

## **Competency Standards for Caribbean Vocational Qualifications (CVQ)**

**CCBCG20502**

**Level II in Carpentry**

<b>Unit Number</b>	<b>Unit Title</b>	<b>Core /Elective</b>	<b>Hours</b>
BCGCOR0001A	Carry out interactive workplace communication	Core	20
BCGCOR0011A	Carry out OH&S requirements	Core	40
BCGCOR0021A	Plan and organise work	Core	20
BCGCOR0031A	Draw and interpret simple drawings	Core	20
BCGCOR0041A	Carry out measurements and calculations	Core	20
BCGCOR0051A	Use hand and power tools	Core	20
BCGCOR0071A	Erect and dismantle restricted height scaffolding	Core	40
BCGCOR0081A	Use simple levelling devices	Core	10
BCGCOR0111A	Handle construction materials and safely dispose of waste	Core	10
BCGCAR0161A	Prepare for carpentry construction	Core	40
BCGCAR0202A	Assemble simple partition frames	Core	30
BCGCOR0212A	Prepare surfaces	Core	40
BCGCAR0302A	Remove/replace door and window hardware	Core	10
BCGCAR0312A	Use static machines	Core	30
BCGCAR0322A	Make set - outs	Core	20
BCGCAR0412A	Construct and install non-load bearing internal partition wall	Core	10
BCGCAR0442A	Construct and erect timber wall framing	Core	40
BCGCAR0482A	Install sub-floor framing	Core	20
BCGCAR0492A	Install timber and sheet flooring	Core	10
BCGCAR0532A	Install door and window frames	Core	10
BCGCAR0542A	Finish eaves	Core	10
BCGCAR0552A	Install exterior cladding	Core	40
BCGCAR0572A	Install external or internal doors	Core	20
BCGCOR0242A	Carry out levelling	Core	20
BCGCAR0252A	Erect and strip formwork for concrete work	Core	20
BCGCAR0282A	Use explosive power tools (EPT)	Core	10
BCGCAR0662A	Erect/dismantle formwork	Core	80
BCGCAR0613A	Fix timber mouldings	Core	20
BCGCAR0623A	Replace glass	Core	20
BCGCAR1523A	Fix linings and panelling	Core	40
BCGCOR0061A	Use small plant and equipment	Elective	40
BCGMAS0091A	Carry out excavation and install support	Elective	20
BCGMAS0101A	Carry out concreting to simple forms	Elective	20
BCGTIL0121A	Prepare for wall and floor tiling	Elective	40
BCGMAS0131A	Prepare for solid plastering	Elective	40
BCGMAS0141A	Prepare for dry wall plastering	Elective	40
BCGMAS0151A	Prepare for construction process (brick/block laying)	Elective	40
BCGCOR0171A	Prepare for demolition process	Elective	40
BCGSTW0181A	Prepare for steelwork construction	Elective	40
BCGPAD0191A	Prepare for painting and decorating	Elective	40
ITICOR0011A	Carry out data entry and retrieval procedures	Elective	40

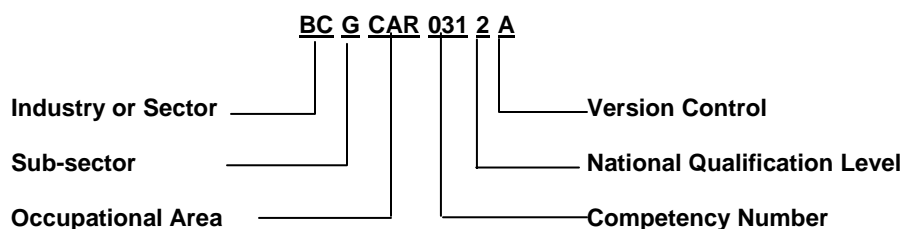
Unit Number	Unit Title	Core /Elective	Hours
BCGCOR0232A	Carry out general demolition	Elective	30
BCGSTW0262A	Carry out steel-fixing	Elective	40
BCGMAS0292A	Carry out concrete work	Elective	40
BSBSBM0012A	Craft personal entrepreneurial strategy	Elective	50
BCGCAR0423A	Install windows to wall framing	Elective	10
BCGCOR0433A	Carry out basic setting out	Elective	20
BCGCAR0463A	Erect timber pitched roof framing	Elective	60
BCGCAR0473A	Erect timber roof trusses	Elective	20
BCGSTW0503A	Erect steel roof trusses	Elective	20
BCGCAR0513A	Construct and erect steel wall framing	Elective	40
BCGCAR0523A	Construct timber roof structures-irregular roofs	Elective	80
BCGCAR0563A	Construct timber external stairs	Elective	40
BCGCAR0583A	Install fitments	Elective	20
BCGCAR0593A	Carry out wet area construction/installation	Elective	20
BCGCAR0633A	Erect door jamb/frame (build-in unit)	Elective	10
BCGCAR0643A	Fix timber raking moulds	Elective	20
BCGCAR0653A	Restore/renovate windows and frames	Elective	40
BCGCAR0673A	Erect/dismantle jump type formwork	Elective	60
BCGCAR0793A	Erect ceiling framing (pitched roof)	Elective	40
BCGROF1493A	Fix shingles – roofs and facades	Elective	80
BCGCAR1543A	Erect/dismantle slip form formwork	Elective	80
BCGROF1553A	Install sheeting and cladding roofing materials.	Elective	40
BCGROF1563A	Repair sheeting and cladding roofing materials.	Elective	20
BCGCOR1583A	Read and interpret plans	Elective	20

To be awarded this Caribbean Vocational Qualification (CVQ) all core competency standards must be achieved. Electives achieved with the qualification will be awarded unit statement of competency.

The nominal training hours are a guide for planning the delivery of Training Programmes.

#### Legend to Unit Code

Example: BCGCAR0312A



**KEY:** Man – Mandatory; MAS – Masonry; TIL – Tiling; SBM -Small Business Management;  
 CAR – Carpentry; STW – Steelwork; PAD – Painting & Decorating; ROF - Roofing  
 BSB - Business Services (Business); ITI - Information & Communication (Information Technology)  
 BCG – Building Construction (General)

**BCGCOR0001A: Carry out interactive workplace communication**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively perform interactive communication at the workplace, and applies to all individuals working in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Receive and convey information	1.1 Verbal/written instructions received and responded to with correct actions. 1.2 Instructions conveyed and work signage responded to, with correct action. 1.3 Information conveyed in basic English so that messages are understood.
2. Carry out face-to-face routine communication	2.1 Routine instructions, messages and schedules are given or followed. 2.2 Workplace procedures are carried out according to procedures laid down by the company or supervisor. 2.3 Relevant information is assessed and analysed from a range of sources. 2.4 Information is selected and sequenced correctly.
3. Work with others	3.1 Suggestions and information are provided relevant to the planning/conduct of the activities. 3.2 Communication carried out clearly, concisely and effectively so those messages are understood.
4. Participation in simple on-site meeting processes	4.1 Participation in on-site meetings is in accordance to predetermined procedures. 4.2 Interaction carried out to achieve constructive outcome.

## RANGE STATEMENT

This unit applies to all communication requirements, associated with working with other persons at a site location and carrying out tasks under supervision.

Verbal/written instructions include directions or instructions related to a simple job/task.

Signage may include but are not limited to:

- on-site direction signs
- common site warning signs
- facility or location signs
- traffic signs

Range of information sources may include:

- instructions: oral/memos
- signage
- work schedules/work bulletins
- charts and maps

On-site meeting process may take the form of formal or informal meetings and may include:

- notification (time, place, purpose)
- item discussion
- negotiation outcome

## EVIDENCE GUIDE

Competency is to be demonstrated by the effective use of methods of communication relating to instructions, information sources and meeting procedures listed within the range statement relative to the work orientation.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- communications to include Occupational Health and Safety regulations applicable to work place operations, and organisational policies and procedures
- demonstrate appropriate communications processes prior to and during construction activities

### (2) Pre-requisite Relationship of Units

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

knowledge of:

- workplace safety requirements
- types of onsite meetings and their procedures
- how work schedules, charts, work bulletins and memos are used
- how instructions are conveyed in the workplace

#### Skills

The ability to:

- follow instructions for working safely
- convey information in basic English to invoke correct actions

**(4) Resource Implications**

The following resources should be made available:

- Suitable work area appropriate to the construction process
- Appropriate communication documentation relative to the task

**(5) Method of Assessment**

Competence should be assessed through direct observation and questions related to underpinning knowledge.

Competency in this unit may be determined concurrently, based upon project work.

Competency shall be assessed while work is being done under general guidance, checking at various stages of the process and at the completion of the activity, against the performance criteria and specifications.

**(6) Context of Assessment**

Competency shall be assessed in the normal or simulated workplace environment and in accordance with safe work procedures.

Assessment shall include those aspects that are consistent with the work environment of this unit.

Competency shall be assessed while work is undertaken autonomously, within a team environment.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of the process.

Guidelines will be in line with statutory requirements, the specific policies, procedures and codes of practice of the enterprise.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills

**BCGCOR0011A: Carry out OH&S requirements**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively perform work activities to conform to Occupational Health and Safety requirements, and applies to all individuals working in the construction industry

Competency Field:

General and Civil Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1	Plan and prepare for safe work practices	1.1	Quality assurance requirements associated with company's safety operations recognised and adhered to.
		1.2	Appropriate personal protective equipment selected, correctly fitted and/or made ready for use.
		1.3	Tools and equipment selected consistent with safe work practice requirements of job, checked for serviceability and any faults reported to supervisor.
		1.4	Appropriate barricades, hoardings and signage erected, where applicable, at required job location.
2	Use safe work practices to carry out work	2.1	Work carried out safely and in accordance with Statutory regulations for OH&S requirements and company policy.
		2.2	Safety hazards and workplace accidents/incidents identified in course of work and reported in accordance with company policy.
		2.3	Industry/site safety responsibilities known and applied.
		2.4	Fire fighting equipment selected and operated correctly according to type of fire.
		2.5	Current site emergency and first aid procedures known and followed.
		2.6	Signals/sirens for blasting operations recognised and adhered to.

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| 3 | Assume responsibility for safety of self and others | 3.1 | Appropriate protective equipment correctly selected fitted and used.  |
|   |   | 3.2 | Safe manual handling techniques used and guidelines for lifting and placing followed.                                     |
|   |   | 3.3 | All safety signs, symbols and alarms adhered to.  |
|   |   | 3.4 | Safety procedures for pre-use check and operation of specified power tools/plant, machinery and equipment followed.       |
|   |   | 3.5 | Recommended safe practices in handling chemical and potentially hazardous materials followed.                             |
| 4 | Work from ladder and work platforms                 | 4.1 | Ladder and work platforms safely erected in planned location.   |
|   |   | 4.2 | Care taken to avoid overhead power lines and other obstructions.  |
|   |   | 4.3 | Head and base of ladder or work platform support secured against accidental movement.                                     |
|   |   | 4.4 | Work safely performed from ladder and work platform.  |
|   |   | 4.5 | Appropriate fall arrest equipment utilised in accordance with current OH&S guidelines.                                    |
| 5 | Use electrical power supply safely                  | 5.1 | Position of power pole/box identified for safe placement of leads.  |
|   |   | 5.2 | Framework support positioned to keep leads at correct height and prevent hazards.   |
|   |   | 5.3 | Power board visually checked for damage, water entry and stability. Area surrounding board checked for potential hazards. |
|   |   | 5.4 | Leads checked for tags and visual damage. Earth leakage protection checked for serviceability.                            |
|   |   | 5.5 | Work safely performed using electrical power supply.  |



6	Adhere to emergency procedures	6.1	Emergency equipment able to be located and used as required.
		6.2	Current work site emergency/evacuation procedures adhered to.
7	Carry out general housekeeping	7.1	Waste material disposed of safely in accordance with requirements of site and regulatory legislation.
		7.2	Unused equipment and materials safely and correctly cleaned, maintained and stored.
		7.3	Requirements of site, regulatory bodies and Occupational Health and Safety requirements observed.

## RANGE STATEMENT

Quality Assurance requirements may include:

- working environment
- adverse weather conditions
- protection of work personnel
- protection of public

Personal protective equipment may include but is not limited to:

- overalls, safety glasses/goggles, hard hat cap
- dust masks/respirator, safety boots
- ear plugs/muffs
- gloves

Regulatory legislation may include:

- OH&S, Dangerous goods

Manual handling techniques used in accordance with current Occupational Health and Safety.

Emergency equipment and procedures include:

- fire fighting
- medical and first aid
- evacuation

Ladders and work platforms include:

- extension ladders
- step ladders
- trestle ladders
- simple work platforms

Power connections include:

- isolation transformer
- power pole
- switch board area

Safety responsibilities apply to:

- personal protection
- safe interactive work practices (duty of care)
- protection of public and environment

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by safely and effectively carrying out safe work practices within the range of variables statement relevant to the work orientation.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- demonstrate application of organisational policies and procedures including Quality Assurance requirements where applicable
- carry out correct procedures prior to and during construction process
- safe and effective operational use of tools, plant and equipment
- carry out appropriate applications in accordance with regulatory and legislative requirements

### (2) Pre-requisite Relationship of Units

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements
- materials
- Factory's Act
- other relevant acts, regulations and codes of practice
- company policy

#### Skills

The ability to:

- work safely to instructions
- use power and hand tools
- select material to requirements
- communicate effectively
- handle material

### (4) Resource Implications

The following resources should be made available:

- Suitable work area appropriate to the construction process
- Appropriate equipment, materials and documentation to comply with OH&S legislation and/or company policies
- Hand and power tools, plant and equipment appropriate to the construction process

**(5) Method of Assessment**

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based upon integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCOR0021A: Plan and organise work**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively plan and organise work assignments, and applies to all individuals working in the construction industry.

Construction Field:

General Construction

**ELEMENT OF  
COMPETENCY****PERFORMANCE CRITERIA**

1	Identify work requirements	1.1	Instructions for work schedule and performance and quality assurance requirements received, understood and clarified where necessary.
2	Plan process to complete work	2.1	Work identified, prioritised and sequenced to achieve effective completion of work. Major construction process/sequence identified.
3	Select tools, equipment and materials	3.1	Personal protective equipment correctly identified and selected to suit job requirements.
		3.2	Tools, equipment and materials selected to suit job requirements.
		3.3	Key functions of major construction plant and equipment identified.
4	Demonstrate safe and efficient sequence of work	4.1	Work performed safely and in a logical and efficient sequence.
		4.2	Worksite kept clean and clear of debris.
		4.3	Tools and equipment safely located when not in immediate use.
5	Modify plan	5.1	Workplace modified to overcome unforeseen developments that occur as work progresses.
		5.2	Modifications to work plan, based on experience, are identified and incorporated into successive work activities.
6	Report outcomes	6.1	Verbal report provided on completed activities.

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| 7 | Clean up | 7.1 | Unused materials safely stacked for removal.         |
|   |          | 7.2 | Debris and waste material removed from job location. |
|   |          | 7.3 | Worksite left clean, safe and secure on completion.  |
|   |          | 7.4 | Tools and equipment cleaned, maintained and stored.  |

### **RANGE STATEMENT**

Work organisation sequence may range from receiving instructions, to carrying out task, to cleaning up task.

Work plan may be either written or verbal and may include the following:

- preparation of work area
- selections of tools, equipment and materials
- handling of materials, tools and equipment
- housekeeping requirements

Work schedule may be carried out in a singular application or in a team situation.

Work schedule and performance may have to adhere to Quality Assurance policy and procedures.

### **EVIDENCE GUIDE**

Competency is to be demonstrated by safe and effective preparation using any of the range of work sequences listed within the range of variables statement relative to the work environment.

#### **(1) Critical Aspects and Evidence**

It is essential that competence is observed in the following aspects:

- indicate compliance with Occupational Health and Safety regulations applicable to workplace operations including relevant statutory regulations and legislation
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during the application of construction process
- communicate to enable efficient individual/organisational planning of work

#### **(2) Pre-requisite Relationship of Units**

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- portable power tools
- hand tools and equipment
- materials appropriate to the task
- materials handling
- quality Assurance

Skills

The ability to:

- work safely to instructions
- use power tools and hand tools
- handle material
- select material
- apply Quality Assurance

**(4) Resource Implications**

The following resources should be made available:

- general construction materials appropriate to the particular construction process
- hand and power tools appropriate to the construction process
- suitable work area appropriate to the construction process

**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based upon integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## BCGCOR0031A: Draw and interpret simple drawings

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively draw and interpret simple layout drawings and sketches, and applies to individuals working in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1	Prepare for drawing	1.1	Drawing instruments and supplies are correctly identified and selected.
		1.2	Alphabet of lines is identified and applied with all lines distinct, easily read and of the appropriate line weight and type.
		1.3	Measurements are performed using appropriate scales.
		1.4	Lettering is constructed distinctly and is easily read.
2	Draw geometric constructions	2.1	The completed drawing illustrates a series of geometric shapes and activities.
		2.2	The finished drawing is neat and clear of smudges.
3	Construct multi-view (orthographic 2-D) drawing	3.1	The drawing illustrates three views of specified object with correct line representation.
		3.2	The finished multi-view drawing is constructed correctly.
4.	Develop a pictorial (3D) drawing	4.1	The drawing has a correct view orientation (isometric).
		4.2	The complete pictorial (3D) drawing is correctly developed with hidden features.
5	Construct and dimension drawings	5.1	All major features on the drawing are appropriately dimensioned to correct specification.
		5.2	All necessary details and information are shown.
6	Apply notes and leaders	6.1	The finished drawing is neatly and appropriately labelled.



