

**NATIONAL/SCOTTISH VOCATIONAL  
QUALIFICATIONS**

**National Occupational Standards  
and Recommended Qualification  
Structures**

**for**

**STEELFIXING OCCUPATIONS  
(Construction)**

**3NOS 087**  
Edition 2



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## Information notes

This document contains the national occupational standards, together with the recommended qualification structures for National and Scottish Vocational Qualifications (Level 2 in Steelfixing Occupations).

### **National Vocational Qualification (NVQ) and Scottish Vocational Qualification (SVQ)**

A National Vocational Qualification or a Scottish Vocational Qualification is a measure of an individual's capability to carry out a range of work to the performance criteria which have been agreed by industry.

Such qualifications are accessible to everyone. Traditional barriers such as age, the length and type of training, and where and how skills have been acquired are removed. The only constraint remaining is compliance with statutory regulations and legal requirements, e.g. some tasks can only be performed by individuals above a minimum age.

### **ConstructionSkills**

ConstructionSkills has been recognised as the Standards Setting Body (SSB) for the construction industry. The function of a SSB is to:

- define the range of occupations for which it has a responsibility
- establish occupational standards of competence for each occupation
- review existing vocational qualifications
- identify appropriate arrangements for awarding NVQs or SVQs
- recommend the qualification structures
- recommend the assessment strategy

### **Occupational standards and units of competence**

As a SSB, ConstructionSkills carried out a functional analysis of the craft and operative sector of the construction industry. This involved identifying the key functions within an occupational activity and formulating these as national occupational standards.

A functional map was produced from this analysis to act as a reference for identifying these standards.

National occupational standards can form units of competence, with or without elements. An NVQ or SVQ is made up of a number of units of competence which can be accumulated over any period of time and in any sequence. A unit of competence is of sufficient size and scope to be recognised in industry and have value in employment. It is the smallest part of an NVQ/SVQ that can be accredited and is transferable to other appropriate NVQ/SVQs.

ConstructionSkills has developed National Occupational Standards that have the following features:

- the unit title (the standard)
- a unit description
- performance criteria
- scope of performance
- knowledge and understanding
- scope of knowledge and understanding

### **Accrediting bodies**

The Qualification and Curriculum Authority (QCA), the Scottish Qualifications Authority (SQA) and the Qualifications Curriculum and Assessment Authority for Wales (ACCAC) are the accrediting bodies for the construction industry's national occupational standards and qualifications.

### **Key/core skill signposting**

A signposting exercise has been carried out to identify the key skills (core skills in Scotland) contained within the NVQ/SVQ units of competence. Summary sheets resulting from this exercise are included in this publication.

## Guidance notes

ConstructionSkills as a Standard Setting Body (SSB) has produced these guidance notes to inform Awarding Bodies (ABs) offering qualifications using their units and framework structures, and other SSBs wishing to import their units, how they should approach the following issues.

### Awarding Body guidance

#### Approval of Awarding Bodies

An Awarding Body must be approved by QCA or SQA for the purpose of awarding NVQs or SVQs. It must establish with QCA or SQA how it will meet the contractual obligation which this imposes.

To be approved, awarding bodies must take responsibility for:

- assessment
- the verification of assessments
- the issue of certificates
- the maintenance of a record of certification

#### Developing NVQ/SVQs

The Awarding Body will use the occupational standards and qualification framework structures developed or identified by ConstructionSkills (SSB), and produce the following to meet the needs of industry:

- assessment guidelines
- assessment centre approval criteria

#### Recording and endorsing qualifications

Awarding Bodies offering qualifications based on the standards and framework structure contained in the national occupational standards must be able to record and issue certificates, showing the following details, for the qualification, occupational routes or units they wish to offer:

- A complete qualification
- An occupational route within the qualification
- An occupational route endorsed to show the industrial area
- Units endorsed to show the occupational area
- Units endorsed to show the work carried out and/or the machinery/equipment used to obtain the unit
- Where complete qualifications have more than one route, to be able to issue endorsements to the qualifications if a candidate proves competent in more than one route

#### Referencing of units

Awarding Bodies offering qualifications based on ConstructionSkills (SSB) units and framework structures must make reference to the ConstructionSkills (SSB) unit numbering system in their own identification methodology, to show the original source of the unit.

## **Standard Setting Body guidance**

### **Tailoring**

Standard Setting Bodies may tailor the occupational competence statements from which these units are derived to suit the activities carried out in their own occupational areas of responsibility. Standard Setting Bodies must gain endorsement from ConstructionSkills, as the SSB, for confirmation that the tailoring carried out maintains the depth and complexity of scope required by the original competence. To ensure tailoring is applied consistently, the following rules should be applied:

- Performance criteria must not be added to or the wording changed
- Knowledge evidence relating to the performance criteria must not be added to or the wording changed
- The scope of the performance evidence may be amended to suit the level and activity of the occupation
- The scope of the knowledge evidence may be amended to suit the level and activity of the occupation
- The competence title and description should be amended to reflect the different requirements of the occupational area

### **Referencing of units**

Standard Setting Bodies tailoring occupational competences must make reference to the ConstructionSkills (SSB) numbering system in their own identification methodology, to show the original source of the unit.

