
Overview

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components and equipment
- 4 preparing for and stressing mono and/or multi strand tendons and/or post tensioning bars

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Stressing operations for post tensioning systems

Performance criteria

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

- K1 the organisational procedures developed to report and rectify inappropriate **information** and unsuitable **resources**, and how they are implemented
- K2 the types of **information**, their source and how they are interpreted
- K3 the organisational procedures to solve **problems** with the **information** and why it is important they are followed

Performance Criteria 2

Safe work practices

You need to know and understand:

- K4 the level of understanding operatives must have of **information** for relevant, current **legislation and official guidance** and how it is applied
- K5 the types of **fire extinguishers** and how and when they are used
- K6 how **emergencies** should be responded to and who should respond
- K7 the organisational **security procedures** for tools, equipment and personal belongings
- K8 what the accident reporting procedures are and who is responsible for making the report
- K9 why, when and how **personal protective equipment (PPE)** should be used

Performance Criteria 3

Selection of resources

You need to know and understand:

- K10 the characteristics, quality, uses, sustainability, limitations and defects associated with the **resources** and how defects should be rectified
- K11 how the **resources** should be used and how any **problems** associated with the **resources** are reported
- K12 the organisational procedures to select **resources**, why they have been developed and how they are used
- K13 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

Performance Criteria 4

Minimise the risk of damage

You need to know and understand:

- K14 how to **protect work** from damage and the purpose of protection
- K15 why **disposal of waste** should be carried out safely and how it is achieved

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| <i>You need to know and understand:</i> | Performance Criteria 5 |
| | Meet the contract specification |
| | K16 how methods of work , to meet the specification, are carried out and problems reported |
| | K17 how maintenance of tools and equipment is carried out |
| <i>You need to know and understand:</i> | Performance Criteria 6 |
| | Allocated time |
| | K18 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept |

Additional Information

Scope/range related to performance criteria

Performance Criteria 1

- 1 interpretation of drawings, specifications, schedules and manufacturers' information related to the work to be carried out

Performance Criteria 2

- 2 avoidance of risk by following the given information relating to the following
 - 2.1 methods of work
 - 2.2 safe use of personal protective equipment (PPE)
 - 2.3 safe use of access equipment
 - 2.4 safe use and storage of materials, tools and equipment
- 3 safe use of fire extinguishers, as appropriate to the fire

Performance Criteria 3

- 4 selection of resources associated with own work
 - 4.1 materials, components and fixings
 - 4.2 tools and equipment

Performance Criteria 4

- 5 protection of the work and its surrounding area from damage
- 6 minimise damage and maintain a clean work space
- 7 disposal of waste in accordance with legislation

Performance Criteria 5

- 8 demonstration of work skills to measure, stress, lock off and record
- 9 use and maintain hand tools, portable power tools, ancillary equipment and stressing equipment
- 10 carry out stressing operations to at least two of the following to given working instructions
 - 10.1 mono tendons
 - 10.2 multi strand tendons
 - 10.3 post tensioning bars

Performance Criteria 6

- 11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

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Scope/range related to knowledge and understanding

Disposal of waste

- 1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

- 2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
 - 2.1 fires, spillages, injuries

Fire extinguishers

- 3 water, CO₂, foam, powder and their uses

Hazards

- 4 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Information

- 5 drawings, specifications, schedules, manufacturers' information and associated regulations

Legislation and official guidance

- 6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working 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

Maintenance

- 7 operative care of hand tools and/or portable power tools, ancillary equipment and stressing equipment

Methods of work

- 8 application of knowledge for safe work practices, procedures and skills, relating to the method/area of work and materials used, to
 - 8.1 remove void formers
 - 8.2 install anchor blocks, wedges and/or post tensioning bar nuts and washers
 - 8.3 confirm measuring regime
 - 8.4 confirm specified concrete strength has been achieved
 - 8.5 stress tendons and/or post tensioning bars to required load
 - 8.6 carry out second stage stressing operation, if specified
 - 8.7 measure and record extensions
 - 8.8 cut and seal tendons
 - 8.9 lock and cap post tensioning bars
 - 8.10 record and communicate data
 - 8.11 use specialist stressing equipment
 - 8.12 use hand tools, power tools and equipment
 - 8.13 work at height
 - 8.14 use access equipment as required
- 9 team work and communication
- 10 needs of other occupations associated with stressing operations for post tensioning systems

Personal protective equipment (PPE)

- 11 occupational use, types, purpose of each type and work situations

Problems

- 12 those arising from information, resources and methods of work
 - 12.1 own authority to rectify
 - 12.2 organisational reporting procedures

Programme

- 13 types of progress charts, timetables and estimated times
- 14 organisational procedures for reporting circumstances which will affect the work programme

Protect work

- 15 protect work against damage from general workplace activities, other occupations and adverse weather conditions

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Resources

- 16 materials, components and equipment relating to types, quantity, quality, sizes and sustainability of standard and/or specialist
 - 16.1 specified anchor assembly, wedges, nuts, washers and caps
 - 16.2 stressing equipment, pumps, pressure gauges, hoses
 - 16.3 calibration certificates
 - 16.4 specialist stressing equipment
 - 16.5 hand and/or powered tools and equipment
- 17 methods of calculating quantity, length, area and wastage associated with the method/procedure to carry out stressing operations for post tensioning systems

Security procedures

- 18 site, workplace, company and operative

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| Developed by | ConstructionSkills |
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| Relevant occupations | Construction and Building Trades |
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| Suite | Post Tensioning Operations (Constructions) |
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| Key words | Mono tendons; Multi strand tendons; Post tensioning bars |
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