		6.2	Completed drawing illustrates correct application of notes and leaders.
7	Prepare freehand sketch	7.1	Sketch correctly drawn with appropriate views where applicable.
		7.2	Necessary dimensions are shown and instructions and/or information conveyed by appropriate use of notes.
8	Interpret details from sketches and drawings	8.1	Components, assemblies or objects correctly identified.
		8.2	Commonly used symbols and abbreviations are recognised.
		8.3	Dimensions and instructions are identified and followed as required.
		8.4	Material requirements are correctly identified as required.

## RANGE STATEMENTS

This unit applies to the preparation and interpretation of simple working drawings and sketches of building components or structures

Drawing instruments and supplies:

- drafting kit
- CAD workstation
- drafting paper
- drawings/modules/photographs

Alphabet of line:

- object line
- hidden line
- centre line
- section line
- dimension
- extension line
- cutting line
- short break line
- phantom line

Measurement systems:

- metres/centimetres
- metric(SI) system

Types of scale:

- architectural
- metric
- engineering
- civil

Geometric construction to include:

- circles
- regular polygons with four, six and eight sides
- pentagon inscribed within measured circle
- ellipse
- triangles with specified angles
- arcs thru three points; tangent to two circles

Multi-view (orthographic 2-D) drawings:

- full scale (1:1) orthographic 3-view drawing using third angle projection with top, front and right side view – show all hidden features and centrelines

Pictorial (3-D) drawing to include:

- isometric corner with left and right side lines each 30 degrees up from horizontal and third line at a vertical, with all three lines joining in a common intersection
- full scale (1:1) basic isometric drawing

Dimension drawings:

- dimensioning styles and methods: coordinate, linear/datum
- dimensioning 2-D drawing
- dimensioning complex shapes: spheres, cylinders, tapers, pyramids

## EVIDENCE GUIDE

Competency is to be demonstrated by developing and effectively reading and interpreting simple drawings and sketches to locate or identify specified features or specifications in accordance with the performance criteria and the range listed within the range statement.

### (1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- identify and understand various types of drawings
- identify alphabet of lines, scales, lettering, dimensions, symbols, abbreviations and key features
- identify title panel and reference date of drawings

### (2) Pre-requisite Relationship of Units

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- types and use of drawing instruments and supplies
- identification of alphabet of lines, line type variation, order of usage and application on drawings
- types of scale and proportion and how they are used for measurement
- symbols, dimensions and terminology
- types of drawings and their applications

Skills

The ability to:

- make simple freehand sketches
- prepare technical drawings with drawing instruments and with Auto CAD
- read and interpret sketches and working drawings
- measure accurately
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- drawing instruments/CAD
- drawing supplies
- objects for drawing

**(5) Method of Assessment**

Competency may be assessed in a training institution under direct supervision with regular checks by the instructor.

Competency in this unit would be determined by an individual working alone or based upon integrated project work.

Assessment would be continuous by checking at the various stages of the job application in accordance with the performance criteria.

The candidate will have access to drawing instrument, equipment, materials and documentation required

**(6) Context of Assessment**

Competency should be assessed in a classroom environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## BCGCOR0041A: Carry out measurements and calculations

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively carry out measurements and calculation of work to required tolerance, and applies to individuals working in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Obtain measurements	1.1	Accurate measurements obtained to job instruction using rule, tape and/or square.
		1.2	Quality Assurance requirements associated with company's construction operations recognised and adhered to.
2.	Perform simple calculations	2.1	Simple calculations involving length, perimeter, mass and volume using four basic operations (+, -, x, /), are carried out.
		3.1	Measurements or quantities estimated (approximately) on site or from job instruction.
3.	Estimate approximate quantities	3.2	Information obtained correctly from job instruction.
		3.3	Measurements correctly identified/recorded without error.
		3.4	Quantities of materials suitable for work undertaken are calculated and recorded to job instructions.
		3.5	Costs for a simple project estimated to be within + or - 10%.

### RANGE STATEMENT

This unit applies to simple projects applicable to:

- timber frames
- structural steelwork
- concrete
- brick/block work
- joinery
- tiling
- sheeting/panelling
- plastering
- final finishes
- fences
- formwork
- excavation work

Materials include all materials utilised in construction of commercial, industrial/domestic and civil construction projects, including hardware items.

Calculations to include:

- area
- perimeter
- volume
- mass
- scales
- ratios (ingredients/elements and triangulation)
- proportion

Job instruction may involve:

- verbal direction/instruction
- written instruction
- provision of job drawing and details

## EVIDENCE GUIDE

Competency is to be demonstrated by the effective calculation of measurements and calculations of materials in accordance with the range listed in the range statement, relevant to the work orientation.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- communicate effectively to enable accurate calculations and measurements
- demonstrate effective use of measuring devices
- accurate measurements taken and recorded
- perform simple calculations to specifications
- estimate quantities and costs to requirements

### (2) Pre-requisite Relationship of Units

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- drawings and specifications
- materials relevant to the construction process
- basic operations in simple geometry, measurement and calculations
- costing relative to the construction process

Skills

The ability to:

- read and interpret drawings
- measure and calculate manually
- record measurements
- operate electronic calculating devices
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- information on construction materials appropriate to the relevant construction process
- suitable work area appropriate to the activity
- suitable site plans/drawings and/or specifications
- measuring and calculating devices

**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based upon integrated project work.

Assessment may be intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



**BCGCOR0051A: Use hand and power tools**

Competency Descriptor:

This unit deals with skills and knowledge required to competently select and use appropriate hand and power tools of construction trades, and applies to individuals in the construction industry.

Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1	Identify hand and power tools	1.1	Regular power tool applications in workshop operations recognised.
		1.2	Types of hand and power tools and their functions identified.
		1.3	Sources of power supply recognised.
2	Select hand tools	2.1	OH&S requirements for using hand tools recognised and adhered to.
		2.2	Appropriate personal protective equipment selected, correctly fitted and used.
		2.3	Hand tools selected consistent with needs of job.
		2.4	Tools checked for serviceability and safety and any faults reported to supervisor.
		2.5	Equipment selected to hold or support material for power tools application where applicable.
3	Use hand tools	3.1	Material located and held in position for hand tool application.
		3.2	Hand tools safely and effectively used according to their intended use.
		3.3	Hand tools safely located when not in immediate use.
4	Select power tools	4.1	Occupational Health and Safety (OH&S) requirements for using power tools recognised and adhered to.
		4.2	Appropriate personal protective equipment selected, correctly fitted and used.

- 4.3 Power tools and leads/hoses selected consistent with needs of job in accordance with conventional work practice.
  - 4.4 Power tools and leads/hoses visually checked for serviceability/safety in accordance with OH&S requirements and any faults reported to supervisor.
  - 4.5 Equipment selected to hold or support materials for power tool application where applicable.
- 5 Establish power supply to work location
  - 5.1 Route identified for safe placement of leads/hoses clear of hazards.
  - 5.2 Electric power leads run out to power supply and supported overhead clear of traffic or covered if presenting possible trip hazard.
  - 5.3 Electric power leads connected to supply and power board or direct to power tool.
  - 5.4 Air hoses run out to compressed air supply and covered if presenting possible trip hazard.
  - 5.5 Hose connected to power tool and air supply.
- 6 Use power tools
  - 6.1 Material located and held in position for power tool application where applicable.
  - 6.2 Power tools safely and effectively used in application processes.
  - 6.3 Power tools safely located when not in use.
- 7 Clean up
  - 7.1 Power tools cleaned, maintained and stored.
  - 7.2 Power leads/hoses cleaned, visually checked and stored.
  - 7.3 Equipment cleaned, maintained and stored.
  - 7.4 Work area cleared and waste removed.

## RANGE STATEMENT

Hand tools include, but are not limited to:

- adjustable spanners
- bars (crow and pinch)
- bolt cutters
- brooms
- chisels
- hacksaws
- handsaws
- hammers
- measuring tapes
- nips
- picks/mattocks
- pliers
- sealant gun
- shovel/spades
- sledge hammers
- spanners and wrenches
- spirit level, straight edge
- string lines
- trowels and floats
- wire cutters
- paint brushes/rollers
- spatula/putty knives

Power supply to include but not limited to:

- electricity
- compressed air

Power tools include:

- drills
- nail guns
- staplers
- screwdrivers
- sanders
- angle grinders
- pneumatic wrenches
- circular saw
- jig saws
- planers
- routers

Personal protective equipment may include:

- overalls
- boots
- hard hat/cap
- safety glasses/goggles
- gloves
- ear plugs/muffs
- face masks/respirators

OH&S requirements may include:

- workshop/worksite safe working practices
- use of tools and equipment
- use of power tools
- safe handling and storage of materials

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective operation of particular power and hand tools listed within the range of variables statement relevant to the work orientation.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to and during use of hand tools and power tools
- demonstrate safe and effective operational use of tools and equipment
- interactively communicate with others to ensure safe and effective operations

### (2) Pre-requisite Relationship of Units

Competency in this unit may be determined concurrently based upon integrated project work using the following units:

- |                           |   |
|---------------------------|---|
| • BCGCOR0011A             | Carry out OH&S requirements   |
| • BCGCOR0061A             | Use plant and equipment   |
| • BCGCOR0041A             | Carry out measurements and calculations                             |
| • BCGCOR0111A             | Handle construction materials and safe disposal of waste            |
| • BCGMAS0121A-BCGPAD0191A | Prepare for the construction process (relative to work orientation) |

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements and OH&S legislation
- portable power tools
- hand tools and equipment
- materials
- materials handling whilst operating tools

#### Skills

The ability to:

- work safely to instructions
- apply appropriate hand-eye co-ordination in the use of tools
- handle/hold materials during operation of tools
- select appropriate tools for material usage
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- general construction materials
- hand and power tools appropriate to the construction process
- plant and equipment appropriate to the construction process
- suitable work area appropriate to the construction process
- appropriate OH&S safety resources

**(5) Method of Assessment**

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures .

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCOR0071A: Erect and dismantle restricted height scaffolding**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively and safely erect and dismantle scaffolding at specified height (not exceeding 4 meters), and applies to individuals working at elevated positions in the building and construction industry

Competency Field:

General construction

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Plan and prepare work	1.1	Occupational Health and Safety (OH&S) requirements for tasks and workplace environment recognised and adhered to.
		1.2	Location and scope of scaffolding/equipment determined from job drawings or supervisor's instructions.
		1.3	Appropriate personal protective equipment selected, correctly fitted and used.
		1.4	Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor.
		1.5	Scaffolding/equipment components selected consistent with requirements of job.
2.	Erect safety barriers	2.1	Safety barriers erected, where applicable, to isolate site work area.
		2.2	Relevant signage installed where required to OH&S requirements.
3.	Erect scaffolding	3.1	All work undertaken safely and to supervisor's prescribed procedures.
		3.2	Erection site prepared to meet job requirements.
		3.3	Necessary signage prepared to meet job requirements.
		3.4	Scaffolding/equipment erected to plan in accordance with safe work practices, OH&S and manufacturers requirements.

4.	Dismantle scaffolding	4.1	Work undertaken safely and according to reverse procedures for erecting.
		4.2	Scaffolding/equipment dismantled in accordance with site procedures and critical structural safety requirements.
5.	Clean up	5.1	Site cleaned and cleared of all tools, excess material and waste and left in safe condition.
		5.2	Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to the erection of scaffolding up to 4m in height, which must be constructed in accordance with:

- Guidelines for Scaffolding, and
- General requirements for erecting scaffolding

Personal protective equipment may include:

- overalls
- jacket
- boots
- hard hat
- safety glasses
- gloves
- ear plugs/muffs
- dust masks

The range of scaffolding equipment associated with this unit includes:

- standing prefabricated tower scaffolds
- tube and fitting scaffolds to 4 metres height
- fall protection devices
- catch platforms
- bracket scaffolds

Tools and equipment may include:

- spanners
- shovels
- hammers
- picks
- crow bars
- ladders



Work is to be undertaken in accordance with statutory regulatory and legislative requirements for Occupational Health and Safety. Work must be supervised and undertaken in a team situation.

Supervision instruction may involve:

- verbal direction/instruction
- written instruction
- provision of sketch/drawing and details

Reports of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective erection and dismantling of different types of restricted height scaffolding listed within the range of variables statement relevant to the work orientation.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of construction process
- demonstrate safe and effective operational use of scaffolding tools and equipment
- erect scaffolding plumb and brace for stability
- interactively communicate with others to ensure safe and effective erection and dismantling operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0011A      Carry out OH&S requirements
- BCGCOR0051A      Use hand and power tools

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- scaffolding and basic working platforms
- hand tools
- materials
- materials handling
- vertical and horizontal triangular concepts

Skills

The ability to:

- work safely to instructions
- use hand tools
- handle material
- select material
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- construction materials appropriate for scaffolding
- hand tools and equipment appropriate to the construction process
- suitable work area appropriate to the construction process
- information on OH&S requirements

**(5) Method of Assessment**

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of the process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpins effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills .

**BCGCOR0081A: Use simple levelling devices**

Competency Descriptor:

This unit deals with the skills and knowledge required to competently select and use levelling devices, and applies to individuals working in the building and Construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1	Plan and prepare work	1.1	Occupational Health and Safety (OH&S) requirements recognised and adhered to in accordance with application tasks and workplace environment.
		1.2	Requirements of job identified from drawings or instructions.
		1.3	Appropriate personal protective equipment selected, correctly fitted and used.
		1.4	Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor.
		1.5	Quality Assurance requirements recognised and adhered to in accordance with company's construction operations.
2	Set up and use levelling device	2.1	Heights to be transferred identified from given instructions or drawings.
		2.2	Device assembled and filled with water to required level with air bubbles removed.
		2.3	Height transferred to required locations to a tolerance of + or - 5mm over 3 metres.
3	Transfer heights with straight edge and spirit level	3.1	Heights to be transferred identified from given instructions/drawings or given marked level.
		3.2	Height transferred to required location to + or - 5mm over 3 metres.
4	Maintain given level or specified slope with boning rods	4.1	Heights of each end of line to be boned established to given levels.

	4.2	End of boning rods securely fixed to required heights.
	4.3	Heights of intermediate points sighted and marked with boning rods to a tolerance of + 10mm.
5	Clean-up	5.1 Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to using simple levelling devices to carry out basic exercises in transferring levels and/or maintaining a line of a slope.

Levelling and lining devices include:

- water level
- spirit level
- boning rods
- line level

Heights or levels may be given by:

- drawing/sketch indicating mark
- verbal or written instruction indicating level or mark
- datum/survey peg fixed into ground
- chalk or nail mark on paved/concrete surface
- mark on vertical surface

Associated tools and equipment include:

- string line
- wooden/steel pegs
- straight edge
- hammer
- chalk line

Personal protective equipment may include:

- overalls
- boots
- hard hat/cap
- safety glasses
- dust jacket
- masks/respirators

Work may be carried out under supervision and in a team situation or individually.

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the effective application of the different types of levelling devices listed within the range statement relative to the work orientation.

**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of levelling and boning processes
- demonstrate safe and effective handling and operational use of levelling device
- indicate care in accurately transferring levels to other locations
- interactive communication with others to ensure safe and effective levelling operations.

**(2) Pre-requisite Relationship of Units**

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- hand tools
- measurement and calculation
- Quality Assurance
- range of levelling devices
- horizontal/vertical concepts

Skills

The ability to:

- work safely to instructions
- measure accurately
- use hand tools
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- general construction materials appropriate to levelling
- hand tools appropriate to levelling and lining
- equipment appropriate to the activity processes
- suitable work area appropriate to the activities
- suitable plans/drawings and specification

**(5) Method of Assessment**

Competency should be assessed while work is being done, under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit should be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **BCGCOR0111A: Handle construction materials and safely dispose of waste**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively and safely handle construction materials, and to dispose of waste in a safe and environment friendly manner. It applies to individuals working in the construction industry.

Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1	Plan and prepare work	1.1	Occupational Health and Safety (OH&S) requirements associated with application tasks and workplace environment recognised and adhered to.
		1.2	Appropriate personal protective equipment selected, correctly fitted and used.
		1.3	Quality Assurance requirements associated with company's construction operations recognised and adhered to.
		1.4	Tools and equipment for handling materials/goods, non -toxic waste, selected consistent with job requirements, checked for serviceability and any faults reported to supervisor.
2	Correctly manual handle, sort and stack construction material	2.1	Common construction materials recognised and selected for sorting and stacking/stockpiling to supervisor's instructions and/or specifications.
		2.2	Handling characteristics of materials identified and appropriate handling techniques applied.
		2.3	Specific handling requirements for hazardous materials applied.
		2.4	Materials stored, stacked/stockpiled and protected, clear of traffic ways, so they are easily identified, retrieved and not damaged.
		2.5	Appropriate signage and barricades erected where applicable to isolate stored materials from workplace traffic or access.
		2.6	Correct manual handling techniques used.



3	Prepare for mechanical handling of materials	3.1	Materials stacked/banded for mechanical handling in accordance with type of material and plant/equipment to be used.
		3.2	Dogman/rigger assisted with loading, unloading, moving, locating and/or installing materials.
		3.3	Materials safely handled with assistance of pallet trolley, forklift or hoist.
4	Handle and remove waste safely	4.1	Waste materials handled correctly and safely according to MSDS and requirements of regulatory authorities.
		4.2	Hazardous material identified for separate handling.
		4.3	Non-toxic materials removed using correct procedures.
		4.4	Dust suppression procedures used to minimise health risk to work personnel and others.
5	Clean up	5.1	Tools and equipment cleaned, maintained, and stored.
		5.2	Unused materials safely stacked/stockpiled stored.
		5.3	Waste materials disposed of safely.
		5.4	Site cleaned and cleared of debris and unwanted material.

