>- use access equipment</li> </ul> <p>7.6 describe the needs of other occupations and how to effectively communicate within a team when establishing work area protection and safety</p> <p>7.7 describe how to maintain the tools and equipment used when establishing work area protection and safety</p>			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 2: Conforming to General Health, Safety and Welfare in the Workplace**

**Unit reference number:** A/503/1170

**Level:** 1

**Credit value:** 2

**Guided learning hours:** 7

### **Unit summary**

The aim of this unit is to illustrate the skills, knowledge and understanding required to confirm competence in conforming to general health, safety and welfare in the workplace within the relevant sector of industry.

### **Assessment requirements/evidence requirements**

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ in the QCF
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

### **Assessment methodology**

Evidence of achievement of this unit should be drawn from the workplace, except where ConstructionSkills makes provision for evidence to be produced through simulation, as specified in the ConstructionSkills overarching assessment strategy.

An assessment record must be created that identifies the assessment criteria that have been met and cross-references these to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment.

The unit specification or suitable centre documentation could be used to form an assessment record.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Comply with all workplace health, safety and welfare legislation requirements</p>	<p>1.1 comply with information from workplace inductions and any health, safety and welfare briefings attended relevant to the occupational area</p> <p>1.2 use health and safety control equipment safely to carry out the activity in accordance with legislation and organisational requirements</p> <p>1.3 comply with statutory requirements, safety notices and warning notices displayed within the workplace and/or on equipment</p> <p>1.4 state why and when health and safety control equipment, identified by the principles of protection, should be used relating to types, purpose and limitations of each type, the work situation, occupational use and the general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> <li>- local exhaust ventilation (LEV)</li> </ul> <p>1.5 state how the health and safety control equipment relevant to the work should be used in accordance with the given instructions</p> <p>1.6 state which types of health, safety and welfare legislation, notices and warning signs are relevant to the occupational area and associated equipment</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	1.7 state why health, safety and welfare legislation, notices and warning signs are relevant to the occupational area 1.8 state how to comply with control measures that have been identified by risk assessments and safe systems of work			
2 Recognise hazards associated with the workplace that have not been previously controlled and report them in accordance with organisational procedures	2.1 report any hazards created by changing circumstances within the workplace in accordance with organisational procedures 2.2 list typical hazards associated with the work environment and occupational area in relation to resources, substances, asbestos, equipment, obstructions, storage, services and work activities 2.3 list the current Health and Safety Executive top ten safety risks 2.4 list the current Health and Safety Executive top five health risks 2.5 state how changing circumstances within the workplace could cause hazards 2.6 state the methods used for reporting changed circumstances, hazards and incidents in the workplace			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Comply with organisational policies and procedures to contribute to health, safety and welfare	3.1 interpret and comply with given instructions to maintain safe systems of work and quality working practices 3.2 contribute to discussions by offering/providing feedback relating to health, safety and welfare 3.3 contribute to the maintenance of workplace welfare facilities in accordance with workplace welfare procedures 3.4 safely store health and safety control equipment in accordance with given instructions 3.5 dispose of waste and/or consumable items in accordance with legislation 3.6 state the organisational policies and procedures for health, safety and welfare, in relation to: <ul style="list-style-type: none"> <li>- dealing with accidents and emergencies associated with the work and environment</li> <li>- methods of receiving or sourcing information</li> <li>- reporting</li> <li>- stopping work</li> <li>- evacuation</li> <li>- fire risks and safe exit procedures</li> <li>- consultation and feedback</li> </ul> 3.7 state the appropriate types of fire extinguishers relevant to the work			



Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	3.8 state how and when the different types of fire extinguishers are used in accordance with legislation and official guidance			
4 Work responsibly to contribute to workplace health, safety and welfare whilst carrying out work in the relevant occupational area	4.1 demonstrate behaviour which shows personal responsibility for general workplace health, safety and welfare 4.2 state how personal behaviour demonstrates responsibility for general workplace health, safety and welfare, in relation to: <ul style="list-style-type: none"> <li>- recognising when to stop work in the face of serious and imminent danger to self and/or others</li> <li>- contributing to discussions and providing feedback</li> <li>- reporting changed circumstances and incidents in the workplace</li> <li>- complying with the environmental requirements of the workplace</li> </ul> 4.3 give examples of how the behaviour and actions of individuals could affect others within the workplace			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Comply with and support all organisational security arrangements and approved procedures	5.1 provide appropriate support for security arrangements in accordance with approved procedures: <ul style="list-style-type: none"> <li>- during the working day</li> <li>- on completion of the day's work</li> <li>- for unauthorised personnel (other operatives and the general public)</li> <li>- for theft</li> </ul> 5.2 state how security arrangements are implemented in relation to the workplace, the general public, site personnel and resources			

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*(if sampled)*

## **Unit 3: Conforming to Productive Working Practices in the Workplace**

**Unit reference number:** J/503/1169

**Level:** 2

**Credit value:** 3

**Guided learning hours:** 10

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### **Unit summary**

The aim of this unit is to illustrate the skills, knowledge and understanding required to confirm competence in conforming to productive working practices in the workplace within the relevant sector of industry.