## Recommended qualification structure:

### NVQ/SVQ Steelfixing Occupations Level 2

#### MANDATORY UNITS

Unit No. VR 01	Conform to General Workplace Safety
Unit No. VR 02	Conform to Efficient Work Practices
Unit No. VR 03	Move and Handle Resources

#### PLUS

#### OPTIONAL UNITS (any two from the following):

Unit No. VR 164	Install Reinforcement Steel
Unit No. VR 165	Prefabricate Reinforcement Steel
Unit No. VR 166	Cut and Bend Reinforcement Steel to Shape

**Note:** Units, with the exception of VR 01, VR 02, VR 03, VR 209, VR 210 and VR 211, can be endorsed to show specific types of resources and/or activities that relate to the unit. (See page vii for specific unit endorsements.)

## Unit endorsements for Steelfixing Occupations:

Listed below are the endorsements that can apply for the following units (see the individual units for further details on the level of endorsement or contact the Standard Setting Body):

Unit No.	Endorsement
VR 164	In-situ and/or Prefabricated Plus one or more of the following: Ground level Below ground level Above ground level
VR 166	Hand bending machines Power bending machines

**Note:** Where industry requests an Awarding Body to further endorse a unit, the Awarding Body must first seek approval from the Standards Setting Body to ensure the endorsement is appropriate to the unit.

**Description:**

This unit, in the context of your occupation and work environment, is about:

- awareness of relevant current statutory requirements and official guidance
- personal responsibilities relating to workplace safety, wearing appropriate personal protective equipment (PPE) and compliance with warning/safety signs
- personal behaviour in the workplace
- security in the workplace

<b>Performance Criteria</b>	<b>Scope of Performance</b>
You must be able to:	Evidence must be work-based, simulation alone is only allowed where shown in <b><i>bold italics</i></b> .
1 Identify hazards associated with the workplace and record and report in accordance with organisational procedure.	Hazards, associated with the workplace and occupations at work, are recorded and/or reported.
2 Comply with all workplace safety legislation requirements at all times.	Safe use of general personal protective equipment (PPE) when in the work environment, in accordance with legislation and/or organisational requirements.  Adherence to statutory requirements and/or safety notices and warning signs displayed in the workplace.  <b><i>Safe use of fire extinguishers, as appropriate to the fire.</i></b>
3 Comply with and maintain all organisational security arrangements and approved procedures.	Organisational procedures for maintaining the security of the workplace: <ul style="list-style-type: none"><li>– during the working day</li><li>– on completion of the day's work</li><li>– from unauthorised personnel (other operatives and/or the general public)</li><li>– from theft.</li></ul>
4 Comply with all emergency procedures in accordance with organisational policy.	<b><i>Organisational procedures in case of accident and/or fire.</i></b>

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**Unit No. VR 01: Conform to General Workplace Safety**

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<b>Knowledge and Understanding relating to Performance Criteria</b> You must know and understand:	<b>Scope of Knowledge and Understanding</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<p><i>Performance Criteria 1</i> <i>Identification of hazards</i></p> <p>The <b>hazards</b> associated with the occupational area.</p> <p>The method of <b>reporting</b> hazards in the workplace.</p> <p><i>Performance Criteria 2</i> <i>Workplace safety</i></p> <p>What safety legislation <b>notices</b> are relevant to the occupational area.</p> <p>Why and when <b>personal protective equipment (PPE)</b> should be used.</p> <p><i>Performance Criteria 3</i> <i>Security arrangements</i></p> <p>How <b>security</b> arrangements are implemented in the workplace.</p> <p><i>Performance Criteria 4</i> <i>Emergency procedures</i></p> <p>What the organisational <b>emergency procedures</b> are.</p> <p>What the types of <b>fire extinguishers</b> are and how they are used.</p>	<p><b>Emergency procedures</b> In accordance with organisational requirements:</p> <ul style="list-style-type: none"><li>– accidents and emergencies associated with the type of work being undertaken and the work environment.</li></ul> <p><b>Fire extinguishers</b> Water, CO<sub>2</sub>, foam, powder, vaporising liquid and their uses.</p> <p><b>Hazards</b> Associated with the occupational area:</p> <ul style="list-style-type: none"><li>– resources, workplace, environment, substances, equipment, obstructions, storage, services and work activities.</li></ul> <p><b>Notices</b> Statutory requirements and/or official guidance for the occupation and the work area.</p> <p><b>Personal protective equipment (PPE)</b> As required for the general work environment:</p> <ul style="list-style-type: none"><li>– e.g. helmet, ear defenders, overalls, safety footwear and high visibility vests/jackets.</li></ul> <p><b>Reporting</b> Organisational recording procedures and statutory requirements.</p> <p><b>Security</b> Organisational procedures relating to the general public, site personnel and resources.</p>

**Description:**

This unit, in the context of your occupation and work environment, is about:

- interpreting information
- planning and carrying out productive, efficient working practices
- working with others or as an individual

<b>Performance Criteria</b>	<b>Scope of Performance</b>
You must be able to:	Evidence must be work-based, simulation alone is only allowed where shown in <i><b>bold italics</b></i> .
1 Communicate with others to establish productive work relationships.	Communication with colleagues/clients to ensure that the work is carried out efficiently.
2 Follow organisational procedures to maintain good work relationships.	Procedures and use of resources, allocation of work and method of work.  Work carried out in conjunction with others.
3 Maintain records in accordance with the organisational procedures.	Documentation required by the organisation is completed.