## RANGE STATEMENT

Tools and equipment includes but is not limited to:

- brooms
- hoses
- shovels
- rakes
- wet and dry industrial vacuum cleaners
- wheelbarrows
- pallet trolley
- materials hoists
- forklifts

Construction materials include but are not limited to:

- bricks and concrete masonry
- mortar components – cement, coarse aggregate, sand
- timber
- structural steel sections/components
- concrete
- scaffolding components, pipe sections
- plywood and particle board
- metal sheeting
- steel reinforcement
- insulation
- glass
- paints and sealants
- plaster sheeting

Protection of stacked/stored materials may include:

- covering
- tying or banding
- barricades
- signs
- locked away (hazardous materials)

Dust suppression procedures may include:

- spraying with water
- covering
- use of vacuum cleaner

Waste material and debris include but are not limited to:

- banding straps
- packing pieces
- broken or damaged goods
- cardboard
- plastic
- paper
- loose material

Removal of materials to include processes of recycling and salvage where applicable.

OH&S requirements to be in accordance with (Statutory/Territory) legislation and regulations.

Work to be undertaken as part of a team or individually under supervision of appropriately certificated persons where applicable.

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by the effective handling and storing/stacking of appropriate construction materials listed within the range of variables statement, relevant to the work orientation.

### (1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations and State/Territory legislation applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of materials handling processes
- demonstrate safe and effective operational use of tools and equipment
- demonstrate safe application in the process of cleaning up
- interactively communicate with others to ensure safe and effective operations

**(2) Pre-requisite Relationship of Units**

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements including relevant codes and regulation
- hand tools and equipment
- materials
- materials handling
- Quality Assurance
- range of communication mediums (verbal and non-verbal)

Skills

The ability to:

- work safely to instructions
- use hand tools
- handle materials
- select material
- measure
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- general construction materials relative to construction processes
- plant and equipment appropriate to handling processes
- hand tools appropriate to handling processes
- suitable work area appropriate to construction process
- MSDS information

**(5) Method of Assessment**

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **BCGCAR0161A: Prepare for carpentry construction**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively prepare the process for carrying out construction work in carpentry, and applies to individuals working in the occupation.

Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>	<b>PERFORMANCE CRITERIA</b>
1. Plan for construction process	1.1 Quality Assurance requirements of company's construction operations recognised and adhered to. 1.2 Preparation and planning requirements identified from drawings and/or supervisor's instructions. 1.3 Occupational Health and Safety (OH&S) requirements identified and adhered to in accordance with application tasks and workplace environment. 1.4 Safety hazards identified and correct procedures adopted to minimise risk to self and others. 1.5 Materials selected to supervisor's instructions, safely handled, stored/located and ready for application. 1.6 Appropriate personal protective equipment selected, correctly fitted and used. 1.7 Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor. 1.8 Fixing/fastenings selected to instructions consistent with job requirements.
2. Prepare materials selected for construction process	2.1 Activities for material preparation identified from specifications or supervisor's instructions. 2.2 Material preparation carried out to satisfy requirements of construction process.

- 
- |    |  |     |   |
|----|--|-----|---|
| 3. | Prepare work area suitable for construction process          | 3.1 | Activities to be carried out in work area identified from drawing details of proposed construction and supervisor's instructions.                           |
|    |  | 3.2 | Work area prepared for construction of temporary security fence and site structures, building layout and workstation according to supervisor's instruction. |
| 4. | Use tools and equipment appropriate for construction process | 4.1 | Regular hand and power tools suitable for application process identified to job requirements.   |
|    |  | 4.2 | Hand and power tools used safely and effectively according to instruction to carry out construction processes.  |
| 5. | Select materials and cut components                          | 5.1 | Material obtained from stock to instruction.  |
|    |  | 5.2 | Correct manual handling techniques used to move and place materials.  |
|    |  | 5.3 | Materials safely moved to work area.  |
|    |  | 5.4 | Docking/drop saw used to accurately cut one or multiple components to same length according to given instruction.   |
| 6. | Distribute components  | 6.1 | Cut components distributed and stacked to suit job location and sequence.   |
| 7. | Erect temporary fencing                                      | 7.1 | Posts are appropriately placed, aligned and firmly fixed.   |
|    |  | 7.2 | Stiles and cladding materials (metal/board) are firmly fixed.   |
|    |  | 7.3 | Entrance is of specified size and gate opens, swings and shuts without difficulty.  |
| 8. | Clean-up   | 8.1 | Unused material stacked/stored for re-use.  |
|    |  | 8.2 | Work area cleared.  |
|    |  | 8.3 | Tools and equipment cleaned, maintained and stored.   |
|    |  | 8.4 | Waste disposed of using appropriate method according to the Environmental Protection Agency (NEPA) requirements.  |

## RANGE STATEMENT

This unit applies to the preparation processes associated with carpentry construction work based on the construction of timber partition framing .

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- docking saw
- jigs/stops
- saw stools
- work bench
- clamps
- squares

Personal protective equipment may include but not limited to:

- overalls
- jacket
- boots
- gloves
- safety goggles/glasses
- ear plugs/muffs
- dust masks/respirators
- hard hat/cap

Safety hazards may include but are not limited to:

- restricted access
- location of power leads
- dust
- off cut material
- lighting
- limited storage space

Construction processes includes:

- workplace preparation
- materials preparation
- assembling of partitions
- erecting and fixing of partitions

Material preparation may include:

- stacking of material
- measuring and marking
- cutting and distributing

Work area preparation may include:

- cleaning of area
- setting up for docking saw
- material storage

Fixing/fasteners may include:

- nails
- screws
- bolts
- masonry anchors
- drive/masonry nails

Work is to be undertaken as part of a team under supervision with instruction being part of a supervisor's directions, either verbal or written.

OH&S requirements are to be in accordance with Statutory Legislation and Regulations.

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the safe and effective preparation of materials and work area for the installation of partition framing in accordance with the listed range of variables.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- correct procedures carried out prior to and during application of construction process
- demonstrate safe and effective operational use of tools, plant and equipment
- interactively communicate with others to ensure safe and effective workplace operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0011A Carry out OH&S requirements
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment



**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- portable power tools
- hand tools and equipment
- materials relevant to construction process
- materials handling
- measurement relative to construction process
- drawings and specifications
- fixing and fasteners consistent with construction requirements
- workplace communication
- Quality Assurance

Skills

The ability to:

- work safely to instructions
- interpret drawings
- use power tools and hand tools
- handle material
- select material
- measure relative to processes
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- construction materials relevant to proposed construction
- hand and power tools appropriate to construction processes
- plant and equipment appropriate to construction processes
- suitable work area appropriate to proposed activity

**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit should be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workpla ce environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0202A: Assemble simple partition frames**

Competence Descriptor:

This unit deals with the skills and knowledge required to effectively assemble simple partition frames from timber or metal, and applies to individuals working in the erection of framed building structures.

Competency Field:

General Construction

**ELEMENT OF  
COMPETENCY****PERFORMANCE CRITERIA**

1. Plan and prepare work	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
	1.2	Occupational Health & Safety requirements recognised and adhered to in accordance with application tasks and workplace environment.
	1.3	Material requirements identified from instructions/job drawings and specifications.
	1.4	Appropriate personal protective equipment selected, correctly fitted and used.
	1.5	Tools and equipment selected to carry out processes consistent with job requirements, checked for serviceability and any faults reported to supervisor.
	1.6	Fixing/fastenings selected to specifications and job requirements.
2. Select materials and cut components	2.1	Materials obtained from store or stack to quantity and specification requirements.
	2.2	Required lengths accurately marked or machine stops set to requirements of cutting list.
	2.3	Docking/drop saw used to accurately cut one or multiple components to length.
	2.4	Cut components distributed and stacked to suit job location and sequence of construction.

- |    |                            |     |   |
|----|----------------------------|-----|---|
| 3. | Assemble frames/partitions | 3.1 | Locations for frame member connections marked/prepared to designed measurement spacings.  |
|    |                            | 3.2 | Fixing/fastenings installed securing each junction of frame members tight together, flush on partition face and within + or – 2mm of set-out marks. |
|    |                            | 3.3 | Frame/partition assembled and secured square to specification.  |
|    |                            | 3.4 | Pre-assembled frames/partitions distributed to appropriate location to instructions.  |
|    |                            | 3.5 | Components of frames/partitions impractical to pre-assemble distributed to location as directed by supervisor.                                      |
| 4. | Clean-up                   | 4.1 | Area cleaned free of debris.  |
|    |                            | 4.2 | Waste and unwanted material disposed of safely.   |
|    |                            | 4.3 | Unused materials stored/stacked.  |
|    |                            | 4.4 | Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to the assembling of simple partition wall frames.

Quality Assurance requirements may include:

- safe working operations
- quality of materials
- control of handling procedures
- attention to specifications

OH&S requirements to be in accordance with Statutory Legislation and regulations and may include:

- workplace environment
- protective clothing
- working platforms
- use of tools and equipment
- hazard control
- handling of materials

Material sections used for construction of frames include:

- timber
- light steel
- aluminium

Personal protective equipment may include:

- overalls
- boots
- gloves
- safety goggles/glasses
- ear plugs/muffs
- dust masks/respirators
- hard hat/cap
- jacket

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- docking saw/drop saw
- jigs/stops
- power drills/screwdrivers
- saw stools
- clamps
- squares
- pop riveter
- nail gun

Types of fittings/fasteners to be used is dependent on type on material being joined may and include:

- nails
- screws
- self tapping screws
- pop rivets

Work is to be undertaken as part of a team under indirect supervision, with instructions being verbal or written as part of supervisor's directions.

Report of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective preparation and assembly of partition frames using any two of the separate types of different materials listed within the range statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulation applicable to workplace operations
- show compliance with organisational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to and during application of assembling processes
- demonstrate safe and effective operational use of tools, plant and equipment
- show particular attention to accuracy of marking, cutting and assembling members
- interactively communicate with others to ensure safe and effective work operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGCAR0161A Prepare for carpentry construction

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- drawings and specifications
- portable power tools
- hand tools and equipment
- materials relevant to frame assembly
- materials handling
- measurement and calculation
- fixing and fasteners consistent with framework requirements
- workplace communication

Skills

The ability to:

- work safely to instructions
- interpret drawings and specifications
- use power and hand tools
- handle material
- select material
- measure relative to the process
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- construction materials relevant to frame construction
- hand and power tools appropriate to frame assembly process
- plant and equipment appropriate to frame assembly process
- suitable work area appropriate to frame assembly process
- plans and specifications appropriate to construction activity

**(5) Method of Assessment**

Competency should be assessed while work is being done under limited supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCOR0212A: Prepare surfaces**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively prepare the range of surfaces for various finishing applications, and applies to individuals working in the preparatory phase of surface finishing in the construction industry

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

- |  |   |
|--|---|
| 1. Plan and prepare work                       | 1.1 Quality Assurance requirements of company's construction operations recognised and adhered to.<br>1.2 Preparation requirements identified from drawings, work area and instructions/specifications extract.<br>1.3 OH&S requirements recognised and adhered to in accordance with the application tasks and workplace environment.<br>1.4 Appropriate personal protective equipment selected, correctly fitted and used.<br>1.5 Tools and equipment selected to carry out processes consistent with requirements of job are checked for serviceability and any faults reported to supervisor.<br>1.6 Safety hazards identified and correct procedures used to minimise risk to self and others in accordance with OH&S workplace operations.<br>1.7 Materials appropriate to job application selected, safely handled and stored/located ready for application. |
| 2. Prepare work area for application processes | 2.1 Hazards and attachments safely removed where applicable or arranged for removal from area.<br>2.2 Work area prepared for application processes in accordance with finishing material and manufacturer's specifications.   |
| 3. Prepare surface by sanding/grinding         | 3.1 Correct abrasive disc/sheet or wheel selected in accordance with surface condition and work to be undertaken and fitted to sander/grinder.  |



- 3.2 Sander/grinder used and applied safely to surface in accordance with manufacturer's specifications and relevant OH&S requirements.
- 3.3 All loose or protruding material removed by sander /grinder and brushing so that surface is prepared to specification.
- 4. Patch holes
  - 4.1 Method of patching hole determined from type of material surface, size of hole, compatibility of materials and planned specified finish.
  - 4.2 Patching materials selected to suit material surface and, where applicable, mixed to requirements of manufacturer's specifications.
  - 4.3 Colour patching materials checked to ensure that colour matches surrounding area, where applicable.
  - 4.4 Material applied to job and material according manufacturer's specifications using appropriate application method.
  - 4.5 Where applicable to type of patching material, patched areas must be sanded to provide flush and flat finish to surface.
  - 4.6 Surface brushed/scraped/washed clean of surplus material in accordance with type of patching material and material surface
  - 4.7 Patched areas sealed by application of prime or sealing coat, where applicable, to suit requirements of specified finishes.
- 5. Stop and fill surface
  - 5.1 Correct stopping material selected for specified surface, where applicable.
  - 5.2 Imperfections prepared and material applied to a flush and even finish, where applicable, to proposed additional surface application processes.
  - 5.3 Excess filler removed without damaging or marking surface.
  - 5.4 Surface fine-sanded and cleaned free of dust, where applicable for proposed applied finishes.

- |    |          |     |   |
|----|----------|-----|---|
| 6. | Clean-up | 6.1 | Area cleaned free of debris.  |
|    |          | 6.2 | Waste and unwanted material disposed of safely using appropriate method according to National Environment Protection Act (NEPA) requirements. |
|    |          | 6.3 | Unused materials stored.  |
|    |          | 6.4 | Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to the preparation of different material surfaces for the application of applied surface finishes or the abutting or attaching of a construction to that surface.

Surface preparation will vary in accordance with the types of materials to be applied to finish or seal surface and the type of construction, which is to abut or be attached to the surface.

Material surfaces include:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• timber</li> <li>• plasterboard/plaster-glass</li> <li>• masonry</li> <li>• brick</li> </ul> | <ul style="list-style-type: none"> <li>• metal (ferrous and non-ferrous)</li> <li>• concrete</li> <li>• solid plaster</li> <li>• plastic</li> </ul> |
|--|---|

Surface preparation for application finishes includes the preparation for:

- wall and floor tiling
- terrazzo
- segmental paving
- pre-cast cladding
- waterproofing/damp-roofing
- painting
- solid plastering
- wall papering
- clear timber finishes
- stone veneer
- sheet plastering or lining material

Surface preparation for construction applications of abutting or attaching to surfaces includes the preparation for:

- curtain walling fixing
- brick or block laying
- timber partition walls
- light steel partition walls
- formwork construction
- stair installation
- attachment of steel brackets or fabricated units
- aluminium framework fixing
- roof tiling and slating

Surfaces may be new or established material surfaces including both painted and unpainted surfaces.

Personal protective equipment may include:

- overalls
- waterproof pants and jacket
- boots
- gumboots
- gloves
- hard hat/cap
- safety goggles
- ear plugs/muffs
- dust masks/respirators

Equipment includes but is not limited to:

- electrical leads
- elevated work platforms
- trestles
- planks
- ladders
- buckets
- sanders
- hose and water spray

Work area preparation may include:

- clearing area
- setting up equipment for operation
- erecting scaffolding
- disconnecting and removing attachments from or against walls

Waste and debris may include:

- spilt patching material
- cleared or scraped old paint
- discarded abrasive discs/sheets
- cardboard

Tools include but are not limited to:

- scrapers
- paint brushes
- wire brushes
- brooms
- sponges
- sanding blocks
- shovels
- power sanders
- power grinders
- filling blades
- chisels
- hammers

OH&S requirements to be in accordance with Statutory legislation and regulations and may include:

- workplace environment
- protective clothing and equipment
- working platforms
- use of tools and equipment
- control of hazardous substances
- hazard control

Patching materials include but are not limited to:

- cellulose/plaster proprietary fillers
- plaster
- sand and cement
- cornice adhesive
- putty
- plastic wood
- fibreglass
- caulking compounds
- sheet material

- paper
- dirt and dust
- disused containers

Work is to be undertaken either as part of a team or individually under indirect supervision with instructions being verbal or written as part of supervisor's directions.

Instructions and reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective preparation of at least three separate types of material surfaces from those listed within the range of variables statement relevant to the work orientation.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to and during application of preparation processes
- demonstrate that finished patching of holes is flush and straight with surface within tolerances applicable to work orientation
- demonstrate safe and effective operational use of tools, plant and equipment
- interactively communicate with others to ensure safe and effective workplace operations
- prepare surface to specification or instruction requirements

### (2) Pre-requisite Relationship of Units

Prerequisites for this unit are:

- BCGCOR0011A Carry out OH&S requirements
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGCOR0071A Erect and dismantle restricted height scaffolding

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- portable power tools
- hand tools and equipment
- materials relevant to patching and preparation of surfaces
- materials handling
- measurement and calculation
- drawings and written instructions
- workplace communication

Skills

The ability to:

- work safely to instructions
- interpret drawing and instructions
- use power tools and hand tools
- handle material
- select material
- measure relative to the process
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- general construction and patching materials relevant to surface preparation
- hand tools and power tools appropriate to application processes
- plant and equipment appropriate to application processes
- suitable work area appropriate to surface preparation process

**(5) Method of Assessment**

Competency shall be assessed while work is being done under indirect supervision with regular checks, but may include some autonomy when working as part of a team.

Competency should be assessed through direct observation of application to tasks and questioning related to underpinning knowledge.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## BCGCAR0302A: Remove/replace door and window hardware

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively identify, remove and replace doors and windows hardware, and applies to individuals working in carpentry/joinery trades in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and prepare work	1.1	Quality Assurance requirements recognised and adhered to.
		1.2	Occupational Health & Safety requirements for removing and replacing door/window hardware recognised and adhered to.
		1.3	Door and window hardware requirements assessed in accordance with finish schedule and specifications.
		1.4	Personal protective equipment selected, correctly fitted and used.
		1.5	Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported.
		1.6	Safety hazards identified and correct procedures used to reduce hazards to self and others.
2.	Remove doors, shutters and hardware	2.1	Ladders or scaffolding erected, where required, to OH&S regulations.
		2.2	Insect screens and fittings carefully removed and stored safely.
		2.3	Window hardware carefully located and removed and or stored safely.
		2.4	Window shutters and sashes, where applicable and practical, carefully removed and handled safely to designated location for finishing.
		2.5	Door hardware carefully removed and located or stored safely.