### **Assessment requirements/evidence requirements**

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ in the QCF
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

### **Assessment methodology**

Evidence of achievement of this unit should be drawn from the workplace, except where ConstructionSkills makes provision for evidence to be produced through simulation, as specified in the ConstructionSkills overarching assessment strategy.

An assessment record must be created that identifies the assessment criteria that have been met and cross-references these to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment.

The unit specification or suitable centre documentation could be used to form an assessment record.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Communicate with others to establish productive work practices	1.1 communicate in an appropriate manner with line management, colleagues and/or customers to ensure that work is carried out productively 1.2 describe the different methods of communicating with line management, colleagues and customers 1.3 describe how to use different methods of communication to ensure that the work carried out is productive			
2 Follow organisational procedures to plan the sequence of work	2.1 interpret relevant information from organisational procedures in order to plan the sequence of work 2.2 plan the sequence of work, using appropriate resources, in accordance with organisational procedures to ensure work is completed productively 2.3 describe how organisational procedures are applied to ensure work is planned and carried out productively, in relation to: <ul style="list-style-type: none"> <li>- using resources for own and other's work requirements</li> <li>- allocating appropriate work to employees</li> <li>- organising the work sequence</li> <li>- reducing carbon emissions</li> </ul> 2.4 describe how to contribute to zero/low carbon work outcomes within the built environment			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Maintain relevant records in accordance with the organisational procedures	3.1 complete relevant documentation according to the occupation as required by the organisation 3.2 describe how to complete and maintain documentation in accordance with organisational procedures, in relation to: <ul style="list-style-type: none"> <li>- job cards</li> <li>- worksheets</li> <li>- material/resource lists</li> <li>- time sheets</li> </ul> 3.3 explain the reasons for ensuring documentation is completed clearly and within given timescales			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>4 Maintain good working relationships when conforming to productive working practices</p>	<p>4.1 carry out work productively, to the agreed specification, in conjunction with line management, colleagues, customers and/or other relevant people involved in the work to maintain good working relationships</p> <p>4.2 apply the principles of equality and diversity and respect the needs of individuals when communicating and working with others</p> <p>4.3 describe how to maintain good working relationships, in relation to:</p> <ul style="list-style-type: none"> <li>- individuals</li> <li>- customer and operative</li> <li>- operative and line management</li> <li>- own and other occupations</li> </ul> <p>4.4 describe why it is important to work effectively with line management, colleagues and customers</p> <p>4.5 describe how working relationships could have an effect on productive working</p> <p>4.6 describe how to apply principles of equality and diversity when communicating and working with others</p>			

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*(if sampled)*





## **Unit 4: Moving, Handling and Storing Resources in the Workplace**

**Unit reference number:** F/503/1171

**Level:** 2

**Credit value:** 5

**Guided learning hours:** 17

### **Unit summary**

The aim of this unit is to illustrate the skills, knowledge and understanding required to confirm competence in moving, handling and storing resources in the workplace within the relevant sector of industry.

### **Assessment requirements/evidence requirements**

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ in the QCF
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.

Workplace evidence of skills cannot be simulated.

### **Assessment methodology**

Evidence of achievement of this unit should be drawn from the workplace, except where ConstructionSkills makes provision for evidence to be produced through simulation, as specified in the ConstructionSkills overarching assessment strategy.

An assessment record must be created that identifies the assessment criteria that have been met and cross-references these to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment.