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**Unit No. VR 02: Conform to Efficient Work Practices**

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<b>Knowledge and Understanding relating to Performance Criteria</b> You must know and understand:	<b>Scope of Knowledge and Understanding</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<p><i>Performance Criteria 1</i> <i>Communicate with others</i></p> <p>The methods of <b>communication</b> with other workplace personnel and/or client.</p> <p><i>Performance Criteria 2</i> <i>Work relationships</i></p> <p>How organisational <b>procedures</b> are applied to maintain good work <b>relationships</b>.</p> <p><i>Performance Criteria 3</i> <i>Maintain records</i></p> <p>How to maintain <b>documentation</b> in accordance with organisational procedures.</p>	<p><b>Communication</b> Written, oral and electronic.</p> <p><b>Documentation</b> Job cards, worksheets, material/resources lists and time sheets.</p> <p><b>Procedures</b> Use of resources for own and other's work requirements. Allocation of appropriate work to employees. Organisation of work sequence.</p> <p><b>Relationships</b> Individuals, workplace groups (client and/or operative, operative and line management, own occupation and allied occupations).</p>

**Description:**

This unit, in the context of your occupation and work environment, is about:

- following instructions
- adopting safe and healthy working practices
- selecting materials, components and equipment
- handling, moving and storage of materials and components by manual procedures and lifting aids

<b>Performance Criteria</b>	<b>Scope of Performance</b>
You must be able to:	Evidence must be work-based, simulation alone is only allowed where shown in <b><i>bold italics</i></b> .
1 Comply with the given information to move and store resources to maintain safe work practices.	Safe use of personal protective equipment (PPE) to carry out the activity, in accordance with legislation and/or organisational requirements.  Safe use and storage of lifting aids and equipment.  <b><i>Safe use of fire extinguishers, as appropriate to the fire.</i></b>
2 Select the resources to be stored and ensure they conform to the given information.	Selection of resources to be moved and/or stored: <ul style="list-style-type: none"><li>– own work and that of the team</li><li>– materials, components and fixings</li><li>– tools and equipment.</li></ul>
3 Comply with the given information to prevent damage to the product and surrounding environment.	Protection of the product and its surrounding area from damage.  Disposal of waste packaging in accordance with legislation.  Minimise damage and maintain a clean work space.

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## Unit No. VR 03: Move and Handle Resources

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### Performance Criteria

You must be able to:

### Scope of Performance

Evidence must be work-based, simulation alone is only allowed where shown in ***bold italics***.

- 4 Comply with the given product information to carry out the work efficiently to the required guidance.

Work skills to:

- move, position, secure and use lifting aids and kinetic lifting techniques.

Handle and store occupational resources to meet product information and/or organisational requirements relating to:

- sheet material
  - loose material
  - bagged or wrapped material
  - fragile material
  - components
  - liquid material.
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**Unit No. VR 03: Move and Handle Resources**

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<b>Knowledge and Understanding relating to Performance Criteria</b> You must know and understand:	<b>Scope of Knowledge and Understanding</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<p><i>Performance Criteria 1</i> <i>Safe work practices</i></p> <p>The level of understanding operatives must have of <b>information</b> for relevant, current <b>legislation and official guidance</b> and how it is applied.</p> <p>The types of <b>fire extinguishers</b> and how and when they are used.</p> <p>How <b>emergencies</b> should be responded to and who should respond.</p> <p>The organisational <b>security procedures</b> for tools, equipment and personal belongings.</p> <p>What the accident reporting procedures are and who is responsible for making the reports.</p> <p>Why and when <b>personal protective equipment (PPE)</b> should be used.</p> <p><i>Performance Criteria 2</i> <i>Selection of resources</i></p> <p>The characteristics, quality, uses, limitations and defects associated with the <b>resources</b> and how defects should be rectified.</p> <p>How the <b>resources</b> should be handled and how any <b>problems</b> associated with the <b>resources</b> are reported.</p> <p>The organisational procedures to select <b>resources</b>, why they have been developed and how they are used.</p> <p>The <b>hazards</b> associated with the <b>resources</b> and <b>methods of work</b> and how they are overcome.</p>	<p><b>Disposal of waste</b> Environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p> <p><b>Emergencies</b> Operative's response to situations in accordance with organisational authorisation and personal skills when involved with: – fires, spillages, injuries etc.</p> <p><b>Fire extinguishers</b> Water, CO<sub>2</sub>, foam, powder and their uses.</p> <p><b>Hazards</b> Those identified by method of work, manufacturers' technical information, statutory regulations and official guidance.</p> <p><b>Information</b> Technical, product and regulatory: – oral, written, graphical presentation.</p> <p><b>Legislation and official guidance</b> This relates to the operative's understanding of potential accidents and health hazards when working: – on site, below ground level, at height, with tools and equipment, with materials and manual handling.</p> <p><b>Methods of work</b> Application of knowledge for safe work practices, procedures, skills and transference of competence for: – manual handling and storage – maintenance of lifting aids.</p> <p>Needs of other occupations associated with the resources.</p> <p><b>Personal protective equipment (PPE)</b> Occupational use, types, purpose of each type and work situations.</p>