		2.6	Doors carefully removed, identified and handled safely to location for finishing.
3.	Replace doors, shutters and hardware	3.1	Doors carefully handled and replaced back in original place.
		3.2	Door hardware fitted and placed to specifications without marking door or surrounds.
		3.3	Where removed, window shutters and sashes re-fixed in original place.
		3.4	Window hardware re-fitted back into place to specifications without marking window surfaces or surrounds.
		3.5	Insect screens carefully replaced and secured in position without damage to surrounds.
4.	Clean up	4.1	Area cleared.
		4.2	Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to the practical application finishes to doors and windows that require removal or the removal of hardware.

Door hardware includes but not limited to:

- hinges
- locks
- latches
- handles
- closers
- safety chains

Window hardware includes:

- catches
- handles
- stays
- hinges
- locks/bolts
- brackets

Hinges and brackets may be the type to be painted over or kept in own natural finished state.

## EVIDENCE GUIDE

Competency is to be demonstrated by removing hardware from both a nominated door and a nominated window for the purpose of painting, replacing and refitting doors/shutters, where applicable.



**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- compliance with Occupational Health and Safety regulations applicable to workplace operations
- compliance with organisational quality procedures and processes for removing and/or painting of doors and windows
- identification of location and details of door and window to be removed/refurbished
- selection and use of appropriate processes, tools and equipment
- safe and effective procedures used to remove hardware and door
- appropriate attention given to locating hardware safely for replacing
- safe and effective procedures used to replace door and replace respective hardware
- identification of typical faults and problems that occur and necessary action taken to rectify them

**(2) Pre-requisite Relationship of Units**

- BCGCOR0051A Use hand and power tools

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- features of doors and windows
- door and window hardware
- tools and equipment

Skills

The ability to:

- work safely
- organise work
- use tools and equipment

**(4) Resource Implications**

The following resources should be made available:

- installed door
- installed window
- insect screen
- appropriate door and window hardware

**(5) Method of Assessment**

Competency should be assessed while tasks are being done under indirect supervision.

Assessment may involve:

- observation of the application process
- inspection of the completed work
- questioning related to underpinning knowledge

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are being done, under indirect supervision.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level -	
Use mathematical ideas and techniques	Level -	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0312A: Use static machines**

## Competency Descriptor:

This unit deals with the skills and knowledge required to effectively prepare and use various types of static machines, and applies to individuals working with carpentry/joinery/masonry/ancillary equipment in the construction industry.

## Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Identify static machines, their operation and safety requirements	1.1	Types and functions of static machines used in offsite production identified.
		1.2	Method of operation for `machines identified and understood.
		1.3	Occupational Health and Safety (OH&S) requirements for guarding and switches identified.
		1.4	Occupational Health and Safety (OH&S) requirements for personal protective equipment associated with using machines identified.
		1.5	Quality Assurance requirements of company's machining operations recognised and adhered to.
2.	Prepare machine for use	2.1	OH&S requirements for preparing and using static machines recognised and adhered to.
		2.2	Appropriate personal protective equipment selected, correctly fitted and used.
		2.3	Machine set up to required operating process and setting with fences/guides locked in position.
		2.4	Safety guards/shields checked and adjusted where required according to the National OH&S standards.

- |    |                                  |     |  |
|----|----------------------------------|-----|--|
| 3. | Operate machine                  | 3.1 | Machine start up procedure is carried out to manufacturer's recommendations.   |
|    |                                  | 3.2 | Material fed to machine, where applicable, in accordance with manufacturer's recommendations and safe handling procedures.                             |
|    |                                  | 3.3 | Material set up and fixed in place, where applicable for mobile machine in moving table operations, in accordance with manufacturer's recommendations. |
|    |                                  | 3.4 | Machine operated in accordance with designed capacity and purpose, and to manufacturer's specifications and OH&S requirements.                         |
|    |                                  | 3.5 | Machine shut down procedure carried out to manufacturer's recommendations.   |
| 4. | Maintain machine and attachments | 4.1 | Machines maintained through regular servicing to manufacturer's operating manual.  |
|    |                                  | 4.2 | Faults identified and reported to responsible supervisor.  |
|    |                                  | 4.3 | Minor faults identified and corrected where applicable.  |
|    |                                  | 4.4 | Cutters/blades and attachments fitted and secured to manufacturer's specifications.  |
| 5. | Clean up                         | 5.1 | Machine cleaned and waste material disposed of safely.   |
|    |                                  | 5.2 | Cutters, blades and attachments cleaned, checked and stored.   |

## RANGE STATEMENT

This unit applies to the use of static machines, which are those affixed to a set location for their operation.

OH&S requirements to be in accordance with Statutory and Regulations and may include:

Static machines include but are not limited to:

- rip saws
- band saws
- docking saws
- vertical and horizontal drills
- dimensional saws
- thicknessers
- buzzers
- spindle moulders
- morticers
- multi borers
- table sanders
- grinders
- polishers
- multi functional cutter/grinder/polisher
- shapers
- diamond saws
- travelling beam saws
- multi bladed saws

Quality assurance requirements may include:

- workplace operations and procedures
- quality of materials used in machining operations
- control of handling procedures
- use and maintenance of machines
- attention to specifications of work
- workplace environment and safety
- protective clothing and equipment
- safety switches on machinery
- maintenance of machines
- use of tools and equipment
- handling and feeding of materials
- guarding on machinery
- safe use of machines

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves
- cap

Tools and equipment for maintenance and setting up may include but are not limited to:

- oil cans
- grease guns
- spanners
- feeler gauges
- packers
- wedges
- screwdrivers
- measuring tape/rule
- hammer
- spirit level
- squares

Reporting of faults should be in accordance with organisation's workplace procedures and may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by the safe and efficient setting up and operating of at least three (3) separate types of machines from those listed in the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace and machine operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements within the context of carrying out machining operations
- identify and appropriately apply manufacturer's recommendations in use of machine
- identify and correctly apply machine guard in operating machine
- carry out correct setting up procedures prior to use in accordance with carrying out machine operations
- carry out correct start up procedures
- demonstrate safe and effective operational use of machine
- carry out correct shut down/switch off procedures
- give attention to procedures for cleaning and maintaining of machine to requirements
- use of safe and correct procedures to place or remove cutters and blades

### (2) Prerequisite Relationship of Units

- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements including relevant statutory regulations
- types of machines and their operation
- safety considerations for operating of machinery
- maintenance of machines
- cutter, blades and associated accessories
- tools and equipment
- materials
- materials handling

Skills

The ability to:

- work safely to instructions
- set up for machine operation
- operate machine
- use hand tools and equipment
- handle material
- stack material
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- workshop location
- access to a range of static machines
- materials appropriate to work orientation machinery

**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision.

Assessment may involve:

- observation of application work
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each task associated with setting up and using machine.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment in accordance with work and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level -	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



**BCGCAR0322A: Make set-outs**

## Competency Descriptor:

This unit deals with the skills and knowledge required to effectively perform the tasks of setting out dimensions of work, and applies to individuals working in marking out standard or basic units of stock material in the production of components for construction.

## Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Plan and prepare for set -out	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
		1.2	Occupational Health and Safety (OH&S) requirements determined and adhered to in accordance with application tasks and workplace environment.
		1.3	Design and dimensions of unit determined from written instructions and drawings.
		1.4	Type of set-out to be undertaken, is determined.
		1.5	Material selected consistent with set-out requirements and prepared for marking.
		1.6	Tools and instruments selected to carry out processes consistent with set-out requirements.
2.	Make set-out for unit	2.1	Overall dimensions of unit and lines representing material thickness accurately marked on set -out.
		2.2	Details of cross-sectional dimensions of integral members accurately marked on set-out, where applicable.
		2.3	Methods of joining marked on set -out where applicable.
		2.4	Set-out of cross-sectional members of profiles cut accurately to form template shapes where applicable.
		2.5	Set-out identified by marking description/code of unit on completed set-out.

- |    |               |     |  |
|----|---------------|-----|--|
| 3. | Store set-out | 3.1 | Set-out stored in identifiable and retrievable location. |
|    |               | 3.2 | Area cleared and waste removed.                          |
|    |               | 3.3 | Tools and instruments cleaned and stored.                |

## RANGE STATEMENT

This unit applies to the making of set -outs to produce a product in accordance with the relevant work orientation.

Units to be set out are to be standard or basic type units of stock material produced by an organisation in any of the following production areas:

- timber joinery
- aluminium joinery
- fitments
- shop-fronts
- stairs
- stonework
- glasswork
- pre-cast concrete work

Set-outs include:

- full size dimensional illustrations
- full size sectional plans and elevations
- profiles of sections
- machining details
- lettering or decorative features

Quality assurance requirements may include:

- workplace operations and procedures
- attention to specifications of work
- making of set outs and templates

OH&S requirements to be in accordance with Statutory Legislation and regulations and may include:

- workplace environment and safety procedures
- protective clothing and equipment
- use of tools and equipment
- handling of materials

Tools and instruments may include but are not limited to:

- measuring tape/ruler
- squares
- scribes
- dividers/steel wing compasses
- straight edge
- curved templates
- set squares
- T-squares

Written instructions and drawings include:

- elevation and plan drawings
- provided specifications
- isometric drawings
- sketches
- typed or hand written notes
- verbal instructions

Material for set -out include:

- plywood
- particle board
- paper
- cardboard
- zinc sheet
- aluminium sheet
- plastic sheet

Preparation of material for set -out include:

- cutting sheet material to practical size
- taping paper to backing base
- sanding off previous set-out or marks

## EVIDENCE GUIDE

Competency is to be demonstrated by making a set -out complete and accurate in detail whereby from which all parts/components of a unit can be produced and marked.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements within the context of making set -outs
- indicate understanding of interpreting drawings and instructions
- select and use appropriate processes, tools and instruments for set -out task
- accurately set-out detailed information
- demonstrate correct use of instruments and tools in setting out angles and curves
- demonstrate accurate cutting of set-out shape, where applicable

### (2) Prerequisite Relationship of Units

- BCGCOR0031A Draw and interpret simple drawings
- BCGCOR0041A Carry out measurements and calculations

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- set outs relevant to work orientation
- measuring and marking
- use of drawing/drafting equipment
- organisation's Quality Assurance requirements
- manufacturing processes
- tools and instruments
- set-out materials

Skills

The ability to:

- understand and interpret information from drawings and instructions
- use basic instruments and tools
- prepare for work application
- apply sound measuring and marking techniques
- set-out material
- record or mark identifying information
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- workplace space to carry out processes
- set-out bench and set-out materials
- measuring and marking instruments
- tools and equipment for holding and cutting

**(5) Method of Assessment**

Competency should be assessed while work is being done under indirect supervision.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of the set-out process.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment and in accordance with work and safety procedures.

Guidelines will be in line with statutory agreements and specific policies and procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level -	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 1	
Use technology	Level -	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0412A: Construct and install non-load bearing internal partition wall**

Competency Descriptor:

This unit deals with the skills and knowledge required to construct and install non-load bearing internal wall to specifications, and applies to all individuals working in erecting framed structures in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	1.1 Quality Assurance requirements for company's construction operations recognised and adhered to. 1.2 OH&S requirements for workplace environment and construction and installation of internal partition walls recognised and adhered to. 1.3 Materials and quantities identified from drawings and specifications. 1.4 Appropriate personal protective equipment selected, correctly fitted and used. 1.5 Tools and equipment selected to carry out processes consistent with requirements of job checked for serviceability and any faults identified reported to supervisor.
2. Construct non-load bearing partition timber wall frames	2.1 Location of partition walls set out on floor to dimensions from drawings. 2.2 Wall plates set out and cut to length within $\pm 2$ mm and positioned to set-out from drawings. 2.3 Wall plates fixed into place and align according to specification. 2.4 Studs cut to length, positioned to spacing and fixed as specified. 2.5 Noggings marked, cut to length, positioned and fixed as specified. 2.6 Wall frame squared to $\pm 3$ mm over diagonal measurement, and braces fixed flush with studs, where applicable.

- |    |  |   |
|----|--|---|
|    | 2.7  | External edges of top plates to be joined fixed flush and external corners straight and plumb to within + or – 2mm over 2.4 metres. |
|    | 2.8  | Walls straightened to line within + or – 2mm.   |
| 3. | Erect and mantle a full height demountable partition | 3.1 Location set out for position of partition according to details from drawings and specifications.                               |
|    |  | 3.2 Erection sequence followed as specified by manufacturer in accordance with demountable design.                                  |
| 4. | Erect a half-panel glass partition                   | 4.1 Base channel positioned to location before fixing to job specification.   |
|    |  | 4.2 Alignment of panels carried out to maintain line + or – 1mm.  |
|    |  | 4.3 Erection carried out and completed to manufacturer's and job specifications.  |
| 5. | Clean up   | 5.1 Area cleaned to job specification.  |
|    |  | 5.2 Waste and unwanted material disposed of safely.   |
|    |  | 5.3 Unused materials stored/stacked.  |
|    |  | 5.4 Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to the construction and installation of both fixed framed and demountable partitions.

Non-load bearing partitions include:

- full height single panel
- full height demountable panel
- half panel and half glass

Materials for framed structure include:

- timber
- light steel
- aluminium

Quality assurance requirements may include:

- workplace operations and procedures
- quality of material
- control of handling procedures
- use and maintenance of equipment
- attention to specifications

OH&S requirements to be in accordance with Statutory Legislation and regulations may include:

- protective clothing and equipment
- use of tools and equipment
- workplace environment and safety
- handling of materials
- hazard control

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- docking saw/drop saw
- jigs/stops
- power drills/screwdrivers
- saw stools
- clamps
- squares
- pop riveter
- nail guns
- spanners
- power saws
- masonry drills
- Air compressor and hoses
- power leads

Personal protective equipment may include but is not limited to:

- boots
- gloves
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators

Fasteners used to fix partitions to structure may include but are not limited to:

- nails
- screws
- self tapping screws
- wall plugs
- masonry anchors
- coach screws

Fasteners for assembling partition frames include:

- nails
- screws
- self tapping screws
- pop rivets

Bracing of framed partitions only applies to partitions not of full height and not connected to any structural wall.

Demountable partition systems assembled and connected in accordance with manufacturer's specific design.

Reporting of faults should be in accordance with company's workplace procedures and may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated setting out, constructing and installing a partition wall to a design of one of the types listed within the range statement.



**(1) Critical Aspects and Evidence**

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of installing partition walls
- identify location, design and details of proposed partition
- select and use appropriate processes, tools and equipment.
- adopt safe and effective procedures to construct/assemble and install partition wall
- demonstrate attention given to assembling of partitions to ensure all junction of members flush to face of partition
- demonstrate attention given to fixing securely to specifications
- apply processes effectively to complete partition to designed alignment, plumb and finish
- identification of typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective work procedures

**(2) Pre-requisite Relationship of Units**

- BCGCAR0161A Prepare for construction process (carpentry)
- BCGCAR0202A Assemble simple partition frames

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- partition and wall construction
- working drawing and specifications
- setting out procedures
- materials
- tools and equipment
- fixing and fasteners
- calculation of material requirements

Skills

The ability to:

- work safely
- read and interpret drawings and specifications
- organise work
- set out work
- use tools and equipment
- fix materials
- communicate effectively
- calculate material quantities

**(4) Resource Implications**

The following resources should be made available:

- level work area appropriate to construction and installation processes
- tools and equipment appropriate to construction process
- material appropriate to the partition installation
- drawings and specifications appropriate to activity

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application process
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or as part of a team operation.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	To measure self-performance
Communicate ideas and information	Level 1	With members of the work team
Plan and organise activities	Level 2	For self
Work with others and in team	Level 1	In completing scheduled tasks
Use mathematical ideas and techniques	Level 2	As an aid to measure and schedule tasks
Solve problems	Level 1	As an aid to self-development
Use technology	Level 2	To manage scheduling and completion of tasks

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0442A: Construct and erect timber wall framing**

Competency Descriptor:

This unit deals with the skills and knowledge required to construct and erect timber wall framing, and applies to individuals working in the carpentry trade in the construction industry.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

- |                          |   |
|--------------------------|---|
| 1. Plan and prepare work | <ul style="list-style-type: none"> <li>1.1 Quality Assurance requirements for company's construction operations recognised and adhered to.</li> <li>1.2 Occupational Health and safety (OH&amp;S) requirements for workplace environment and construction and erection of timber wall framing recognised and adhered to.</li> <li>1.3 Materials and quantity requirements determined from job drawings and specifications.</li> <li>1.4 Appropriate personal protective equipment selected, correctly fitted and used.</li> <li>1.5 Tools and equipment selected to carry out processes consistent with the requirements of job, checked for serviceability and any faults reported to supervisor.</li> </ul>   |
| 2. Set out wall plates   | <ul style="list-style-type: none"> <li>2.1 Location of walls set out to dimensions from job drawings and marked on floor joists, flooring or slab.</li> <li>2.2 Material selected for straightness of wall plates to ensure as straight as practical.</li> <li>2.3 Wall plates marked and cut to length as pairs allowing for wall junction and joints to job assembly requirements and specifications.</li> <li>2.4 Top and bottom plates temporarily nailed together and placed in location position ready for setting out.</li> <li>2.5 Position of studs and openings set out on wall plates to dimensions from job drawings.</li> <li>2.6 Door and window openings set out to schedule of door and window widths with allowance for clearance of + 5mm each side.</li> </ul> |

- 
- |    |  |  |
|----|--|--|
| 3. | Set out and prepare studs and trimmers | 3.1 Walls constructed and erected in accordance with requirements.   |
|    |  | 3.2 Trenching/housing in wall plates for studs carried out where required to allow for irregular plate thickness.                            |
|    |  | 3.3 Stud length determined in accordance with specified ceiling height.  |
|    |  | 3.4 Opening and intermediate studs selected for straightness and cut to length according to specification.                                   |
|    |  | 3.5 Studs for door and window openings set out to heights for door and window sizes with clearance allowance at head of +10mm.               |
|    |  | 3.6 Studs for wall frames checked for straightness and bows/springs to one face of wall.   |
|    |  | 3.7 Housing, notching, drilling of studs to accommodate trimmers, lintels and services carried out to requirements.                          |
|    |  | 3.8 Trimmers and short studs marked and cut to lengths according to specifications.  |
|    |  | 3.9 Standard spacing size noggings cut to length.  |
| 4. | Construct walls                        | 4.1 Wall plates, studs, trimmers and cripple studs assembled and fixed in accordance with specifications.                                    |
|    |  | 4.2 Lintels, headers and ledgers above opening in walls installed in accordance with specifications.   |
|    |  | 4.3 Noggings installed on flat in rows at 1.350m maximum centres or closer if cladding required and staggered not more than their own width. |
|    |  | 4.4 Walls squared and braced with braces fixed to walls in accordance with specifications.   |
| 5. | Erect walls                            | 5.1 Walls erected into location and temporarily braced into vertical position.   |
|    |  | 5.2 Top wall plate junctions joined in accordance with specifications.   |

- 5.3 Bottom wall plate fixed to location and line to specifications.
- 5.4 Walls plumbed to + or – 2mm over 2.4 metres with wall bracing permanently fixed to specification.
- 5.5 Corners blocked, where required, to tie junction studs together according to specifications.
- 6. Clean-up
  - 6.1 Area cleared free of debris.
  - 6.2 Waste and unwanted materials disposed of safely.
  - 6.3 Unused materials stored/stacked.
  - 6.4 Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to walls constructed of stress grade d, seasoned or unseasoned timber which may be prefabricated or built on site.