The unit specification or suitable centre documentation could be used to form an assessment record.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Comply with given information when moving, handling and/or storing resources	1.1 interpret the given information relating to moving, handling and/or storing resources, relevant to the given occupation 1.2 interpret the given information relating to the use and storage of lifting aids and equipment 1.3 describe the different types of technical, product and regulatory information, their source and how they are interpreted 1.4 state the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented 1.5 describe how to obtain information relating to using and storing lifting aids and equipment			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>2 Know how to comply with relevant legislation and official guidance when moving, handling and/or storing resources</p>	<p>2.1 describe their responsibilities under current legislation and official guidance whilst working:</p> <ul style="list-style-type: none"> <li>- in the workplace, in confined spaces, below ground level, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting</li> </ul> <p>2.2 describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative</p> <p>2.3 explain what the accident reporting procedures are and who is responsible for making the reports</p> <p>2.4 state the appropriate types of fire extinguishers relevant to the work</p> <p>2.5 describe how and when the different types of fire extinguishers, relevant to the given occupation, are used in accordance with legislation and official guidance</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>3 Maintain safe working practices when moving, handling and/or storing resources</p>	<p>3.1 use health and safety control equipment safely to carry out the activity in accordance with legislation and organisational requirements when moving, handling and/or storing resources</p> <p>3.2 use lifting aids safely as appropriate to the work</p> <p>3.3 protect the environment in accordance with safe working practices as appropriate to the work</p> <p>3.4 explain why and when health and safety control equipment, identified by the principles of protection, should be used, relating to moving, handling and/or storing resources, and the types, purpose and limitations of each type, the work situation, occupational use and the general work environment, in relation to:</p> <ul style="list-style-type: none"> <li>- collective protective measures</li> <li>- personal protective equipment (PPE)</li> <li>- respiratory protective equipment (RPE)</li> <li>- local exhaust ventilation (LEV)</li> </ul> <p>3.5 describe how the health and safety control equipment relevant to the work should be used in accordance with the given instructions</p> <p>3.6 state how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related hazards</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>4 Select the required quantity and quality of resources for the methods of work to move, handle and/or store occupational resources</p>	<p>4.1 select the relevant resources to be moved, handled and/or stored, associated with own work</p> <p>4.2 describe the characteristics, quality, uses, sustainability, limitations and defects associated with the occupational resources in relation to:</p> <ul style="list-style-type: none"> <li>- lifting and handling aids</li> <li>- container(s) fixing, holding and securing systems</li> </ul> <p>4.3 describe how the resources should be handled and how any problems associated with the resources are reported</p> <p>4.4 explain why the organisational procedures have been developed and how they are used for the selection of required resources</p> <p>4.5 describe any potential hazards associated with the resources and methods of work</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>5 Prevent the risk of damage to occupational resources and surrounding environment when moving, handling and/or storing resources</p>	<p>5.1 protect occupational resources and their surrounding area from damage in accordance with safe working practices and organisational procedures</p> <p>5.2 dispose of waste and packaging in accordance with legislation</p> <p>5.3 maintain a clean work space when moving, handling or storing resources</p> <p>5.4 describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions</p> <p>5.5 explain why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance</p>			
<p>6 Complete the work within the allocated time when moving, handling and/or storing resources</p>	<p>6.1 demonstrate completion of the work within the allocated time</p> <p>6.2 state the purpose of the work programme and explain why deadlines should be kept in relation to:</p> <ul style="list-style-type: none"> <li>- progress charts, timetable and estimated times</li> <li>- organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>7 Comply with the given occupational resource information to move, handle and/or store resources to the required guidance</p>	<p>7.1 demonstrate the following work skills when moving, handling and/or storing occupational resources:</p> <ul style="list-style-type: none"> <li>- moving, positioning, storing, securing and/or using lifting aids and kinetic lifting techniques</li> </ul> <p>7.2 move, handle and/or store occupational resources to meet product information and organisational requirements relating to three of the following:</p> <ul style="list-style-type: none"> <li>- sheet material</li> <li>- loose material</li> <li>- bagged or wrapped material</li> <li>- fragile material</li> <li>- tools and equipment</li> <li>- components</li> <li>- liquids</li> </ul> <p>7.3 describe how to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them when moving, handling and/or storing occupational resources</p> <p>7.4 describe the needs of other occupations when moving, handling and/or storing resources</p>			

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*(if sampled)*



## **Unit 5: Installing and Assembling Post Tensioning Components in the Workplace**

**Unit reference number:** K/601/6738

**Level:** 2

**Credit value:** 60

**Guided learning hours:** 200

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### **Unit summary**

The aim of this unit is to illustrate the skills, knowledge and understanding required to confirm competence in installing and assembling post tensioning components in the workplace within the relevant sector of industry.

### **Assessment requirements/evidence requirements**

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ in the QCF
- the Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment – Craft, Supervisory, Technical, Managerial and Professional Units and Qualifications with NVQ in the Qualification and Credit Framework (QCF) title and SVQs.

Assessors for this unit must use a combination of the following assessment methods:

- observation of normal work activities within the workplace that clearly confirms the required skills
- questioning the learner on knowledge criteria that clearly confirms the required understanding
- review other forms of evidence that can clearly confirm industry required skills, knowledge and understanding.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of occupational expertise and knowledge of installing and assembling post tensioning components to be effective and reliable when confirming a learner's competence.

Workplace evidence of skills cannot be simulated except for assessment criteria 3.4.

This unit must be assessed against two of the following endorsements:

- mono strand system
- multi strand system
- post tensioning bars.

## **Assessment methodology**

Evidence of achievement of this unit should be drawn from the workplace, except where ConstructionSkills makes provision for evidence to be produced through simulation, as specified in the ConstructionSkills overarching assessment strategy.

An assessment record must be created that identifies the assessment criteria that have been met and cross-references these to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment.