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**Unit No. VR 03: Move and Handle Resources**

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<b>Knowledge and Understanding relating to Performance Criteria</b> You must know and understand:	<b>Scope of Knowledge and Understanding</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<p><i>Performance Criteria 3</i> <i>Minimise the risk of damage</i></p> <p>How to <b>protect work</b> from damage and the purpose of protection.</p> <p>Why <b>disposal of waste</b> should be carried out safely and how it is achieved.</p> <p><i>Performance Criteria 4</i> <i>Comply with product information</i></p> <p>How <b>methods of work</b>, to meet the specification, are carried out and <b>problems</b> reported.</p>	<p><b>Problems</b> Those arising from information, resources and methods of work:</p> <ul style="list-style-type: none"><li>- own authority to rectify</li><li>- organisational reporting procedures.</li></ul> <p><b>Protect work</b> Against damage from general workplace activities, other occupations and adverse weather conditions.</p> <p><b>Resources</b> Types, quantity, quality and sizes of standard and specialist:</p> <ul style="list-style-type: none"><li>- materials, components, fixings, fittings and ancillary items</li><li>- hand and/or powered tools and equipment</li><li>- internally or externally supplied.</li></ul> <p><b>Security procedures</b> Site, workshop/workplace, company and operative.</p>

**Description:**

This unit is about:

- interpreting information
- adopting safe and healthy working practices
- selecting materials, components and equipment
- installing in-situ and/or prefabricated reinforcing steel for concrete structures

<b>Performance Criteria</b> You must be able to:	<b>Scope of Performance</b> Evidence must be work-based, simulation alone is only allowed where shown in <i>bold italics</i> .
1 Interpret the given information relating to the work and resources to confirm its relevance.	Interpretation of drawings, specifications, schedules, manufacturers' information, related to the work to be carried out.
2 Comply with the given, relevant legislation and official guidance to carry out your work and maintain safe work practices.	Safe use of personal protective equipment (PPE) to carry out the activity, in accordance with legislation and/or organisational requirements.  Safe use and storage of tools and equipment.
3 Select the required quantity and quality of resources for the methods of work.	Selection of resources associated with own work: <ul style="list-style-type: none"><li>– materials, components and fixings</li><li>– tools and equipment.</li></ul>
4 Comply with organisational procedures to minimise the risk of damage to the work and surrounding area.	Protection of the work and its surrounding area from damage.  Disposal of waste in accordance with legislation.  Minimise damage and maintain a clean work space.

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**Unit No. VR 164: Install Reinforcement Steel**

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**Performance Criteria (continued)**

You must be able to:

**Scope of Performance (continued)**

Evidence must be work-based, simulation alone is only allowed where shown in ***bold italics***.

- 5 Comply with the given contract information to carry out the work efficiently to the required specification.

Work skills to:

- sort, measure, mark out, cut, fit, position and secure.

Use and maintain:

- hand tools
- portable power tools
- ancillary equipment.

Installation of in-situ and/or prefabricated reinforcement steel to contractor's working instructions in ONE or more of the following areas:

- below ground level
- at ground level
- above ground level.

Incorporating TWO or more of the following: mesh, steel bar, spacers, cover blocks or ties.

Form ONE or more of the following to contractor's working instructions:

- beams
- bases
- columns
- piers
- slabs
- steps
- walls.

- 
- 6 Complete the work within the allocated time, in accordance with the programme of work.

Completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client.

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**Unit No. VR 164: Install Reinforcement Steel**

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<b>Knowledge and Understanding relating to Performance Criteria</b> You must know and understand:	<b>Scope of Knowledge and Understanding</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<p><i>Performance Criteria 1</i> <i>Interpretation of information</i></p> <p>The organisational procedures developed to report and rectify inappropriate <b>information</b> and unsuitable <b>resources</b>, and how they are implemented.</p> <p>The types of <b>information</b>, their source and how they are interpreted.</p> <p>The organisational procedures to solve <b>problems</b> with the <b>information</b> and why it is important they are followed.</p> <p><i>Performance Criteria 2</i> <i>Safe work practices</i></p> <p>The level of understanding operatives must have of <b>information</b> for relevant, current <b>legislation and official guidance</b> and how it is applied.</p> <p>How <b>emergencies</b> should be responded to and who should respond.</p> <p>The organisational <b>security procedures</b> for tools, equipment and personal belongings.</p> <p>What the accident reporting procedures are and who is responsible for making the reports.</p> <p>Why and when <b>personal protective equipment (PPE)</b> should be used.</p>	<p><b>Disposal of waste</b> Environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p> <p><b>Emergencies</b> Operative's response to situations in accordance with organisational authorisation and personal skills when involved with: – fires, spillages, injuries.</p> <p><b>Hazards</b> Those identified by method of work, manufacturers' technical information, statutory regulations and official guidance.</p> <p><b>Information</b> Drawings, specifications, schedules, shape codes, manufacturers' information, oral and written instructions and specific industrial guidance relating to steelfixing.</p> <p><b>Legislation and official guidance</b> This relates to the operative's understanding of their responsibilities regarding current legislation whilst working: – in the workplace, 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.</p> <p><b>Maintenance</b> Operative care of hand tools and/or portable power tools and ancillary equipment.</p>