All work to be carried out in accordance with the National Building Code.

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- hard hat
- gloves

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- spirit level
- squares
- nail bag
- chisels

Tools and equipment may include but are not limited to:

- hand saws
- saw stools
- power saws
- nail gun
- air compressor and hoses
- power leads/extension cords

Wall bracing materials include:

- timber
- metal tension straps
- metal angle sections
- plywood
- fibre cement sheet

Waste and debris may include:

- off cut materials
- nails
- empty containers
- timber packing and strapping
- cardboard paper

Top wall plates may be joined by:

- halving
- lapping
- metal connections

Floor bases for wall installation include:

- timber joists of sub-floor framing
- steel joists of sub-floor framing
- sheeting on sub-floor framing
- concrete slab

Work to be undertaken in a team situation.

Reporting of faults should be in accordance with company's workplace procedures and may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by setting out, constructing and erecting walls for a nominated building involving door and window openings and at least one internal wall.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of constructing and erecting timber walls
- identify location and details of wall construction for proposed building
- select and use appropriate processes, tools and equipment
- accurately set out and mark wall plates in compliance to standard requirement
- give particular attention to setting out for door and window frames and clearance allowance

#### Critical Aspects of Evidence: (cont'd)

- use safe and effective procedures to set out, prepare material, assemble and fix components for each wall
- adopt safe and effective procedures to erect walls and brace assembled structure
- give particular care and attention to plumbing walls and the fixing of bracing
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective operations with wall erection
- complete wall framing construction and erection processes according to specifications

### (2) Pre-requisite Relationship of Units

- BCGCOR0021A Plan and organise work
- BCGCOR0031A Draw and interpret simple drawings
- BCGCOR0051A Use hand and power tools
- BCGCOR0081A Use simple levelling devices
- BCGCAR0161A Prepare for carpentry process
- BCGCAR0202A Assemble simple partition frames

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements including relevant statutory regulations, codes and standards
- work drawing and specifications
- wall construction and bracing methods
- tools and equipment
- plant and equipment
- fixing and fasteners
- calculation of material requirements

Skills

The ability to:

- work safely
- read and interpret drawings and specifications
- organise work
- interpret documentation from a wide range of sources
- set out material
- use tools and equipment
- communicate effectively
- calculate material quantities

**(4) Resource Implications**

- prepared floor structure or slab for proposed activity
- tools and equipment appropriate for construction processes
- suitable materials appropriate for construction activity
- drawings and specifications of proposed activity

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application process
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or as part of a team operation.



## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0482A: Install sub-floor framing**

## Competency Descriptor:

This unit deals with the skills and knowledge required to install sub floor frame to specifications, and applies to individuals working in the carpentry trade in the construction industry.

## Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	<p>1.1 Quality Assurance requirements for company's construction operations recognised and adhered to.</p> <p>1.2 Occupational Health and Safety (OH&amp;S) requirements for workplace environment and construction of sub floor framing recognised and adhered to.</p> <p>1.3 Materials and quantity requirements identified from job drawings, specifications and in accordance with the Standard Building Code.</p> <p>1.4 Appropriate personal protective equipment selected, correctly fitted and used.</p> <p>1.5 Tools and equipment selected to carry out processes consistent with job requirements, checked for serviceability and any faults reported to supervisor.</p> <p>1.6 Termite protections installed as required.</p> <p>1.7 Damp proof barriers installed to specifications.</p>
2. Install timber bearers	<p>2.1 Bearer material selected with bows/springs up, marked and cut to lengths for joining and specifications where required.</p> <p>2.2 Bearers located and fixed in a straight and parallel line in accordance with job drawings and specifications.</p>
3. Install timber floor joists	<p>3.1 Location for floor joists set out to spacing from job drawings and specifications.</p> <p>3.2 Material lengths for floor joists selected with bows/springs placed upwards, where applicable.</p> <p>3.3 Outside floor joists selected for straightness, located, fitted and fixed to line and level to specifications.</p> <p>3.4 String lines used to determine levels and alignment of tops of floor joists over bearer positions.</p>



- 3.5 Floor joists prepared, located and securely fixed to bearers to line and level in accordance with specifications.
    - 3.6 Block or herringbone strutting installed to deep floor joists in accordance with specifications.
    - 3.7 Trimmed openings constructed using half housing joints, mortice and tenon joints or metal connections to specifications.
  4. Install steel bearers and joists/ladder frames
    - 4.1 Bearers positioned on supporting structure/piers, marked and cut to length, where applicable.
    - 4.2 Bearers installed straight and level using approved packing to job specifications.
    - 4.3 Joists installed straight and level to specified spacing and fixing.
    - 4.4 Ladder frames positioned on bearers to specified spacing and fixed to specification.
    - 4.5 Continuous angle trim fixed to end of ladder frames to manufacturers' and job specifications.
  5. Install bearers and 'drop-in' joists
    - 5.1 Bearers set out according to length of drop in joists.
    - 5.2 Bearers cut to length as required, located and packed over supports to achieve level plane.
    - 5.3 Drop-in joists positioned and fixed to bearers according to specification.
  6. Install site assembled bearers and joists (long span)
    - 6.1 Bearers positioned to the required spacings and cut to length.
    - 6.2 Bearers located according to specifications.
    - 6.3 'C' section joists set out to required spacings and fixed to specification.
    - 6.4 Bearers packed using approved packing to achieve level plane.
  7. Clean up
    - 7.1 Area cleared and waste material disposed of safely.
    - 7.2 Unused materials stored/stacked.
    - 7.3 Tools and equipment cleaned, maintained and stored.

## RANGE OF STATEMENT

This unit applies to timber and/or steel sub-floor framing construction.

Sub-floor types of construction support includes:

- square or round timber stumps
- concrete stumps
- masonry base with piers
- steel posts on concrete pedestals/base

Sub-floor framed construction may include:

- timber bearer and joists
- steel beams for bearers
- steel bearers and joists
- steel ladder frames

All timber floor construction to be carried out to the requirements of the National Building Code.

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- power drills
- levelling equipment
- squares
- nail bags
- chisels
- hand saws
- saw stools
- power saws
- nail gun
- string lines
- air compressor and hoses
- power leads

Personal protective equipment may include but is not limited to:

- safety goggles glasses
- ear plugs/muffs
- boots
- gloves
- respirators/dust masks
- hard hat

Termite protections to be in accordance with Building Code - Protection of Buildings from Termites.

Timber construction connections may include:

- nails/spikes
- bolts and nuts
- metal rods
- metal connections

Steel construction connections may include:

- bolts
- screws
- self tapping screws
- welding
- patent metal connecting plates



Structure may be to receive structural strip or sheet/panel flooring or flooring boards.

Reporting of faults should be in accordance with company's workplace procedures and may be verbal or written.

Work may be undertaken working with a partner or in a team.

## EVIDENCE GUIDE

Competency is to be demonstrated by installing bearers and joists or ladder frames for sub-floor framing to a nominated building project.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of installing sub floor framing
- identify location and details of sub floor framing members, sizes, spacing, and established bearer base
- select and use appropriate processes, tools and equipment
- adopt and use safe and effective procedures to prepare bearers and joists and to fix to position
- give attention to timber construction details to conform to requirements
- give attention to ensure installation to line and level
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure work carried out safely and effectively
- complete sub-floor frame installation to specifications

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCOR0031A Read and interpret drawings
- BCGCOR0051A Use hand and power tools
- BCGCOR0111A Handle construction materials and safe disposal of non-toxic waste
- BCGCAR0161A Prepare for construction process (carpentry)
- BCGCOR0242A Carry out levelling

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- National Building Code
- types of sub floor construction
- materials
- fixing and fasteners
- tools and equipment
- measuring and levelling
- calculation of material requirements

Skills

The ability to:

- work safely
- organise work
- read and interpret drawings and specifications
- interpret documentation from a wide range of sources
- use tools and equipment
- set-out material
- communicate effectively
- calculate material quantities
- carry out measuring and levelling

**(4) Resource Implications**

The following resources should be provided:

- established sub-floor base for proposed construction
- tools and equipment appropriate to construction processes
- construction materials appropriate to construction processes
- drawings and specifications of proposed activity

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of application processes
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or while working with a partner.



## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0492A: Install timber and sheet flooring**

## Competency Descriptor

This unit deals with the skills and knowledge required to install timber and sheet flooring to the required specifications, and applies to individuals working in the carpentry/joinery trades in the construction industry.

## Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	1.1 Quality Assurance requirements for company's construction operations recognised and adhered to. 1.2 OH&S requirements for workplace environment, and installing flooring recognised and adhered to. 1.3 Materials and quantity requirements determined from job drawings and specifications. 1.4 Appropriate personal protective equipment selected, correctly fitted and used. 1.5 Tools and equipment selected to carry out processes consistent with the requirements of job, checked for serviceability and any faults reported to supervisor.
2. Straighten and prepare floor joists	2.1 Tops of floor joists straightened to line and flat plane within + or – 1mm across joists over any 2.4 metres length. 2.2 Blocks/trimmers fitted and fixed around doorways to provide support where required according to specifications. 2.3 Trimmers cut, fitted and fixed to specifications where required, to support sheet flooring joints.
3. Set out and fix first board	3.1 First board location determined in accordance with room layout and type of floor finish. Clearance to wall to be in accordance with fitted floor specifications. 3.2 First board laid and fixed to line parallel to wall, according to specifications. 3.3 Boards cut square to length with staggered butt joints in centre of joists. 3.4 Boards matched in colour and grain for end joining, where specified.



- 4. Laying floor boards
  - 4.1 Flooring boards assembled to cramp with butt joints tight and practical number of boards.
  - 4.2 Boards cramped with tight tongue and grooves but not over-tight.
  - 4.3 Boards for spaced decking laid to line and specifications.
  - 4.4 Boards nailed down with nails to line of joists and in accordance with specification for width of boards.
  - 4.5 Nails used to be a minimum length of 2.5 times board thickness and 2.8mm minimum thickness for hand driven or 2.5mm minimum thickness if driven by a nail gun.
  - 4.6 Gun driven, T-headed nails driven with T-head at right angles to board's direction.
  - 4.7 Nails punched to minimum 2mm below surface.
- 5. Lay sheet flooring
  - 5.1 Sheet layout designed for long dimensions at right angles to floor joists and sheet ends staggered.
  - 5.2 Non-tongued and grooved sheets fixed with ends centrally on noggings between floor joists.
  - 5.3 Sheet locations marked and adhesive applied to joists to manufacturer's and job specifications, where required.
  - 5.4 Sheets cut and fitted as required to manufacturer's and job specifications.
  - 5.5 Sheets laid with joints tight and fixed with nails at 150mm maximum centre to centre at edges and maximum 300mm at intermediate joists or by screws as specified by sheet manufacturer.
  - 5.6 Nails a minimum length of 2.5 times thickness of sheet and 2.8mm minimum if driven by nail gun.
  - 5.7 Nails punched, where required to minimum 2 mm below surface.
- 6. Clean-up
  - 6.1 Area cleared and waste material disposed of safely.
  - 6.2 Unused materials stored/stacked.
  - 6.3 Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to timber flooring boards, decking and composite material sheeting used to provide a finished floor surface.

Applies to timber flooring boards which includes:

- tongue and grooved
- square edged
- round edged
- end matched

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- power drills
- straight edge
- squares
- nail bags
- chisels
- hand saws
- saw stools
- power saws
- power drills
- power planer
- nail gun
- string line
- air compressor and hoses
- power leads
- nail punch
- floor cramps

Fixing of boards may include:

- nails
- screws
- self tapping screws
- hinges

Applies to sheet flooring which includes:

- plywood
- particle board
- Mdf board
- fibro cement sheeting

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Clearances from wall and fixing of flooring to be in accordance with the National Building Code

Flooring may be laid to:

- timber floor joists
- steel floor joists or ladder frames
- timber battens/joists fixed to concrete slab

Straightening of top of timber joists to line and level may involve:

- packing with non compressible material
- planing of joists

Personal protective equipment may include but is not limited to:

- safety goggles/glasses
- ear plugs/muffs
- boots
- respirators/dust masks

Sheet fixing may include:

- screws
- nails
- adhesives

Sheets should be fixed to manufacturer's recommendations, where specifications provided.

Reporting of faults may be in accordance with company's workplace procedures and may be written or verbal.

## EVIDENCE GUIDE

Competency is to be demonstrated by the performance of installing two separate floors to nominated areas, one of tongued and grooved flooring boards and the other of sheet flooring.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of installing flooring to sub-floor framing
- identify location and details of flooring materials to be installed
- select and use appropriate processes, tools and equipment
- adopt and use safe and effective procedures to prepare joists and cut, join and fix material to lay floor
- ensure all joints are tight
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective operations in laying of flooring

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCOR0031A Draw and interpret simple drawings
- BCGCOR0041A Carry out measurement and calculations
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use plant and equipment
- BCGCAR0161A Prepare for construction process (carpentry)
- BGCCAR0482A Install sub-floor framing

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawing and specifications
- Quality Assurance for laying of flooring
- materials
- tools and equipment
- fixing and fasteners
- adhesives
- calculation of material requirements

Skills

The ability to:

- work safely
- organise work
- read and interpret drawings and specifications
- use tools and equipment
- use fixing and fasteners
- use adhesives
- communicate effectively
- calculate material quantities

**(4) Resource Implications**

The following resources should be provided:

- established sub-floor frame
- tools and equipment appropriate for application processes
- materials appropriate to proposed flooring applications
- drawings and specifications for flooring processes

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application processes
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or while working with a partner.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level -	
Use mathematical ideas and techniques	Level -	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0532A: Install door and window frames**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and install door and window frames, and applies to individuals working in the carpentry and masonry trades in the construction industry.

Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>	<b>PERFORMANCE CRITERIA</b>
1. Plan and prepare work	1.1 Quality Assurance requirements for company's construction operations recognised and adhered to. 1.2 Occupational Health and safety (OH&S) requirements for workplace environment and installing door and window frames recognised and adhered to. 1.3 Requirements for installation of door and window frames identified from drawings and specifications and in accordance with the National Building Code. 1.4 Doors and windows correctly identified for location and measurement from drawings, specifications and door schedule. 1.5 Materials for door/window frames correctly selected and checked against drawings and specifications. 1.6 Appropriate personal protective equipment selected, correctly fitted and used. 1.7 Tools and equipment selected to carry out processes consistent with job requirements and checked for service ability.
2. Prepare floor joists for timber door frame	2.1 Door opening in wall frame checked against doorframe size to ensure clearance for installation to plumb and level. 2.2 Floor joists prepared so that support blocks fixed securely and joist levelled across opening for doorframe. 2.3 Joists reduced to suit designed level of sill and in line with face of internal lining, where specified.

- |   |                                   |     |   |
|---|-----------------------------------|-----|---|
| 3 | Prepare door frame for floor slab | 3.1 | Doorframe prepared for connection to concrete slab to specifications, in accordance with installation with or without a sill. |
|   |                                   | 3.2 | Floor slab prepared for doorframe connection, to specifications   |
| 4 | Install door frame                | 4.1 | Doorframe installed to opening with sill margin above floor level to specified measurement, where applicable.                 |
|   |                                   | 4.2 | Sill and head checked for level.  |
|   |                                   | 4.3 | Suitable packing used to pack between stiles and wall frame for fixing to specifications.                                     |
|   |                                   | 4.4 | Stiles installed with face and edges plumb and straight to +/- 1mm and parallel.  |
|   |                                   | 4.5 | Frame secured to specifications, flush with face of internal lining and fixed through packing located as specified.           |
|   |                                   | 4.6 | Temporary bracing removed from doorframe without damage to frame, where applicable.   |
|   |                                   | 4.7 | Storm/wind moulds fixed firmly to stiles and head to specifications, if applicable.   |
| 5 | Install window frame              | 5.1 | Framing members are measured and cut within specified tolerances and are free of major defects.                               |
|   |                                   | 5.2 | All joints conform to specification, are well fitted and securely fixed in position.  |
|   |                                   | 5.3 | Framed opening sizes conform to specifications, are plumb, level and corners conform to appropriate angle.                    |
| 6 | Clean-up                          | 6.1 | Area around doorframe/window cleaned.   |
|   |                                   | 6.2 | Waste and unwanted materials safely disposed of.  |
|   |                                   | 6.3 | Tools and equipment cleaned, maintained and stored.   |

## RANGE OF STATEMENT

This unit applies to timber and metal door and window frames installed to timber or metal wall framing.