The unit specification or suitable centre documentation could be used to form an assessment record.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Interpret the given information relating to the work and resources when installing and assembling post tensioning components</p>	<p>1.1 interpret and extract information from drawings, specifications, schedules and manufacturers' information</p> <p>1.2 comply with information and/or instructions derived from risk assessments and method statements</p> <p>1.3 state the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented</p> <p>1.4 describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, manufacturers' information and associated</li> </ul>			
<p>2 Know how to comply with relevant legislation and official guidance when installing and assembling post tensioning components</p>	<p>2.1 describe their responsibilities under current legislation and official guidance whilst working:</p> <p>2.2 describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative</p> <p>2.3 state what the accident reporting procedures are and who is responsible for making reports</p> <p>2.4 state the types of fire extinguishers available when installing and assembling post tensioning components and describe how and when they are used</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>3 Maintain safe working practices when installing and assembling post tensioning components</p>	<p>3.1 use personal protective equipment (PPE) and access equipment safely to carry out the activity in accordance with legislation and organisational requirements when installing and assembling post tensioning components</p> <p>3.2 explain why, when and how personal protective equipment (PPE) should be used, relating to installing and assembling post tensioning components, and the types, purpose and limitations of each type</p> <p>3.3 state how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related hazards</p> <p>3.4 demonstrate the safe use of a fire extinguisher relevant to a typical fire associated with installing and assembling post tensioning components as relevant to the operations</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>4 Select the required quantity and quality of resources for the methods of work to install and assemble post tensioning components</p>	<p>4.1 describe the characteristics, quality, uses, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- setting out equipment</li> <li>- ducts, chairs, couplers, vents, strands and post tensioning bars</li> <li>- void formers, anchorages, wedges and nuts/washers</li> <li>- testing equipment</li> <li>- specialist post tensioning equipment</li> <li>- hand and/or powered tools and equipment</li> </ul> <p>4.2 select resources associated with own work in relation to materials, components, fixings, tools and equipment</p> <p>4.3 state how the resources should be used correctly, how problems associated with the resources are reported and how the organisational procedures are used</p> <p>4.4 outline potential hazards associated with the resources and method of work</p> <p>4.5 describe how to calculate quantity, length, area and wastage associated with the method/procedure to install and assemble post tensioning components</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Minimise the risk of damage to the work and surrounding area when installing and assembling post tensioning components	5.1 protect the work and its surrounding area from damage 5.2 minimise damage and maintain a clean work space 5.3 describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions 5.4 dispose of waste in accordance with legislation 5.5 state why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance			
6 Complete the work within the allocated time when installing and assembling post tensioning components	6.1 demonstrate completion of the work within the allocated time 6.2 state the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>- types of progress charts, timetables and estimated times</li> <li>- organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
7 Comply with the given contract information to install and assemble post tensioning components to the required specification	<p>7.1 demonstrate the following work skills when installing and assembling post tensioning components:</p> <ul style="list-style-type: none"> <li>- measuring, marking out, fitting, finishing, positioning and securing</li> </ul> <p>7.2 install, assemble and prepare for post tensioning operations to given working instructions for two of the following:</p> <ul style="list-style-type: none"> <li>- multi-strand systems</li> <li>- mono strand systems</li> <li>- post tensioning bars</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>7.3 describe how to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- set out position of tendons and/or post tensioning bars from drawings</li> <li>- drill holes for anchorages at the live end</li> <li>- locate, secure and fix anchorages to void former</li> <li>- install ducting system and couplers</li> <li>- install strands</li> <li>- install post tensioning bars</li> <li>- install dead-end anchorages</li> <li>- profile duct system and fix</li> <li>- seal ducts and position vents</li> <li>- carry out pressure test</li> <li>- locate strands and/or post tensioning bars and secure</li> <li>- confirm that tendon is complete</li> <li>- record and communicate data</li> <li>- use specialist post tensioning equipment</li> <li>- use hand tools, power tools and equipment</li> <li>- work at height</li> <li>- use access equipment as required</li> </ul>			



Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	7.4 safely use and store materials, hand tools, portable power tools and ancillary equipment 7.5 state the needs of other occupations and how to communicate within a team when installing and assembling post tensioning components 7.6 describe how to maintain the tools and equipment used when installing and assembling post tensioning components			

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*(if sampled)*



## **Unit 6: Carrying Out Stressing Operations for Post Tensioning Systems in the Workplace**

**Unit reference number:** Y/601/6914

**Level:** 2

**Credit value:** 70

**Guided learning hours:** 233

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### **Unit summary**

The aim of this unit is to illustrate the skills, knowledge and understanding required to confirm competence in carrying out stressing operations for post tensioning systems in the workplace within the relevant sector of industry.

### **Assessment requirements/evidence requirements**

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ in the QCF
- the Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment – Craft, Supervisory, Technical, Managerial and Professional Units and Qualifications with NVQ in the Qualification and Credit Framework (QCF) title and SVQs.