<p><b>Knowledge and Understanding relating to Performance Criteria (continued)</b></p> <p>You must know and understand:</p>	<p><b>Scope of Knowledge and Understanding (continued)</b></p> <p>The knowledge and understanding evidence should relate to the occupational area being assessed.</p>
<p><i>Performance Criteria 3</i> <i>Selection of resources</i></p> <p>The characteristics, quality, uses, limitations and defects associated with the <b>resources</b> and how defects should be rectified.</p> <p>How the <b>resources</b> should be used and how any <b>problems</b> associated with the <b>resources</b> are reported.</p> <p>The organisational procedures to select <b>resources</b>, why they have been developed and how they are used.</p> <p>The <b>hazards</b> associated with the <b>resources</b> and <b>methods of work</b> and how they are overcome.</p> <p><i>Performance Criteria 4</i> <i>Minimise the risk of damage</i></p> <p>How to <b>protect work</b> from damage and the purpose of protection.</p> <p>Why <b>disposal of waste</b> should be carried out safely and how it is achieved.</p> <p><i>Performance Criteria 5</i> <i>Meet the contract specification</i></p> <p>How <b>methods of work</b>, to meet the specification, are carried out and <b>problems</b> reported.</p> <p>How <b>maintenance</b> of tools and equipment is carried out.</p>	<p><b>Methods of work</b> Application of knowledge for safe work practices, procedures, skills and transference of competence, relating to the area of work and material used, to:</p> <ul style="list-style-type: none"> <li>– prepare mesh and steel bar reinforcement</li> <li>– position and support mesh and steel bar reinforcement (e.g. chairs, cover blocks)</li> <li>– form associated wire ties to: <ul style="list-style-type: none"> <li>– tie and secure mesh and steel bar reinforcement</li> <li>– tie and secure cover blocks and spacers</li> </ul> </li> <li>– use hand tools, power tools and equipment.</li> </ul> <p>Team work and communication.</p> <p>Needs of other occupations associated with installing in-situ and/or prefabricated reinforcement steel.</p> <p><b>Personal protective equipment (PPE)</b> Occupational use, types, purpose of each type and work situations.</p> <p><b>Problems</b> Those arising from information, resources and methods of work:</p> <ul style="list-style-type: none"> <li>– own authority to rectify</li> <li>– organisational reporting procedures.</li> </ul> <p><b>Programme</b> Organisational procedures for reporting circumstances which will affect progress and the the work programme.</p> <p><b>Protect work</b> Against damage from general workplace activities, other occupations and adverse weather conditions.</p>

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**Unit No. VR 164: Install Reinforcement Steel**

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<b>Knowledge and Understanding relating to Performance Criteria (continued)</b> You must know and understand:	<b>Scope of Knowledge and Understanding (continued)</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<i>Performance Criteria 6</i> <i>Allocated time</i>  What the <b>programme</b> is for the work to be carried out in the estimated, allocated time and why deadlines should be kept.	<b>Resources</b> Materials, components and equipment relating to types, quantity, quality and sizes of standard and/or specialist: <ul style="list-style-type: none"><li>– prefabricated cages, wire mesh, reinforcement steel, tie wire, ancillary steelfixing components</li><li>– hand and/or powered tools and equipment.</li></ul> Methods of calculating quantity, length and area associated with the method/procedure to install in-situ and/or prefabricated reinforcement steel.  <b>Security procedures</b> Site, workplace, company and operative.

**Description:**

This unit is about:

- interpreting information
- adopting safe and healthy working practices
- selecting materials, components and equipment
- prefabricating reinforcing steel for concrete structures

<b>Performance Criteria</b>	<b>Scope of Performance</b>
You must be able to:	Evidence must be work-based, simulation alone is only allowed where shown in <i>bold italics</i> .
1 Interpret the given information relating to the work and resources to confirm its relevance.	Interpretation of drawings, specifications, schedules, manufacturers' information, related to the work to be carried out.
2 Comply with the given, relevant legislation and official guidance to carry out your work and maintain safe work practices.	Safe use of personal protective equipment (PPE) to carry out the activity, in accordance with legislation and/or organisational requirements.  Safe use and storage of tools and equipment.
3 Select the required quantity and quality of resources for the methods of work.	Selection of resources associated with own work: <ul style="list-style-type: none"><li>– materials, components and fixings</li><li>– tools and equipment.</li></ul>
4 Comply with organisational procedures to minimise the risk of damage to the work and surrounding area.	Protection of the work and its surrounding area from damage.  Disposal of waste in accordance with legislation.  Minimise damage and maintain a clean work space.

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**Unit No. VR 165: Prefabricate Reinforcement Steel Components**

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**Performance Criteria (continued)**

You must be able to:

- 5 Comply with the given contract information to carry out the work efficiently to the required specification.

**Scope of Performance (continued)**

Evidence must be work-based, simulation alone is only allowed where shown in ***bold italics***.

Work skills to:

- measure, mark out, fit, position and secure.

Use and maintain:

- hand tools
- power tools
- ancillary equipment.