Doorframes can be fitted to concrete slab with or without sill.

Window frame can be fitted to studs or concrete opening

Floor structure may be of:

- timber sub-floor framing
- steel sub-floor framing
- reinforced concrete slab

Preparation for doorframes may include:

- fix temporary bracing
- fix flashing to sill
- cut sill to suit external lining
- fit steel dowels to base of timber stiles

Preparation of concrete floor slab may include:

- drilling of holes for steel dowels
- silicone or sealant placed for underneath of sill

Securing to wall frame may be by:

- nails or screws to timber framing
- screws to metal framing

Suitable packing material includes:

- plywood
- hardboard
- particle board

Quality Assurance requirements may include:

- quality of door frame
- control of handling procedures
- procedures for fixing
- specified finish

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- safety hazards
- working platforms

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves



Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stools
- power saws
- power drill including impact drill
- nail gun
- air compressor and hoses
- power leads

## EVIDENCE GUIDE

Competency is to be demonstrated by the performance of installing a door/window frame to each of two separate base structures, with one to a timber frame and the other to a concrete slab.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of installing window and external door frames
- identify location and details of door and window frames and building structure
- select and use appropriate processes, tools and equipment
- adopt and apply safe and effective procedures in preparing door and window frames and opening for installation
- adopt and apply safe and effective procedures in installing door and window frames to position and finish
- give attention to use of packing material and fixing of frame through packed locations
- identify typical faults and problems that may occur and the necessary action taken to rectify
- complete installation of door/window frame to specification

### (2) Pre-requisite Relationship of Units

- BCGCOR0021A Plan and organise work
- BCGCOR0051A Use hand and power tools
- BCGCOR0081A Use simple levelling devices
- BCGCAR0161A Prepare for carpentry process
- BCGCOR0242A Carry out levelling

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawing and specifications
- wall frame construction
- door frame construction
- window frame construction
- materials
- installation procedures
- measuring and levelling
- tools and equipment
- fixing and fasteners

Skills

The ability to:

- work safely
- read and interpret drawings
- organise work
- set out work
- use tools and equipment
- use fixings and fasteners

**(4) Resource Implications**

The following resources should be provided:

- workplace location with structural frame and opening
- tools and equipment appropriate to installation processes
- door/window frame and allied materials appropriate to installation process
- drawings and specification relevant to proposed activity

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of application process
- questioning related to underpinning knowledge
- inspection of installed door frame

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are being done under minimal supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0542A: Finish eaves**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and finish eaves of roof, and applies to individuals working in the carpentry trade in the construction industry.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Plan and prepare work	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.
	1.2	Occupational Health and Safety (OH&S) requirements for workplace environment and constructing and finishing of eaves recognised and adhered to.
	1.3	Materials selected and checked against job requirements in accordance with drawings and specifications.
	1.4	Appropriate personal protective equipment selected, correctly fitted and used.
	1.5	Tools and equipment selected to carry out processes consistent with requirements of the job and checked for serviceability.
2. Erect scaffolding	2.1	Scaffolding erected to job and OH&S requirements.
3. Construct framework and line eaves	3.1	Framework structure for eaves identified and set out to drawings and specifications.
	3.2	Timber framework members set out, marked and cut to lengths in accordance with methods of joining and proposed framework structure.
	3.3	Boxed eaves constructed with soffit bearers fixed to wall frame or supported by hangers from rafters to line and level +/- 2mm over any 3 metres.
	3.4	Boxed eaves structure installed clear of top of masonry walls in veneer construction to allow for frame shrinkage and settlement.
	3.5	Eaves structure installed with all members fixed securely to specifications, including back blocking and trimmers.
	3.6	Open eaves lined/sheeted on top of rafters to specifications for fixing and joining of material.

- |             |   |
|-------------|---|
| 3.7         | Eaves cladding/sheeting material marked and cut to shape to suit fascia groove and jointing methods.        |
| 3.8         | Sloping soffits lined/sheeted to underside of rafters to specifications for fixing and joining of material. |
| 3.9         | Eaves lining fitted, joined and fixed in accordance with type of material, to specifications.               |
| 3.10        | Edge beading, where applicable, fitted and fixed to specifications to finish eaves.                         |
| 4. Clean up |   |
| 4.1         | Scaffolding safely dismantled and components/materials removed and stacked.                                 |
| 4.2         | Waste and unwanted material disposed of safely.   |
| 4.3         | Unused materials stored/stacked.  |
| 4.4         | Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to the construction and finish of eaves to pitched roof structured buildings.

Material finishes include:

- cement sheeting
- timber lining boards
- timber battens
- lined on top rafters
- lined to soffit of rafters
- plancier

Eaves designs include:

- boxed eaves
- concealed gutters
- verandahs
- sloping soffits
- open eaves

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stools
- power saws
- power drill
- nail gun
- air compressor and hoses
- power leads
- scaffolding
- string lines

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- hard hat

## EVIDENCE GUIDE

Competency is to be demonstrated by constructing and finishing at least two separate eaves designs of those listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of fitting out and finishing of eaves
- identify design details and materials to be used for eaves finish
- select and use appropriate processes, tools and equipment
- erect scaffolding safely and correctly in accordance with OH&S requirements for Restricted Height scaffolding
- demonstrate safe and effective procedures used to construct framework for eaves
- adopt and use safe and effective procedures to fit and fix materials to finish eaves
- identify typical faults and problems that occur and necessary action taken to rectify
  
- interactively communicate with others to ensure safe and effective work procedures
- give attention to alignment and level of constructed framework

**(2) Pre-requisite Relationship of Units**

Pre-requisites for this unit are:

- BCGCOR0051A Use hand and power tools
- BCGCOR0071A Erect and dismantle restricted height scaffolding
- BCGCAR0161A Prepare for construction process (carpentry)
- BCGCOR0242A Carry out levelling

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- roof construction
- wall framing construction
- materials
- tools and equipment
- calculation of material requirements
- methods of fixing materials
- measuring and levelling

Skills

The ability to:

- work safely
- organise work
- read and interpret drawings
- use tools and equipment
- communicate effectively
- calculate material quantities
- measure and level in accordance with eaves construction
- construct framework

**(4) Resource Implications**

The following resources should be provided:

- roof structure completed with fascia
- tools and equipment appropriate to construction and finishing processes
- scaffolding appropriate to activity
- materials appropriate to proposed eaves construction and finishes
- drawings and specifications of proposed activities

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of application process
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or while working with a partner.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



**BCGCAR0552A: Install exterior cladding**

Competency descriptor:

This unit deals with the skills and knowledge required to competently install exterior wall cladding, and applies to individuals working in the carpentry trade in the building construction industry.

Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Plan and prepare work	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.
		1.2	Occupational Health & Safety (OH& S) requirements for workplace environment and cladding buildings recognised and adhered to.
		1.3	Materials and quantity requirements determined from job drawings and specifications.
		1.4	Appropriate personal protective equipment selected, correctly fitted and used.
		1.5	Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.
		1.6	Delivered materials checked for conformity to quantity requirements and specifications.
		1.7	Scaffolding erected to job and Occupational Health & Safety requirements, where applicable.
2.	Straighten and prepare exterior walls	2.1	Timber frame checked for straightness and studs trimmed or packed to tolerance + or – 1mm across studs over any 2.4 metre length.
		2.2	Additional row/s of nogging fitted and fixed to line, flush with wall face and plumb within + or –2mm vertical alignment over 2.4 metres.
		2.3	Sub-floor structural members checked for flush with wall face and trimmed back where required.

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- |    |  |     |  |
|----|--|-----|--|
| 3. | Fix timber plinth, flashing and insulation                 | 3.1 | Location of timber plinth, where required, determined in accordance with cladding material, sub-floor structure and specifications.                              |
|    |  | 3.2 | Material for plinth marked and cut to length to specification with mitred joints made at fixing locations to frame.  |
|    |  | 3.3 | Plinth fixed to specification to level and line within + or - 2mm tolerance over any 3 metre length.   |
|    |  | 3.4 | Flashing, where applicable, prepared to length, positioned and secured to specifications.  |
|    |  | 3.5 | Wall insulation, where required, cut, lapped and fixed to specifications.  |
| 4. | Set out and prepare for horizontal panelling/weatherboards | 4.1 | Cover for weatherboards/panelling determined from recommended lap, type and profile of board or effective covering of interlocking panelling and height of wall. |
|    |  | 4.2 | Weatherboard or panelling stops, where applicable, cut to length, fitted and fixed into place according to specifications.                                       |
|    |  | 4.3 | Locations of each board or starting board marked on frame or stop to determined or specified position.   |
|    |  | 4.4 | Board or panelling designed is set out for same cover appearance at top of wall.   |
|    |  | 4.5 | Wall face checked for conformity to specified flashings at doors and windows.  |
| 5. | Fix horizontal panelling/weatherboards                     | 5.1 | Panelling/boards cut to full length where practical to fit length of wall faces.   |
|    |  | 5.2 | Joining of timber boards made by butt joints at centre of studs to tolerance of -1mm with joint flush to face and line.  |
|    |  | 5.3 | Joining of other material panelling and boards made by use of manufacturer's recommended joining profiles fitted to specification, maintaining alignment.        |
|    |  | 5.4 | Panelling/boards cut, fitted and fixed to manufacturer's and job specifications to line and level + or - 2mm over any 3 metre length.                            |

	5.5	Material, subject to splitting/predrilled for fixing at end junction or butt joints to avoid splitting.
	5.6	Junction at eaves finished to drawing details and specifications.
	5.7	Internal and external corners finished to manufacturer's recommendations and job specifications.
	5.8	Timber weather boards, where specified, prepared with specified primer to cover overlaps and end joints.
6.	Fix vertical panelling/boards	6.1 Starting position of first panel/board determined in accordance with specified design and finished effect against windows, doors and corners.
		6.2 Panelling/boards cut to full length, where practical, to fit height of wall.
		6.3 Abutting joints of panelling/boards made to manufacturer's specification requirements covering flashing.
		6.4 Panelling/boards cut, fitted and fixed to manufacturer's recommendations and job specification maintaining plumb to tolerance + or - 2mm over 2.4m unless otherwise specified.
7.	Clean-up	7.1 Area cleared and waste material disposed of safely.
		7.2 Unused material stored/stacked.
		7.3 Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to the cladding of exterior surfaces of framed wall structures.

Cladding to include:

- timber weatherboards
- tongue and grooved timber boards
- vinyl weatherboards and cladding
- aluminium weatherboards
- metal panelling
- fibre cement sheet panels and planks
- tempered hardboard strips

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specification of work

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stools
- power saws
- power drill
- power planer
- nail gun
- air compressor and hoses
- power leads
- scaffolding
- string lines
- chalk line
- tin snips

Panelling or boards, where suitable for application, may also be fixed at an angle onto the face of wall.

Wall insulation with cladding may involve double -sided aluminium foil sheeting.

Fixing of cladding will differ in accordance with timber or steel framing and type of material being fixed.

Fasteners for fixing may include but are not limited to:

- nails
- screws
- self tapping screws
- patented clips

## EVIDENCE GUIDE

Competency is to be demonstrated by installing at least two (2) types of material finishes of those listed in the range of variables statement, to nominated external wall surfaces. One is to be of horizontal boards and the other of sheeted material.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of installing external cladding
- identify location and details of materials and wall framing involved with installation
- select and use appropriate processes, tools and equipment
- use safe and effective procedures to fix, fit and install wall cladding finish
- give attention to flashing connections and finish at junctions with walls, doors and window frames
- identification of typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective workplace operations
- complete wall cladding to specifications

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGCOR0071A Erect and dismantle restricted height scaffolding
- BCGCAR0161A Prepare for construction process (carpentry)

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- materials
- wall frame construction
- window and door frames
- tools and equipment
- fasteners and fixing
- calculation of material requirements
- methods of fixing materials
- measuring and levelling
- scaffolding

Skills

The ability to:

- work safely
- organise and set out work
- use tools and equipment
- calculate material quantities
- measure and level in accordance with external cladding processes
- erect scaffolding
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- workplace location with framed wall/s ready with door and /or window frames installed
- scaffolding appropriate to proposed activities
- tools and equipment appropriate to installation processes
- materials appropriate to proposed cladding processes
- drawings and specifications relevant to proposed activities

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of application process
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or while working with a partner.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0572A: Install external or internal doors**

## Competency Descriptor:

This unit deals with the skills and knowledge required to install external or internal doors according to specifications and applies to individuals working in carpentry and joinery trades in the construction industry.

Competency Field: General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1	Plan and prepare work	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.
		1.2	Occupational Health & Safety (OH&S) requirements for workplace environment and installing external or internal doors recognised and adhered to.
		1.3	Installation of doors carried out in accordance with the National Building Code, where applicable.
		1.4	Materials and doors checked for conformity against drawings, specifications and door schedule.
		1.5	Appropriate personal protective equipment selected, correctly fitted and used.
		1.6	Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.
2.	Prepare door opening for jamb unit	2.1	Checked frame opening size to be greater than door jamb size to clearances allowing for plumbing of stiles, thickness of floor covering and level head.
		2.2	Door opening prepared to specifications so that packing is located against hinged side stud to plumb.
		2.3	Floor across door opening checked for level and differences noted.
3.	Install hinged door unit	3.1	Jamb stiles marked and cut to length allowing for door height, clearances, floor covering and floor level.
		3.2	Hinges fitted to door and jamb stile prepared for hinges allowing for 3mm clearance at head.
		3.3	Doorjamb assembled and fixed to specifications with stile and head edges flush.





- 3.4 Jamb hinge stile fixed into position, plumb and flush with wall lining to specification.
- 3.5 Door hung and jamb fixed into position, plumb, flush with wall lining, out of winding and with 3mm parallel clearance to specifications.
- 3.6 Architraves marked, cut, fitted and fixed to specifications with mitres closed and specified margin uniform around door jamb.
- 3.7 Door hardware fitted to manufacturer's specifications and doorstop fitted and fixed according to specification.
- 4 Install door to fixed door frame
  - 4.1 Door checked for fitting to door frame with clearances of 3mm all round and specified floor clearance
  - 4.2 Door planed and fitted to specified clearances for installation, where applicable.
  - 4.3 Hinges fitted and fixed to hinge edge of door according to specification.
  - 4.4 Hinge positions marked from door to frame, checked out and fitted and door installed and aligned with frame stiles, to specification.
  - 4.5 Closing edge of door splayed back no more than 2mm where required to prevent binding with frame.
5. Install split jamb, pre-hung door unit
  - 5.1 Jamb stiles and architraves marked and cut to length allowing for clearances, floor covering and level of floor.
  - 5.2 One side of door unit installed with stiles floor butted, jambs out of winding, door plumb and free from winding and parallel clearance around door within specifications.
  - 5.3 Architraves fitted and fixed against wall lining to specifications.
  - 5.4 Packing placed between jamb stiles and studs and fixed to manufacturer's specifications.
  - 5.5 Other side of unit positioned with stiles and head reveals located, aligned across face with butt joints parallel to fixed side.