Assessors for this unit must use a combination of the following assessment methods:

- observation of normal work activities within the workplace that clearly confirms the required skills
- questioning the learner on knowledge criteria that clearly confirms the required understanding
- review other forms of evidence that can clearly confirm industry required skills, knowledge and understanding.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of occupational expertise and knowledge of carrying out stressing operations for post tensioning systems to be effective and reliable when confirming a learner's competence.

Workplace evidence of skills cannot be simulated except for assessment criteria 3.4.

This unit must be assessed against two of the following endorsements:

- mono strand system
- multi strand system
- post tensioning bars.

## **Assessment methodology**

Evidence of achievement of this unit should be drawn from the workplace, except where ConstructionSkills makes provision for evidence to be produced through simulation, as specified in the ConstructionSkills overarching assessment strategy.

An assessment record must be created that identifies the assessment criteria that have been met and cross-references these to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment.

The unit specification or suitable centre documentation could be used to form an assessment record.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Interpret the given information relating to the work and resources when carrying out stressing operations for post tensioning systems</p>	<p>1.1 interpret and extract information from drawings, specifications, schedules and manufacturers' information</p> <p>1.2 comply with information and/or instructions derived from risk assessments and method statements</p> <p>1.3 state the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented</p> <p>1.4 describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, manufacturers' information and associated regulations</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Know how to comply with relevant legislation and official guidance when carrying out stressing operations for post tensioning systems	2.1 describe their responsibilities under current legislation and official guidance whilst working: <ul style="list-style-type: none"> <li>- in the workplace, below ground level, at height, in confined spaces, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting</li> </ul> 2.2 describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative           2.3 state what the accident reporting procedures are and who is responsible for making reports           2.4 state the types of fire extinguishers available when carrying out stressing operations for post tensioning systems and describe how and when they are used			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>3 Maintain safe working practices when carrying out stressing operations for post tensioning systems</p>	<p>3.1 use personal protective equipment (PPE) and access equipment safely to carry out the activity in accordance with legislation and organisational requirements when carrying out stressing operations for post tensioning systems</p> <p>3.2 explain why, when and how personal protective equipment (PPE) should be used, relating to carrying out stressing operations for post tensioning systems, and the types, purpose and limitations of each type</p> <p>3.3 state how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related hazards</p> <p>3.4 demonstrate the safe use of a fire extinguisher relevant to a typical fire associated with carrying out stressing operations for post tensioning systems as relevant to the operations</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>4 Select the required quantity and quality of resources for the methods of work to carry out stressing operations for post tensioning systems</p>	<p>4.1 describe the characteristics, quality, uses, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- specified anchor assembly, wedges, nuts, washers and caps</li> <li>- stressing equipment, pumps, pressure gauges, hoses</li> <li>- calibration certificates</li> <li>- specialist stressing equipment</li> <li>- hand and/or powered tools and equipment</li> </ul> <p>4.2 select resources associated with own work in relation to materials, components, fixings, tools and equipment</p> <p>4.3 state how the resources should be used correctly, how problems associated with the resources are reported and how the organisational procedures are used</p> <p>4.4 outline potential hazards associated with the resources and method of work</p> <p>4.5 describe how to calculate quantity, length, area and wastage associated with the method/procedure to carry out stressing operations for post tensioning systems</p>			



Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Minimise the risk of damage to the work and surrounding area when carrying out stressing operations for post tensioning systems	5.1 protect the work and its surrounding area from damage 5.2 minimise damage and maintain a clean work space 5.3 describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions 5.4 dispose of waste in accordance with legislation 5.5 state why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance			
6 Complete the work within the allocated time when carrying out stressing operations for post tensioning systems	6.1 demonstrate completion of the work within the allocated time 6.2 state the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>- types of progress charts, timetables and estimated times</li> <li>- organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
7 Comply with the given contract information to carry out stressing operations for post tensioning systems to the required specification	7.1 demonstrate the following work skills when carrying out stressing operations for post tensioning systems: <ul style="list-style-type: none"> <li>- measuring, stressing, locking off and recording</li> </ul> 7.2 carry out stressing operations to two of the following to given working instructions: <ul style="list-style-type: none"> <li>- mono tendons</li> <li>- multi strand tendons</li> <li>- post tensioning bars</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>7.3 describe how to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- remove void formers</li> <li>- install anchor blocks, wedges and/or post tensioning bar nuts and washers</li> <li>- confirm measuring regime</li> <li>- confirm specified concrete strength has been achieved</li> <li>- stress tendons and/or post tensioning bars to required load</li> <li>- carry out second stage stressing operation, if specified</li> <li>- measure and record extensions</li> <li>- cut and seal tendons</li> <li>- lock and cap post tensioning bars</li> <li>- record and communicate data</li> <li>- use specialist stressing equipment</li> <li>- use hand tools, power tools and equipment</li> <li>- work at height</li> <li>- use access equipment as required</li> </ul> <p>7.4 safely use and store materials, hand tools, portable power tools, ancillary and stressing equipment</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	7.5 state the needs of other occupations and how to communicate within a team when carrying out stressing operations for post tensioning systems  7.6 describe how to maintain the tools and equipment used when carrying out stressing operations for post tensioning systems			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## **Unit 7: Grouting or Waxing Post Tensioned Tendons and/or Bars in the Workplace**