Prefabricate reinforcement steel to contractor's working instructions for:

- column bases
- columns
- beams
- slabs
- walls.

- 
- 6 Complete the work within the allocated time, in accordance with the programme of work.

Completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client.

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## Unit No. VR 165: Prefabricate Reinforcement Steel Components

<b>Knowledge and Understanding relating to Performance Criteria</b> You must know and understand:	<b>Scope of Knowledge and Understanding</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<p><i>Performance Criteria 1</i> <i>Interpretation of information</i></p> <p>The organisational procedures developed to report and rectify inappropriate <b>information</b> and unsuitable <b>resources</b>, and how they are implemented.</p> <p>The types of <b>information</b>, their source and how they are interpreted.</p> <p>The organisational procedures to solve <b>problems</b> with the <b>information</b> and why it is important they are followed.</p> <p><i>Performance Criteria 2</i> <i>Safe work practices</i></p> <p>The level of understanding operatives must have of <b>information</b> for relevant, current <b>legislation and official guidance</b> and how it is applied.</p> <p>How <b>emergencies</b> should be responded to and who should respond.</p> <p>The organisational <b>security procedures</b> for tools, equipment and personal belongings.</p> <p>What the accident reporting procedures are and who is responsible for making the reports.</p> <p>Why and when <b>personal protective equipment (PPE)</b> should be used.</p>	<p><b>Disposal of waste</b> Environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p> <p><b>Emergencies</b> Operative's response to situations in accordance with organisational authorisation and personal skills when involved with accidents, incidents:  <ul style="list-style-type: none"> <li>– fires, spillages, injuries.</li> </ul> </p> <p><b>Hazards</b> Those identified by method of work, manufacturers' technical information, statutory regulations and official guidance.</p> <p><b>Information</b> Drawings, specifications, schedules, shape codes, manufacturers' information, oral/written information.</p> <p><b>Legislation and official guidance</b> This relates to the operative's understanding of their responsibilities regarding current legislation whilst working:  <ul style="list-style-type: none"> <li>– in the workplace, 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> <p><b>Maintenance</b> Operative care of hand tools and/or portable power tools and ancillary equipment.</p>

<p><b>Knowledge and Understanding relating to Performance Criteria (continued)</b></p> <p>You must know and understand:</p>	<p><b>Scope of Knowledge and Understanding (continued)</b></p> <p>The knowledge and understanding evidence should relate to the occupational area being assessed.</p>
<p><i>Performance Criteria 3</i> <i>Selection of resources</i></p> <p>The characteristics, quality, uses, limitations and defects associated with the <b>resources</b> and how defects should be rectified.</p> <p>How the <b>resources</b> should be used and how any <b>problems</b> associated with the <b>resources</b> are reported.</p> <p>The organisational procedures to select <b>resources</b>, why they have been developed and how they are used.</p> <p>The <b>hazards</b> associated with the <b>resources</b> and <b>methods of work</b> and how they are overcome.</p> <p><i>Performance Criteria 4</i> <i>Minimise the risk of damage</i></p> <p>How to <b>protect work</b> from damage and the purpose of protection.</p> <p>Why <b>disposal of waste</b> should be carried out safely and how it is achieved.</p> <p><i>Performance Criteria 5</i> <i>Meet the contract specification</i></p> <p>How <b>methods of work</b>, to meet the specification, are carried out and <b>problems</b> reported.</p> <p>How <b>maintenance</b> of tools and equipment is carried out.</p>	<p><b>Methods of work</b> Application of knowledge for safe work practices, procedures, skills and transference of competence, relating to the area of work, and material used to:</p> <ul style="list-style-type: none"> <li>– prefabricate reinforcement from pre-cut and bent components to form column bases, columns, beams, slabs, walls</li> <li>– form associated wire ties</li> <li>– fix and secure temporary bracing and lifting points</li> <li>– use hand tools, power tools and ancillary equipment.</li> </ul> <p>Team work and communication.</p> <p>Needs of other occupations associated with prefabricating reinforcement steel cages.</p> <p><b>Personal protective equipment (PPE)</b> Occupational use, types, purpose of each type and work situations.</p> <p><b>Problems</b> Those arising from information, resources and methods of work:</p> <ul style="list-style-type: none"> <li>– own authority to rectify</li> <li>– organisational reporting procedures.</li> </ul> <p><b>Programme</b> Organisational procedures for reporting circumstances which will affect progress and the work programme.</p> <p><b>Protect work</b> Against damage from general workplace activities, other occupations and adverse weather conditions.</p>

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**Unit No. VR 165: Prefabricate Reinforcement Steel Components**

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<b>Knowledge and Understanding relating to Performance Criteria (continued)</b> You must know and understand:	<b>Scope of Knowledge and Understanding (continued)</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<p><i>Performance Criteria 6</i> <i>Allocated time</i></p> <p>What the <b>programme</b> is for the work to be carried out in the estimated, allocated time and why deadlines should be kept.</p>	<p><b>Resources</b> Materials, components and equipment relating to types, quantity, quality and sizes of standard and/or specialist:</p> <ul style="list-style-type: none"><li>– pre-cut and bent components, reinforcement steel, tie wire, spacers</li><li>– hand and/or powered tools and ancillary equipment.</li></ul> <p>Methods of calculating quantity, length, area and wastage associated with the method/procedure to prefabricate reinforcement steel.</p> <p><b>Security procedures</b> Site, workplace, company and operative.</p>