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|---|------|---|
|   | 5.6  | Architraves fitted and fixed against wall lining and unit fixed to specifications.  |
|   | 5.7  | Door hardware fitted to manufacturer's specifications and doorstop fitted and fixed to specification.                       |
| 6. Install bi-fold or internal sliding door | 6.1  | Doorjamb measured and adjusted to level.  |
|   | 6.2  | Track cut to door opening size and fixed centrally and parallel to head lining.   |
|   | 6.3  | Brackets and doors fixed to manufacturer's specifications so that door is centrally placed in opening and operates freely.  |
|   | 6.4  | Architraves fitted and fixed to specifications.   |
|   | 6.5  | Door hardware, stop guide fitted and fixed to manufacturer's specifications where applicable.                               |
| 7. Install fly-screen door                  | 7.1  | Door installed with hinges set as specified.  |
|   | 7.2  | Clearance 3mm maintained all around without binding or wind.  |
|   | 7.3  | Door hardware and closure fitted to manufacturer's specifications.  |
| 8. Install cavity sliding door              | 8.1  | Wall frame opening prepared with opening size corresponding to manufacturer's specifications.                               |
|   | 8.2  | Door unit fixed in wall opening with closing jamb plumb and cavity sliding unit aligned with jambs parallel and head level. |
|   | 8.3  | Door frame installed so that door moves freely, is central and fitted plumb against closing jamb.                           |
|   | 8.4  | Door edge and split jamb installed parallel.  |
|   | 8.5  | Door hardware fitted to manufacturer's specifications and stop/guide, where applicable fitted and fixed to specifications.  |
| 9. Fix architrave's                         | 9.1  | Architraves marked, cut, fitted and fixed to specifications with head sections level and margins parallel.                  |
| 10. Hang sliding door                       | 10.1 | Height requirements determined and bottom edge of door grooved to manufacturer's specifications.                            |



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|----|----------------------------|---|
|    | 10.2                       | Door jamb prepared and assembled allowing for clearances and coverage where applicable and installed to specifications.                             |
|    | 10.3                       | Door guides positioned and fixed to specifications, parallel with edges of door and abutting carcass stile.   |
|    | 10.4                       | Track mounting board, door races and double runner fitted to job and manufacturer's specifications and cover strip fitted evenly, where applicable. |
| 11 | Fit and trim door hardware |   |
|    | 11.1                       | Top trim fitted parallel to track and side trims fitted plumb and flush with top trim.  |
|    | 11.2                       | Door hardware fitted and fixed neatly in accordance with specifications.  |
|    | 11.3                       | Door hung into position and adjusted where required to operate according to specification and finish flush or parallel with jamb.                   |
| 12 | Clean-up                   |   |
|    | 12.1                       | Waste and unwanted material disposed of safely.   |
|    | 12.2                       | Unused materials stored/stacked.  |
|    | 12.3                       | Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to full height internal doors and all external hinged and installed sliding doors

Internal doors installed to:

- doorways
- built-in robes
- walk-in pantries
- cupboards

Types of sliding doors include:

- face sliding
- internal between jamb stiles

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials



Personal protective equipment may include:

- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- hard hat
- gloves
- safety boots

Methods for fixing and fastening include but are not limited to:

- nailing
- use of nail gun
- screws
- self tapping screws
- hinges

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- spirit level
- squares
- chisels
- hand saws
- saw stools
- power saws
- power drills
- power plane
- nail gun
- air compressor and hoses
- power leads/extension cords
- straight edge
- wedges
- screwdrivers
- power screwdrivers
- hand planes

Packing material should be non compressible which includes:

- plywood
- hardboard
- particle board

Types of doors include:

- flush panel
- framed and panelled
- glazed

Door hardware varies in accordance with manufacturer's design and client's choice but the range includes:

- handles
- grips
- locks
- latches
- push plates
- closers
- stoppers



## EVIDENCE GUIDE

Competency is to be demonstrated by installing one of each of the types of door units categorised in the competency unit.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of installing full height doors to buildings
- identify location and details of door units to be installed
- select and use appropriate processes, tools and equipment
- adopt and use safe and effective procedures to prepare and install each door unit
- install each door to designed floor clearance
- adopt and apply appropriate and efficient procedures to install each door unit to designed operation and finish
- carry out installation of door hardware to door without damage to material surfaces
- identify typical faults and problems that occur and necessary action taken to rectify

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCOR0051A Use hand and power tools
- BCGCOR0081A Use simple levelling devices
- BCGCAR0412A Construct and install non-lead bearing internal partition wall
- BCGCAR0532A Install door frames

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- construction of doors
- installation of doors
- materials
- tools and equipment
- fixing and fasteners
- measuring and levelling
- door hardware
- Quality Assurance

#### Skills

The ability to:

- work safely
- read and interpret drawings and specifications
- organise work
- use tools and equipment
- use fixings and fasteners
- measure and level relevant to installation processes

**(4) Resource Implications**

The following resources should be provided:

- workplace locations ready for installation of doors
- door units appropriate to installation processes
- door hardware and furniture applicable to installation processes
- tools and equipment appropriate to installation processes
- drawings, specifications and documentation applicable to proposed activities

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of application process
- inspection of installed unit
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are being done under minimal supervision.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manage process</li> <li>Select the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCOR0242A: Carry out levelling**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively establish and transfer level from one reference point to another within given tolerance, and applies to individuals working in the construction industry.

Competency Field:

General/Civil Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Plan and prepare work	1.1	Occupational Health and Safety (OH&S) requirements associated with application tasks and worksite environment recognised and adhered to.
	1.2	Requirements of job identified from drawings and/or instructions.
	1.3	Relevant reduced levels obtained from given drawings/sketches and/or instruction.
	1.4	Appropriate personal protective equipment selected, correctly fitted and used.
	1.5	Levelling equipment and tools selected consistent with needs of job, checked for serviceability and any faults reported to supervisor.
2. Maintain given level or specified slope with boning rods	2.1	Heights of each end of line to be boned are established to levels from given drawings and/or instructions.
	2.2	End boning rods securely fixed to required heights.
	2.3	Heights of intermediate points sighted with boning rods and marked where applicable, to 10mm.
3. Set up and use levelling devices	3.1	Heights to be transferred/established are identified from given drawings/sketches and/or instructions.
	3.2	Level correctly set up for use in accordance to recommendations from manufacturer's operating manual.
	3.3	Levels shot and heights marked and/or recorded to job requirements to +/- 1mm over 10m.



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|----|----------|-----|--|
| 4. | Clean up | 4.1 | All equipment and tools cleaned, maintained and returned to store.           |
|    |          | 4.2 | Levelling equipment placed and secured in manufacturer's provided container. |

## RANGE STATEMENT

This unit applies to the use of levelling equipment to read and record levels in accordance with a given level, and to the use of boning rods to maintain or mark a set slope or level line.

Work is to be undertaken working with a partner under limited supervision.

Work applications are simple levelling tasks such as:

- shooting levels for concrete slabs
- recording ground levels at respective corners of a set-out
- recording slab or pad levels for placement of steel columns
- recording or checking levels in shallow drainage excavation
- boning for alignment on ground or in drainage excavation

OH&S requirements to be in accordance with Statutory Legislation and Regulations which may include:

- worksite environment and safety
- use of tools and equipment
- use of laser equipment
- protective clothing and equipment

Personal protective equipment may include:

- overalls
- boots
- jacket
- hard hat
- safety glasses/goggles
- dust masks
- gloves

Levelling equipment or devices include but are not limited to:

- dumpy level
- automatic level
- tilting level
- rotating laser level
- boning rods

Heights or levels may be given by:

- drawing/sketch indicating mark
- verbal or written instruction indicating level or mark
- datum/survey peg fixed into ground
- chalk or nail mark on paved/concrete surface

Associated equipment and tools may include but are not limited to:

- staff
- measuring tape/rule
- string line
- wooden/steel pegs
- laser target and staff
- hammer

Instructions reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out safe and effective nominated levelling and boning exercises using any two of the types of levels listed within the range of variables statement related to the work orientation.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to and during levelling and boning processes
- demonstrate safe and effective operational use of tools, plant and equipment
- indicate particular attention to accurately reading and recording staff readings
- show particular care of equipment in handling, setting up and storing on completion
- interactively communicate with others to ensure safe and effective site operations

### (2) Pre-requisite Relationship of Units

Competency in this unit may be determined concurrently with other work orientation units based upon integrated project work.

- BCGCOR0001A Carry out interactive workplace communication
- BCGCOR0041A Carry out measurements and calculations
- BCGCOR0081A Use simple levelling devices

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- hand tools
- levelling equipment
- use of levelling devices
- measurement and calculation
- drawings, sketches and instructions
- workplace communications

Skills

The ability to:

- work safely to instructions
- use levelling equipment
- communicate effectively
- read and record measurements
- measure accurately

**(4) Resource Implications**

The following resources should be made available:

- levelling equipment appropriate to levelling processes
- appropriate tools and associated equipment to support levelling processes
- suitable work area appropriate to levelling activities
- suitable plans/drawing and specifications/instructions

**(5) Method of Assessment**

Competency shall be assessed while work is being done under supervision with regular checks, but may include some autonomy when working as part of a team.

Assessment should be by direct observation of tasks and questioning related to underpinning knowledge.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0252A: Erect and strip formwork for concrete work**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively erect, strip and store formwork, and applies to individuals working in the casting of concrete to form concrete structures.

Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	1.1 Quality Assurance requirements of company's construction operations recognised and adhered to. 1.2 Occupational Health and Safety (OH&S) requirements associated with application tasks and workplace environment recognised and adhered to. 1.3 Location(s) of required formwork established from drawings and instructions. 1.4 Formwork components/materials selected to instructions consistent with job requirements. 1.5 Appropriate personal protective equipment selected, correctly fitted and used. 1.6 Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor. 1.7 Fixing/fasteners selected to instruction and used consistent with construction requirements of job.
2. Assist with the erection of formwork	2.1 Work area cleared and surface prepared to instruction for safe erection of formwork. 2.2 Assistance provided with setout of formwork to requirements of drawings and specifications. 2.3 Assistance provided with assembling and erection of formwork to specifications. 2.4 Block outs and cast in-services installed to specified locations. 2.5 Debris, sawdust and other waste material safely removed from completed formwork. 2.6 Release agent applied to formwork face to manufacturer's specifications.

- |    |                |     |   |
|----|----------------|-----|---|
| 3. | Strip formwork | 3.1 | Edge boxing and bracing/strutting support removed carefully, safely and sequentially.                 |
|    |                | 3.2 | Timber components safely de-nailed, cleaned and stored/stacked for re-use or removal from site.       |
|    |                | 3.3 | Steel components cleaned, oiled and stored/stacked to manufacturer's recommendations for maintenance. |
|    |                | 3.4 | Damaged formwork components salvaged or discarded after stripping.                                    |
| 4. | Clean up       | 4.1 | Loose debris and waste material removed and disposed of safely.                                       |
|    |                | 4.2 | Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to assisting with the construction, erection or modification of formwork for concrete work in an on-site environment.

Work is undertaken as part of a team under supervision where instructions would be part of supervisor's directions, either verbal or written.

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- protective clothing and equipment
- worksite environment and safety
- use of tools and equipment
- emergency procedures

Formwork systems may include:

- timber
- steel
- composite construction

Assisting with setting out may involve:

- measuring with a tape
- making marks
- marking material square

Quality Assurance requirements may include:

- work procedures
- safety requirements
- control of handling
- use of plant and equipment
- specifications of concrete work

Formwork type to include:

- slab on ground
- retaining walls

Debris and other waste may include:

- half cut material
- cardboard
- paper

Tools and equipment may include but are not limited to:

- tool belts
- hammer
- power saw
- builders' line
- form oil applicator
- mop
- spanners
- measuring tape
- impact gun
- pinch bars
- hand saws
- cutting knife
- brooms
- shovels

Personal protective equipment may include:

- overalls
- jacket
- hard hat
- safety goggles
- safety boots
- gloves
- ear muffs

Assisting with assembling and erecting may involve but is not limited to:

- cutting material
- holding material for fixing
- fixing material
- lifting form into place
- assembling system components
- tightening connections
- holding of block outs or cast-in services for securing

FIXING AND FASTENERS MAY INCLUDE:

- nails
- screws
- self tapping screws
- bolts
- patented clips
- brackets

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective erection and dismantling of at least two separate types of material systems, from those listed within the range statement, appropriate to the work orientation.

**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during construction process
- demonstrate safe and effective operational use of tools and equipment
- provide effective assistance to setting out and assembling and erecting formwork
- demonstrate particular attention and care in stripping formwork
- interactively communicate with others to ensure safe and effective workplace operations

**(2) Pre-requisite Relationship of Units**

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- formwork for concrete
- portable power tools
- hand tools and equipment
- materials related to formwork construction
- materials handling
- measurement and calculation
- drawings/specifications
- levelling equipment
- fixing and fasteners

Skills

The ability to:

- work safely to instructions
- use power tools and hand tools
- handle formwork materials
- select materials appropriate to construction of formwork
- measure relative to construction of formwork
- fix material
- communicate effectively
- use simple levelling equipment

**(4) Resource Implications**

The following resources should be made available:

- construction materials relevant to construction of formwork
- hand tools and power tools appropriate to construction and stripping processes
- plant and equipment appropriate to construction processes
- suitable work area appropriate to concreting process



**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Assessment should be by direct observation of tasks and questioning related to underpinning knowledge.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0282A: Use explosive power tools (EPT)**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively set up and use explosive power tools, and applies to individuals that use fasteners in the construction processes.

Competency Field:

General/Civil Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and prepare work	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.
		1.2	Occupational Health & Safety requirements associated with application tasks and workplace environment recognised and adhered to.
		1.3	Job requirements assessed to determine access and appropriate fastener and charge to suit material and base to be fixed.
		1.4	Explosive power tools, attachments and equipment selected consistent with requirements of job, checked for serviceability and any faults reported to supervisor.
		1.5	Appropriate personal protective equipment selected, correctly fitted and used.
		1.6	Safety hazards identified and correct procedures used to minimise risk to self and others.
		1.7	Scaffolding erected, where applicable, and according to OH&S requirements.
		1.8	Explosive power tool operations carried out in accordance with manufacturer's recommendations.
2.	Set out for fasteners	2.1	Material or base set out for location of fasteners in accordance with detailed drawings and specifications.
		2.2	Minimum distances from edge of material adhered to in accordance with manufacturer's specifications.
		2.3	Material located and temporarily held or fixed into designed position of detailed drawings.

- 
- |    |                                       |      |  |
|----|---------------------------------------|------|--|
| 3. | Use explosive power tools             | 3.1  | Fastener selected to requirements of job.  |
|    |                                       | 3.2  | Charge selected to assess requirements for material, base and penetration.   |
|    |                                       | 3.3  | Attachments and/or accessories installed to explosive power tool in accordance with manufacturer's specifications.       |
|    |                                       | 3.4  | Explosive power tool checked for operation to manufacturer's specifications.   |
|    |                                       | 3.5  | Fastener and charge located in explosive power tool to manufacturer's specification.                                     |
|    |                                       | 3.6  | Personal protective equipment fitted and worn in accordance with manufacturer's recommendations.                         |
|    |                                       | 3.7  | Explosive power tool operated safely and fastener fixed into place.  |
|    |                                       | 3.8  | Fastening penetration checked and determined for appropriate depth into material.  |
|    |                                       | 3.9  | Power regulating device adjusted for conditions where required.  |
|    |                                       | 3.10 | Misfire procedures carried out where required to manufacturer's recommendations.   |
| 4. | Clean up                              | 4.1  | Temporary holding/fixing removed without damage to material.   |
|    |                                       | 4.2  | Explosive power tool cleared, attachments removed and tool and attachments cleaned.                                      |
|    |                                       | 4.3  | Charges stored in designated container in accordance with requirement and used charges recorded.                         |
|    |                                       | 4.4  | Unused fasteners, explosive power tool and attachments stored in carry case according to manufacturer's recommendations. |
|    |                                       | 4.5  | Area cleared and waste material disposed of safely.  |
| 5. | Maintain explosive power tool and kit | 5.1  | Safety features of tool checked for serviceability in accordance with manufacturer's operating manual.                   |
|    |                                       | 5.2  | Tool cleaned and lubricated to manufacturer's recommendation.  |

- 5.3 Periodic maintenance service carried out to manufacturer's specifications.
- 5.4 Log book checked and maintenance recorded to manufacturer's recommendations.
- 5.5 Diminished stocks of charges and fasteners replenished to designed effectiveness of power tool kit.

## RANGE STATEMENT

This unit applies to both direct action and indirect action explosive powered fastening tools.

Use of these tools is to be in accordance with relevant Statutory Legislation requirements and:

- Recommended procedures for the usage of Explosive-Powered Hand held Fastening Tools, Fasteners and Explosive Charges

OH&S requirements to be in accordance with statutory Legislation and regulations and may include:

- workplace environment and safety
- use of explosive power tools
- isolation of working areas
- use of tools and equipment
- protective clothing and equipment
- working from scaffolding
- emergency procedures

In addition to ear plugs/muffs and safety glasses/goggles, other personal protective equipment may include:

- gloves
- boots
- hard hat
- overalls
- dust mask/respirator

Tools used to fasten materials or fix fasteners to bases of:

- concrete
- masonry
- steel

Personal protective equipment is to incorporate requirements of:

- Acoustics – Hearing Protection
- Eye Protection for Industrial Application

Quality Assurance requirements may include:

- workplace operations and work procedures
- safety requirements
- quality of materials
- application relevant to specifications of work

Safety hazards may include but are not limited to:

- obstacles close to operation location
- other activities within vicinity
- limited space

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the safe and effective operational use of an EPT in application to the various types of bases listed within the range of variables statement relative to the work orientation.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to explosive power tools and workplace operations
- show compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of fixing/fastening process
- demonstrate safe and effective operational use of explosive power tools and equipment
- show correct interpreting of manufacturer's manual and reporting procedures
- interactively communicate with others to ensure safe and effective workplace operations

### (2) Pre-requisite Relationship of Units

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements including relevant OH&S statutory regulations
- explosive power tools
- hand tools and equipment
- materials relevant to the operation of (EPT's)
- measurements and calculations
- drawings and specifications
- Quality Assurance
- operational procedures in accordance with manufacturer's specifications maintenance of equipment
- fixing of materials

#### Skills

The ability to:

- work safely to instructions
- use hand and power tools
- measure relative to fixing of materials
- demonstrate operational procedures for EPT
- communicate effectively identify drawing details relevant to operation of Explosive Power Tools (EPT)
- maintain accurate records

**(4) Resource Implications**

The following resources should be made available:

- explosive power tool and complete kit
- general construction materials relevant to operation applications of EPT
- hand and power tools and supportive equipment appropriate to operation applications of EPT
- suitable work area appropriate to operation applications of EPT
- manufacturer's manual of operations

**(5) Method of Assessment**

Competency should be assessed while work is carried out under direct supervision.