**Unit reference number:** D/601/6946

**Level:** 2

**Credit value:** 70

**Guided learning hours:** 233

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### **Unit summary**

The aim of this unit is to illustrate the skills, knowledge and understanding required to confirm competence in grouting or waxing post tensioned tendons and/or bars in the workplace within the relevant sector of industry.

### **Assessment requirements/evidence requirements**

This unit must be assessed in a work environment, in accordance with:

- the Additional Requirements for Qualifications using the title NVQ in the QCF
- the ConstructionSkills Consolidated Assessment Strategy for Construction and the Built Environment – Craft, Supervisory, Technical, Managerial and Professional Units and Qualifications with NVQ in the Qualification and Credit Framework (QCF) title and SVQs.

Assessors for this unit must use a combination of the following assessment methods:

- observation of normal work activities within the workplace that clearly confirms the required skills
- questioning the learner on knowledge criteria that clearly confirms the required understanding
- review other forms of evidence that can clearly confirm industry required skills, knowledge and understanding.

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of occupational expertise and knowledge of grouting or waxing post tensioned tendons and/or bars to be effective and reliable when confirming a learner's competence.

Workplace evidence of skills cannot be simulated except for assessment criteria 3.4.

## **Assessment methodology**

Evidence of achievement of this unit should be drawn from the workplace, except where ConstructionSkills makes provision for evidence to be produced through simulation, as specified in the ConstructionSkills overarching assessment strategy.

An assessment record must be created that identifies the assessment criteria that have been met and cross-references these to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment.

The unit specification or suitable centre documentation could be used to form an assessment record.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Interpret the given information relating to the work and resources when grouting or waxing post tensioned tendons and/or bars</p>	<p>1.1 interpret and extract information from drawings, specifications, schedules and manufacturers' information</p> <p>1.2 comply with information and/or instructions derived from risk assessments and method statements</p> <p>1.3 state the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented</p> <p>1.4 describe different types of information, their source and how they are interpreted in relation to:</p> <ul style="list-style-type: none"> <li>- drawings, specifications, schedules, manufacturers' information and associated regulations</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Know how to comply with relevant legislation and official guidance when grouting or waxing post tensioned tendons and/or bars	2.1 describe their responsibilities under current legislation and official guidance whilst working: <ul style="list-style-type: none"> <li>- in the workplace, below ground level, at height, in confined spaces, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting</li> </ul> 2.2 describe the organisational security procedures for tools, equipment and personal belongings in relation to site, workplace, company and operative           2.3 state what the accident reporting procedures are and who is responsible for making reports           2.4 state the types of fire extinguishers available when grouting or waxing post tensioned tendons and/or bars and describe how and when they are used			



Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Maintain safe working practices when grouting or waxing post tensioned tendons and/or bars	3.1 use personal protective equipment (PPE) and access equipment safely to carry out the activity in accordance with legislation and organisational requirements when grouting or waxing post tensioned tendons and/or bars  3.2 explain why, when and how personal protective equipment (PPE) should be used, relating to grouting or waxing post tensioned tendons and/or bars, and the types, purpose and limitations of each type  3.3 state how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with fires, spillages, injuries and other task-related hazards  3.4 demonstrate the safe use of a fire extinguisher relevant to a typical fire associated with grouting or waxing post tensioned tendons and/or bars as relevant to the operations			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>4 Select the required quantity and quality of resources for the methods of work to grout or wax post tensioned tendons and/or bars</p>	<p>4.1 describe the characteristics, quality, uses, limitations and defects associated with the resources in relation to:</p> <ul style="list-style-type: none"> <li>- vents and connectors</li> <li>- mixers, grout or wax</li> <li>- grout, grease or wax pump and gauges</li> <li>- testing equipment</li> <li>- pre-bagged grout</li> <li>- waxes and grease</li> <li>- hand and/or powered tools and equipment.</li> </ul> <p>4.2 select resources associated with own work in relation to materials, components, fixings, tools and equipment</p> <p>4.3 state how the resources should be used correctly, how problems associated with the resources are reported and how the organisational procedures are used</p> <p>4.4 outline potential hazards associated with the resources and method of work</p> <p>4.5 describe how to calculate quantity, length, area and wastage associated with the method/procedure to grout or wax post tensioned tendons and/or bars</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Minimise the risk of damage to the work and surrounding area when grouting or waxing post tensioned tendons and/or bars	5.1 protect the work and its surrounding area from damage 5.2 minimise damage and maintain a clean work space 5.3 describe how to protect work from damage and the purpose of protection in relation to general workplace activities, other occupations and adverse weather conditions 5.4 dispose of waste in accordance with legislation 5.5 state why the disposal of waste should be carried out safely in accordance with environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance			
6 Complete the work within the allocated time when grouting or waxing post tensioned tendons and/or bars	6.1 demonstrate completion of the work within the allocated time 6.2 state the purpose of the work programme and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>- types of progress charts, timetables and estimated times</li> <li>- organisational procedures for reporting circumstances which will affect the work programme</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
7 Comply with the given contract information to grout or wax post tensioned tendons and/or bars to the required specification	7.1 demonstrate the following work skills when grouting or waxing post tensioned tendons and/or bars: – mixing, testing, capping, sealing and curing. 7.2 test duct integrity and grout or wax post tensioned tendons and/or bars and/or post tensioned bars to given working instructions 7.3 seal and protect the post tensioned tendons and/or post tensioned bars to given working instructions			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>7.4 describe how to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them, to:</p> <ul style="list-style-type: none"> <li>- blow out ducts</li> <li>- prepare equipment</li> <li>- check for leakage/blockages; rectify if necessary</li> <li>- mix pre-bagged grout or prepare waxes or grease</li> <li>- carry out tests and/or facilitate tests by others</li> <li>- pump grout, waxes or grease to tendons</li> <li>- bleed and seal vents</li> <li>- remove vents and seal at both ends after specified curing period, if applicable</li> <li>- top up if necessary</li> <li>- clean and clear work area</li> <li>- complete records</li> <li>- use grouting, greasing or waxing testing equipment</li> <li>- use hand tools, power tools and equipment</li> <li>- work at height</li> <li>- use access equipment as required</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	7.5 safely use and store materials, hand tools, portable power tools, ancillary equipment and grouting/waxing equipment 7.6 state the needs of other occupations and how to communicate within a team when grouting or waxing post tensioned tendons and/or bars 7.7 describe how to maintain the tools and equipment used when grouting or waxing post tensioned tendons and/or bars			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

## Further information and useful publications

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To get in touch with us visit our 'Contact us' pages:

- Edexcel, BTEC and Pearson Work Based Learning contact details: [qualifications.pearson.com/en/support/contact-us.html](http://qualifications.pearson.com/en/support/contact-us.html)
- books, software and online resources for UK schools and colleges: [www.pearsonschoolsandcolleges.co.uk](http://www.pearsonschoolsandcolleges.co.uk)

Key publications

- *Adjustments for candidates with disabilities and learning difficulties, Access and Arrangements and Reasonable Adjustments, General and Vocational qualifications* (Joint Council for Qualifications (JCQ))
- *Supplementary guidance for reasonable adjustments and special consideration in vocational internally assessed units* (Pearson)
- *General and Vocational qualifications, Suspected Malpractice in Examination and Assessments: Policies and Procedures* (JCQ)
- *Equality Policy* (Pearson)
- *Recognition of Prior Learning Policy and Process* (Pearson)
- *UK Information Manual* (Pearson)
- *Pearson Edexcel NVQs, SVQs and competence-based qualifications – Delivery Requirements and Quality Assurance Guidance* (Pearson)

All of these publications are available on our website:  
[qualifications.pearson.com](http://qualifications.pearson.com)

Further information and publications on the delivery and quality assurance of NVQ/Competence-based qualifications are available at our website on the Delivering BTEC pages. Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please go to the resources page of our website.

### How to obtain National Occupational Standards

To obtain the National Occupational Standards go to [www.ukstandards.org.uk](http://www.ukstandards.org.uk).





# Professional development and training

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Pearson supports UK and international customers with training related to NVQ and BTEC qualifications. This support is available through a choice of training options offered in our published training directory or through customised training at your centre.

The support we offer focuses on a range of issues including:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing student-centred learning and teaching approaches
- building functional skills into your programme
- building effective and efficient quality assurance systems.

The national programme of training we offer can be viewed on our website ([qualifications.pearson.com](http://qualifications.pearson.com)). You can request customised training through the website or by contacting one of our advisers in the Training from the Pearson team via Customer Services to discuss your training needs.

The training we provide:

- is active
- is designed to be supportive and thought provoking
- builds on best practice
- may be suitable for those seeking evidence for their continuing professional development.