**Description:**

This unit is about:

- interpreting information
- adopting safe and healthy working practices
- selecting materials, components and equipment
- preparing, cutting and bending reinforcement steel to standard shapes using recognised codes

<b>Performance Criteria</b> You must be able to:	<b>Scope of Performance</b> Evidence must be work-based, simulation alone is only allowed where shown in <i>bold italics</i> .
1 Interpret the given information relating to the work and resources to confirm its relevance.	Interpretation of drawings, specifications, schedules, manufacturers' information, related to the work to be carried out.
2 Comply with the given, relevant legislation and official guidance to carry out your work and maintain safe work practices.	Safe use of personal protective equipment (PPE) to carry out the activity, in accordance with legislation and/or organisational requirements.  Safe use and storage of tools and equipment.
3 Select the required quantity and quality of resources for the methods of work.	Selection of resources associated with own work: <ul style="list-style-type: none"><li>– materials, components and fixings</li><li>– tools and equipment.</li></ul>
4 Comply with organisational procedures to minimise the risk of damage to the work and surrounding area.	Protection of the work and its surrounding area from damage.  Disposal of waste in accordance with legislation.  Minimise damage and maintain a clean work space.

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**Unit No. VR 166: Cut and Bend Reinforcement Steel to Shape**

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**Performance Criteria (continued)**

You must be able to:

**Scope of Performance (continued)**

Evidence must be work-based, simulation alone is only allowed where shown in ***bold italics***.

- 5 Comply with the given contract information to carry out the work efficiently to the required specification.

Work skills to:

- measure, mark out, cut and bend.

Use and maintain:

- hand tools
- power tools
- ancillary equipment.

Cut and bend reinforcement steel to contractor's working instructions to standard shapes using recognised codes by the use of:

- hand bending machines

AND/OR

- power bending machines.

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- 6 Complete the work within the allocated time, in accordance with the programme of work.

Completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client.

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## Unit No. VR 166: Cut and Bend Reinforcement Steel to Shape

<b>Knowledge and Understanding relating to Performance Criteria</b> You must know and understand:	<b>Scope of Knowledge and Understanding</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<p><i>Performance Criteria 1</i> <i>Interpretation of information</i></p> <p>The organisational procedures developed to report and rectify inappropriate <b>information</b> and unsuitable <b>resources</b>, and how they are implemented.</p> <p>The types of <b>information</b>, their source and how they are interpreted.</p> <p>The organisational procedures to solve <b>problems</b> with the <b>information</b> and why it is important they are followed.</p> <p><i>Performance Criteria 2</i> <i>Safe work practices</i></p> <p>The level of understanding operatives must have of <b>information</b> for relevant, current <b>legislation and official guidance</b> and how it is applied.</p> <p>How <b>emergencies</b> should be responded to and who should respond.</p> <p>The organisational <b>security procedures</b> for tools, equipment and personal belongings.</p> <p>What the accident reporting procedures are and who is responsible for making the reports.</p> <p>Why and when <b>personal protective equipment (PPE)</b> should be used.</p>	<p><b>Disposal of waste</b> Environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance.</p> <p><b>Emergencies</b> Operative's response to situations in accordance with organisational authorisation and personal skills when involved with accidents, incidents:  <ul style="list-style-type: none"> <li>– fires, spillages, injuries.</li> </ul> </p> <p><b>Hazards</b> Those identified by method of work, manufacturers' technical information, statutory regulations and official guidance.</p> <p><b>Information</b> Drawings, specifications, schedules, shape codes, manufacturers' information, oral/written information.</p> <p><b>Legislation and official guidance</b> This relates to the operative's understanding of their responsibilities regarding current legislation whilst working:  <ul style="list-style-type: none"> <li>– in the workplace, 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> <p><b>Maintenance</b> Operative care of hand tools and/or portable power tools and ancillary equipment.</p>

<p><b>Knowledge and Understanding relating to Performance Criteria (continued)</b></p> <p>You must know and understand:</p>	<p><b>Scope of Knowledge and Understanding (continued)</b></p> <p>The knowledge and understanding evidence should relate to the occupational area being assessed.</p>
<p><i>Performance Criteria 3</i> <i>Selection of resources</i></p> <p>The characteristics, quality, uses, limitations and defects associated with the <b>resources</b> and how defects should be rectified.</p> <p>How the <b>resources</b> should be used and how any <b>problems</b> associated with the <b>resources</b> are reported.</p> <p>The organisational procedures to select <b>resources</b>, why they have been developed and how they are used.</p> <p>The <b>hazards</b> associated with the <b>resources</b> and <b>methods of work</b> and how they are overcome.</p> <p><i>Performance Criteria 4</i> <i>Minimise the risk of damage</i></p> <p>How to <b>protect work</b> from damage and the purpose of protection.</p> <p>Why <b>disposal of waste</b> should be carried out safely and how it is achieved.</p> <p><i>Performance Criteria 5</i> <i>Meet the contract specification</i></p> <p>How <b>methods of work</b>, to meet the specification, are carried out and <b>problems</b> reported.</p> <p>How <b>maintenance</b> of tools and equipment is carried out.</p>	<p><b>Methods of work</b> Application of knowledge for safe work practices, procedures, skills and transference of competence, relating to the area of work, and material used to:</p> <ul style="list-style-type: none"> <li>– measure, mark out, cut and bend reinforcement steel standard shapes using recognised codes</li> <li>– use hand bending machines and/or power bending machines.</li> </ul> <p>Team work and communication.</p> <p>Needs of other occupations associated with cutting and bending reinforcement steel.</p> <p><b>Personal protective equipment (PPE)</b> Occupational use, types, purpose of each type and work situations.</p> <p><b>Problems</b> Those arising from information, resources and methods of work:</p> <ul style="list-style-type: none"> <li>– own authority to rectify</li> <li>– organisational reporting procedures.</li> </ul> <p><b>Programme</b> Organisational procedures for reporting circumstances which will affect progress and the work programme.</p> <p><b>Protect work</b> Against damage from general workplace activities, other occupations and adverse weather conditions.</p>