# Annexe A: Quality assurance

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## Key principles of quality assurance

- A centre delivering Pearson qualifications must be a Pearson recognised and approved centre and must have approval for the individual qualifications that it is offering.
- The centre agrees, as part of gaining recognition and centre approval, to abide by specific terms and conditions relating to the effective delivery and quality assurance of assessment. The centre must abide by these conditions throughout the period of delivery.
- Pearson makes available to centres a range of materials and opportunities to exemplify the processes required for effective assessment and to provide examples of effective standards. Approved centres must use the guidance on assessment to ensure that staff who are delivering Pearson accredited qualifications are applying consistent standards.
- An approved centre must follow agreed protocols for: standardisation of assessors; planning, monitoring and recording of assessment processes; internal verification and recording of internal verification processes and dealing with special circumstances, appeals and malpractice.

## Quality assurance processes

The approach to quality assured assessment is made through a partnership between a recognised and approved centre and Pearson. Pearson is committed to ensuring that it follows best practice and uses appropriate technology to support quality assurance processes where practicable. The specific arrangements for working with centres will vary. Pearson seeks to ensure that the quality-assurance processes it uses do not inflict undue bureaucracy on centres, and works to support them in providing robust internal quality-assurance processes.

The learning outcomes and assessment criteria in each unit set out the standard to be achieved by each learner in order to gain each unit and, through satisfying the rules of combination, the whole qualification. Pearson operates a quality-assurance process, designed to ensure that these standards are maintained by all assessors and verifiers.

For the purposes of quality assurance, all individual qualifications and units are considered as a whole. Centres offering these qualifications must be committed to ensuring the quality of the units and qualifications they offer, through effective standardisation of assessors and internal verification of assessor decisions. Centre quality assurance and assessment processes are monitored by Pearson.

Pearson quality-assurance processes will involve:

- gaining centre recognition and approval - if a centre is not currently approved to offer Pearson qualifications - and qualification approval through satisfying the Pearson approved centre criteria
- visits to centres, conducted by occupationally competent and qualified Pearson Standards Verifiers for sampling of internal verification and assessment processes, and assessor decisions for the occupational sector. The minimum frequency of Standards Verifiers' visits to centres is usually two per year (a total of two days per year). The exact frequency and duration of Standards Verifier visits must reflect a centre's performance, taking account of the number:
  - of assessment sites
  - and throughput of candidates
  - and turnover of assessors
  - and turnover of internal verifiers.
- the provision of support, advice and guidance towards the achievement of National Occupational Standards.

Centres are required to declare their commitment to ensuring quality and to providing appropriate opportunities for learners that lead to valid and accurate assessment outcomes.

## Annexe B: Registration and certification

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### Registration

Details of the process for registration of learners for the qualification in this specification are provided in the *Pearson Information Manual*, published annually.

Centres must register learners promptly on their chosen qualification and by the registration deadlines given in the *Pearson Information Manual*.

### What are the access arrangements and special considerations for the qualifications in this specification?

Centres are required to recruit learners to Pearson qualifications with integrity.

Appropriate steps should be taken to assess each applicant's potential and a professional judgement should be made about their ability to successfully complete the programme of study and achieve the qualification. This assessment will need to take account of the support available to the learner within the centre during their programme of study and any specific support that might be necessary to allow the learner to access the assessment for the qualification. Centres should consult Pearson's policy on learners with particular requirements.

Pearson's policy on access arrangements and special considerations for Pearson qualifications aims to enhance access to the qualifications for learners with disabilities and other difficulties (as defined by the Equality Act 2010) without compromising the assessment of skills, knowledge, understanding or competence. For details, please refer to *Access Arrangements and Special Considerations for BTEC and Edexcel NVQ Qualifications*, available on our website: [qualifications.pearson.com](http://qualifications.pearson.com).

### Certification

Details of the process for reporting learners' success to Pearson and for claiming certification are given in the *Pearson Information Manual*, published annually.

Certificates are issued weekly according to the schedule of dates published in the *Pearson Information Manual*.

Results should be reported only if the centre has clearance to certificate through reports from Standards Verifiers. Subject to this, results must be reported immediately following programme completion so that certificates can be issued as soon as possible.

Pearson Standards Verifiers will provide support, advice and guidance to centres to achieve Direct Claim Status (DCS). Pearson will maintain the integrity of Pearson NVQs, SVQs and competence qualifications through ensuring that the awarding of these qualifications is secure. Where there are quality issues identified in the delivery of programmes, Pearson will exercise the right to:

- direct centres to take action
- limit or suspend certification
- suspend registration.

Pearson's approach in such circumstances is to work with the centre to overcome the problems identified. If additional training is required, Pearson will aim to secure the appropriate expertise to provide this.

## **Annexe C: Assessment requirements/strategy**

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The ConstructionSkills Assessment Strategy will be available on the Pearson website, alongside the full specification on the Construction NVQ/Competence page.

**December 2017**

**For information about Edexcel, BTEC or LCCI qualifications visit [qualifications.pearson.com](http://qualifications.pearson.com)**

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