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**Unit No. VR 166: Cut and Bend Reinforcement Steel to Shape**

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<b>Knowledge and Understanding relating to Performance Criteria (continued)</b> You must know and understand:	<b>Scope of Knowledge and Understanding (continued)</b> The knowledge and understanding evidence should relate to the occupational area being assessed.
<p><i>Performance Criteria 6</i> <i>Allocated time</i></p> <p>What the <b>programme</b> is for the work to be carried out in the estimated, allocated time and why deadlines should be kept.</p>	<p><b>Resources</b> Materials, components and equipment relating to types, quantity, quality and sizes of standard and/or specialist:</p> <ul style="list-style-type: none"><li>– reinforcement steel</li><li>– bending machines (hand or machine operated)</li><li>– hand and/or powered tools and ancillary equipment.</li></ul> <p>Methods of calculating quantity, length and wastage associated with the method/procedure to cut and bend reinforcement steel.</p> <p><b>Security procedures</b> Site, workplace, company and operative.</p>

## **Key/core skill signposting**

A signposting exercise has been carried out to identify the key skills (core skills in Scotland) contained within the National Occupational Standards. The following pages contain summary sheets resulting from this exercise.

The summaries demonstrate where, and at what level, key and core skills are explicit within the National Occupational Standards.

## Key/core skill signposting

### Unit No. VR 01 Conform to General Workplace Safety

Key skills	Core skills
<p><i>This unit may provide evidence for:</i></p> <p>Communication – Level 1                      Communication – Level 2</p>	<p><i>This unit may provide evidence for:</i></p> <p>Communication – Access 3                      Communication – Intermediate 1</p>

### Unit No. VR 02 Conform to Efficient Work Practices

Key skills	Core skills
<p><i>This unit may provide evidence for:</i></p> <p>Communication – Level 1                      Communication – Level 2                      Application of number – Level 1                      Working with others – Level 1                      Working with others – Level 2</p>	<p><i>This unit may provide evidence for:</i></p> <p>Communication – Access 3                      Numeracy – Access 3                      Working with others – Access 3</p>

### Unit No. VR 03 Move and Handle Resources

<b>Key skills</b>	<b>Core skills</b>
<p><i>This unit may provide evidence for:</i></p> <p>Communication – Level 1 Application of number – Level 1 Working with others – Level 1</p>	<p><i>This unit may provide evidence for:</i></p> <p>Communication – Access 3 Numeracy – Access 3 Working with others – Access 2</p>

### Unit No. VR 164 Install Reinforcement Steel

<b>Key skills</b>	<b>Core skills</b>
<p><i>This unit may provide evidence for:</i></p> <p>Communication – Level 1 Communication – Level 2 Application of number – Level 1 Working with others – Level 1</p>	<p><i>This unit may provide evidence for:</i></p> <p>Communication – Access 3 Communication – Intermediate 1 Numeracy – Access 3 Working with others – Access 3</p>

### Unit No. VR 165 Prefabricate Reinforcement Steel

<b>Key skills</b>	<b>Core skills</b>
<p><i>This unit may provide evidence for:</i></p> <ul style="list-style-type: none"><li>Communication – Level 1</li><li>Communication – Level 2</li><li>Application of number – Level</li><li>Working with others – Level 1</li></ul>	<p><i>This unit may provide evidence for:</i></p> <ul style="list-style-type: none"><li>Communication – Access 3</li><li>Communication – Intermediate 1</li><li>Numeracy – Access 3</li><li>Working with others – Access 3</li></ul>

### Unit No. VR 166 Cut and Bend Reinforcement Steel to Shape

<b>Key skills</b>	<b>Core skills</b>
<p><i>This unit may provide evidence for:</i></p> <ul style="list-style-type: none"><li>Communication – Level 1</li><li>Communication – Level 2</li><li>Application of number – Level</li><li>Working with others – Level 1</li></ul>	<p><i>This unit may provide evidence for:</i></p> <ul style="list-style-type: none"><li>Communication – Access 3</li><li>Communication – Intermediate 1</li><li>Numeracy – Access 3</li><li>Working with others – Access 3</li></ul>