Assessment should be by direct observation of tasks and questioning related to underpinning knowledge.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0662A: Erect/dismantle formwork**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare, erect and/or dismantle formwork, and applies to individuals working in carpentry and masonry trades in the construction industry.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY****PERFORMANCE CRITERIA**

- |    |  |     |   |
|----|--|-----|---|
| 1. | Select system, plan and prepare for work | 1.1 | Quality Assurance requirements for company's construction operations recognised and adhered to.   |
|    |  | 1.2 | Occupational Health & Safety (OH&S) requirements for erecting and dismantling formwork and workplace environment recognised and adhered to.             |
|    |  | 1.3 | Location and requirements of formwork construction identified from job drawings of structural concrete members.   |
|    |  | 1.4 | Selection of formwork system determined in accordance with job requirements and available structural support.   |
|    |  | 1.5 | Material/system quantity requirements determined in accordance with formwork required and specifications for formwork construction.                     |
|    |  | 1.6 | Appropriate personal protective equipment selected correctly fitted and used.   |
|    |  | 1.7 | Tools and equipment selected to carry out processes consistent with job requirements, checked for serviceability and any faults reported to supervisor. |
|    |  | 1.8 | Key set out points/lines/profiles/grids placed accurately to the requirements of job drawings.  |
| 2. | Prepare for formwork erection            | 2.1 | Formwork shutters constructed to designed form requirements and specified dimensions.   |
|    |  | 2.2 | Formwork support system sequentially erected according to initial set out and specification for formwork for concrete.                                  |
|    |  | 2.3 | Scaffolding and/or hand railing erected where applicable to OH&S regulations and job requirements.  |

- 2.5 Support system set to correct height level and line within +/- 2 mm over any 3-metre length.
- 3. Erect formwork
  - 3.1 Formwork for beams, drop panels, cantilevers etc. fabricated, positioned and fixed into place, according to specifications.
  - 3.2 Formwork for walls assembled, erected and fixed into place, plumb within +/- 2mm over 2.4 metres and to line within +/- over any 3 metre length.
  - 3.3 Soffit formwork cut to length, fabricated, positioned and fixed into place within specifications.
  - 3.4 Edge boxing to formwork fixed in correct position and braced to plumb alignment.
  - 3.5 Cast-ins, inserts and penetration blocks installed to locations to specified requirements.
- 4. Install metal decking as slab soffit
  - 4.1 Sheets prepared, where required, to manufacturers and/or job specifications.
  - 4.2 Metal decking installed to area and secured where required in accordance with manufacturer's and job specifications.
  - 4.3 Intermediary support provided to metal decking where required, in accordance with design specifications.
  - 4.4 Support to decking adjusted to ensure specified soffit alignment.
- 5. Inspect formwork
  - 5.1 Erected formwork, and ensure that formwork support system is inspected for safety and quality of work in accordance with standards for formwork.
  - 5.2 Loose dirt, sawdust and other waste material removed safely with due care to the welfare of site personnel and public.
  - 5.3 Release agent applied to formwork in accordance with specifications.
  - 5.4 Formwork and support system supervised during concrete pour.



- |    |                       |     |  |
|----|-----------------------|-----|--|
| 6. | Stripping of formwork | 6.1 | Approval to remove formwork support system obtained from appropriate site authority.   |
|    |                       | 6.2 | Edge boxing and braces carefully removed, denailed, cleaned and stored/stacked.  |
|    |                       | 6.3 | Support system backed off to appropriate height to loosen soffit decking.  |
|    |                       | 6.4 | Formwork removed safely and sequentially, denailed and relocated or stored.  |
| 7. | Back prop formwork    | 7.1 | Appropriate back propping system, selected where applicable, and installed according to standards and engineer's requirements. |
| 8. | Clean up              | 8.1 | All stripped formwork components removed from work area.   |
|    |                       | 8.2 | Loose debris and waste material removed and placed into job waste bins or rubbish stockpiles.                                  |
|    |                       | 8.3 | Formwork components re-used, de-nailed, where appropriate, cleaned and stored correctly.                                       |
|    |                       | 8.4 | Tools and equipment cleaned, maintained and stored.  |

## **RANGE STATEMENT**

This unit applies to all types of above ground constructed or systemised formwork to form reinforced concrete structure.

All formwork construction is to be in accordance with standards for formwork for concrete.

Formwork types include:

- columns
- walls
- beams
- floor slabs
- beams and slab
- drop panels
- stairways and landings

Formwork materials may include but not limited to:

- timber
- steel
- plywood
- hardboard
- composite materials
- metal decking

Support systems may include:

- timber props
- timber bearers
- telescopic props
- steel sectional bearers
- steel frames

Personal protective equipment may include:

- safety goggles/glasses
- boots
- gloves
- hard hats
- respirators/dust masks

Tools and equipment may include but are not limited to:

- spanners
- measuring tape/rule
- form oil sprayer mop
- floor centres
- telescopic props
- levelling equipment
- string lines
- scaffolding
- nail guns
- power saws
- power drills
- air compressor and hoses
- power leads
- general hand tools

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- protective equipment
- working platforms
- handling materials
- working from scaffolding
- safety hazards
- working with cranes
- use of plant and equipment

Quality Assurance requirements may include:

- work procedures
- safety requirements
- control of handling
- quality of materials
- detail to measurement
- soundness of construction
- specification finish

Preparation of metal decking sheets may include:

- cutting
- folding up ends
- forming tray ends

Reporting of faults should be in accordance with company's workplace procedures and may be verbal or written.

Work to be carried out in a team situation and in accordance with all relevant statutory regulations.

## EVIDENCE GUIDE

Competency is to be demonstrated by erecting and dismantling formwork for a suspended slab, column, beam and wall proposed structures.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace and formwork operations
- apply organisational quality procedures and processes within the context of erecting and dismantling formwork
- plan and sequence work in a logical manner
- select and use appropriate processes, tools and equipment
- construct and position formwork conforming to dimensions as specified in drawings and documentation
- select and use appropriate applications to ensure support structure rigid and stable
- give attention to accurate measurement, alignment and level and/or plumb of formwork
- clean and coat forms with release agent in preparation for placement of reinforcement
- avoid damage to forms when stripping through appropriate handling of materials
- identify common faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure that safe and effective processes are carried out

### (2) Pre-requisite Relationship of Units

- BCGCOR0051A Use hand and power tools
- BCGCOR0071A Erect and dismantle restricted height scaffolding
- BCGCOR0081A Use simple levelling devices
- BCGCAR0161A Prepare for carpentry construction
- BCGCAR0252A Assist with erecting and stripping of formwork

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements including relevant statutory regulations and codes
- types of formwork
- formwork construction
- understanding of hydraulic pressure on formwork by concrete when placed
- National Standards for Formwork for Concrete
- company's quality system and role of individual within that system
- drawings and specifications
- tools and equipment
- materials
- fixing and fasteners
- calculation of material requirements
- measuring and levelling

Skills

The ability to:

- work safely
- interpret drawings and specifications
- organise work
- set out work
- use tools and equipment
- communicate effectively
- calculate material quantities
- measure and level relative to formwork
- fix materials

**(4) Resource Implications**

The following resources should be provided:

- workplace location for installation of formwork
- plant, equipment and tools appropriate to the construction and erection processes
- materials/system formwork appropriate to formwork construction
- drawings and specifications of concrete structural members and proposed formwork

**(5) Method of Assessment**

Competency should be through direct observation of application to tasks and questioning related to underpinning knowledge.

Competency should be assessed under general guidance checking at various stages of the process and at the completion of the activity against performance criteria and specifications.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or as part of a team under limited supervision.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for Evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 3	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0613A: Fix timber mouldings**

## Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and fix timber mouldings in place, and applies to individuals working in carpentry and joinery trades in the construction industry.

## Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Plan and prepare work	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.
	1.2	Occupational Health & Safety requirements for workplace environment and fitting and fixing of timber mouldings recognised and adhered to.
	1.3	Materials for fixing out selected and checked for conformity against drawings and specifications.
	1.4	Appropriate personal protective equipment selected, correctly fitted and used.
	1.5	Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.
2. Fit and fix nosing to windows	2.1	Location of nosing set out to specifications with margin parallel with sill.
	2.2	Nosing marked and cut to length specified.
	2.3	Stop mitre fitted flush and true without gap, where applicable.
	2.4	Nosing return end finished to specification and positioned equal distance from each side of architrave.
	2.5	Nosing fixed to specifications free of marks on finished surface.
3. Cut and fix architraves to window and door frames/jamb	3.1	Architrave edge scribed and fitted to wall to within 1mm, where applicable.
	3.2	Architraves marked, cut to length, positioned and fitted to specifications.
	3.3	Mitre joints fitted flush to face and true without gap.

- 
- |  |     |  |
|--|-----|--|
|  | 3.4 | Margin for architrave maintained parallel with sill, where applicable, and with stiles and head of frame.      |
|  | 3.5 | Architraves fixed into place to specification.   |
| 4. Cut and fit scotia mould to windows | 4.1 | Scribed joint cut and fitted true without gap for internal angle joint between scotia lengths.                 |
|  | 4.2 | Scotia return end cut to profile shape and length as detailed for location in drawings/specifications.         |
|  | 4.3 | Scotia fixed to specifications with surface and return end free from marks.                                    |
| 5. Construct and install pelmets       | 5.1 | Pelmets constructed so that mitres fitted on face and edge, arises removed and material free from marks.       |
|  | 5.2 | Details of measurements of pelmet determined from actual door/window frame and/or drawings and specifications. |
|  | 5.3 | Pelmet sections marked to length, cut, fitted and assembled to specifications with mitres true without gaps.   |
|  | 5.4 | Pelmet fitted and secured to location to specifications in accordance with manner of removal/lifting.          |
| 6 Fit and fix skirting                 | 6.1 | Skirting prepared with scribes cut and fitted and scribe fixed against wall lining.                            |
|  | 6.2 | Other scribe joints cut and fitted to form internal corner joints between skirting lengths.                    |
|  | 6.3 | Mitre cuts set out, marked and cut and stopped ends fitted without error.                                      |
|  | 6.4 | Lengths of skirting marked accurately in accordance with end joints and cut accurately.                        |
|  | 6.5 | Scribes and mitres fitted to specification with joints true without gaps.                                      |
|  | 6.6 | Skirting fitted to wall and floor to line, flush with wall and within 1mm of floor.                            |
|  | 6.7 | Skirting fixed to wall through lining and framework to specifications.   |

- |   |          |     |   |
|---|----------|-----|---|
| 7 | Clean-up | 7.1 | Area cleared to specification.                      |
|   |          | 7.2 | Waste and unwanted material disposed of safely.     |
|   |          | 7.3 | Unused materials stored/stacked.                    |
|   |          | 7.4 | Tools and equipment cleaned, maintained and stored. |

## RANGE STATEMENT

This unit applies to fitting and fixing all timber mouldings used to provide a finish

Moulding to be fixed between walls and:

- floors
- windows
- door frames/jambs
- built-in cupboards
- built-in closet
- fitments
- stairs

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding use of adhesives

Personal protective equipment may include:

- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves
- hard hat
- safety boots

Tools and equipment may include but are not limited to:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• measuring tape/rule</li> <li>• hammer</li> <li>• spirit level</li> <li>• squares</li> <li>• chisels</li> <li>• hand saws</li> <li>• saw stools</li> <li>• power saws</li> </ul> | <ul style="list-style-type: none"> <li>• power drills</li> <li>• power planer</li> <li>• nail gun</li> <li>• air compressor and hoses</li> <li>• power leads</li> <li>• hand plane</li> <li>• coping saw</li> </ul> |
|--|---|

Finishes to window sills include:

- nosing and scotia
- architrave mitred
- architrave reversed and butted

Mouldings on architraves and skirting include:

- splayed
- bullnosed
- ornate period profile



Method of fixing may include:

- nails
- screws
- adhesives
- nail gun

## EVIDENCE GUIDE

Competency is to be demonstrated by fixing at least one separate moulding of those listed within the range of variables statement, to each of the element situations shown in the standard.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of the fitting and fixing of timber mouldings
- identify location and details of each moulding to be installed
- select and use of appropriate processes, tools and equipment
- give attention to accuracy in measuring, marking and cutting of mouldings
- use safe and effective procedures to cut, fit and fix mouldings
- identify typical faults and problems that occur and necessary action taken to rectify
- complete installation of mouldings to specifications
- interactive communication with others to ensure safe and effective workplace operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0021A Plan and organise work
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGCAR0161A Prepare for construction (carpentry)

Some elements of this unit could be concurrently assessed with:

- BCGCAR0572A Install external or internal doors
- BCGCAR0423A Install windows to wall framing
- BCGCAR0583A Install fitments
- BCGCAR1523A Fix linings and panelling

**(3) Underpinning Knowledge and Skills**Knowledge

knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- Quality Assurance
- materials
- tools and equipment
- fixing and fasteners
- calculation of material requirements
- methods of finishing with timber mouldings
- adhesives
- measuring and levelling

Skills

The ability to:

- work safely
- interpret drawings and specifications
- organise work
- use tools and equipment
- use fixings and fasteners
- calculate material quantities
- measure accurately
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- workplace location with lined room/s and installed doors and windows
- tools and equipment appropriate to cutting, fitting and fixing processes
- timber mouldings appropriate to finishing processes
- drawings and specifications relevant to proposed activities

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application process
- questioning related to underpinning knowledge
- inspection of the installed mouldings

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are being done under minimal supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 3	
Work with others and in team	Level -	
Use mathematical ideas and techniques	Level -	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0623A: Replace glass**

Competency Descriptor:

This unit deals with the skills and knowledge required to replace glass in framed areas, and applies to individuals engaged in the installation of glass in the building construction industry.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

- | <b>ELEMENT OF COMPETENCY</b> | <b>PERFORMANCE CRITERIA</b>   |
|------------------------------|---|
| 1. Plan and prepare work     | <ul style="list-style-type: none"> <li>1.1 Quality Assurance requirements for company's construction operations recognised and adhered to.</li> <li>1.2 Occupational Health and Safety (OH&amp;S) requirements for workplace environment and preparing for and replacing glass recognised and adhered to.</li> <li>1.3 Materials checked against specifications or instructions in accordance with actual job.</li> <li>1.4 Appropriate personal protective equipment selected, correctly fitted and used.</li> <li>1.5 Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.</li> <li>1.6 Safety hazards identified and correct procedures used to minimise risk to self and others.</li> </ul> |
| 2. Remove damaged glass      | <ul style="list-style-type: none"> <li>2.1 Basic scaffolding or ladder set up to job and OH&amp;S requirements, where applicable.</li> <li>2.2 Timber or metal beading, where applicable, carefully removed avoiding damage to bead or frame.</li> <li>2.3 Damaged glass safely removed from frame or sash and placed in waste container.</li> <li>2.4 Splayed putty, where applicable, carefully removed avoiding damage to frame and rebate.</li> <li>2.5 Rebate for glass cleaned free of any residue/pins/brads without damage.</li> </ul>  |

- |                          |   |
|--------------------------|---|
| 3. Replace glass         | 3.1 Frame sanded and primer applied to rebate areas as specified.   |
|                          | 3.2 Where necessary new glass scored and snapped safely and correctly to accurate measurement with 4mm allowance.                   |
|                          | 3.3 Putty or silicone firmly applied to rebate and glass pressed in firmly and evenly into bedding.                                 |
|                          | 3.4 Glass fixed into place according to specification.  |
|                          | 3.5 Timber bead fixed securely to wooden frame or metal bead screwed securely to metal frame to designed finish, where applicable.  |
|                          | 3.6 Putty or silicone applied to fill and smoothed with a flat blade to an even splayed finish aligned to rebate, where applicable. |
|                          | 3.7 Excess putty or silicone carefully removed.   |
| 4. Repair surface finish | 4.1 Damaged surface/holes stopped off and surface sanded to finish.   |
|                          | 4.2 Where required paint surface repaired and finished to match existing colour within specified drying time.                       |
| 5. Clean up              | 5.1 Job and area cleaned.   |
|                          | 5.2 Waste and unwanted material disposed of safely.   |
|                          | 5.3 Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to windows with wooden and metal frames and glass up to 4mm thickness.

Quality Assurance requirements may include:

- quality of materials
- handling and cleaning techniques
- installing of glass
- specification finish

Fixing and finishing of glass to frame may include:

- pins/brads and splayed putty
- timber bead nailed into place
- metal bead screwed into place

Tools and equipment may include but are not limited to:

- measuring tape/rule
- screwdrivers
- chisels
- glass cutters
- hammers
- putty knife
- brushes
- trestles
- plank
- straight edge
- hacking knife
- step ladders

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- protective clothing and equipment
- working platforms
- handling of materials
- safety hazards

Personal protective equipment may include:

- safety goggles/glasses
- boots
- gloves
- masks
- overalls

## EVIDENCE GUIDE

Competency is to be demonstrated by replacing the glass in a window frame or sash.

### (1) Critical Aspects of Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with OH&S regulations applicable to workplace operations
- apply organisational quality procedures and processes within the context of repairing windows
- identify location and details of waterproofing materials and application
- selection and use of appropriate processes, tools and equipment
- use safe and effective procedures to handle materials
- use safe and effective procedures to prepare frame for installation of glass
- identify typical faults and problems that occur and the necessary action taken to rectify
- interactively communicate with others to ensure safe and effective operations
- complete installation and finish of surface edges to specifications

### (2) Pre-requisite Relationship of Units

- BCGCOR0051A Use hand and power tools
- BCGCOR0111A Handle construction materials and waste
- BCGCAR0212A Prepare surfaces

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements including relevant statutory regulations,
- window and sash construction
- materials and characteristics
- methods of fixing glass
- tools and equipment
- fittings and fasteners
- ladders and basic scaffolding

Skills

The ability to:

- work safely
- organise work
- use tools and equipment
- work from ladders and elevated platforms
- measure and mark accurately
- cut glass
- fix beading
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- workplace location
- tools and equipment appropriate to removal and installation processes
- appropriate materials for proposed activity
- specifications relative to proposed activity

**(5) Method of Assessment**

Competence should be assessed while tasks are undertaken.

Assessment may involve:

- observation of application process
- inspection of completed work
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency may be assessed in the workplace or simulated workplace setting.

Assessment should be while tasks are undertaken either individually or working with a partner under indirect supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



**BCGCAR1523A: Fix linings and panelling**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and fix linings and panelling to provide finish, and applies to individuals working in the carpentry/joinery trade in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and prepare work	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
		1.2	Occupational Health & Safety (OH&S) requirements for workplace environment and fitting and fixing of linings and panelling identified and adhered to.
		1.3	Surface areas to be lined and type of material specified identified from drawings and specifications.
		1.4	Materials for lining selected and checked for conformity against drawings and specifications.
		1.5	Appropriate personal protective equipment selected, correctly fitted and used.
		1.6	Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.
2.	Locate and prepare frame/surface	2.1	Surface to be lined located from job drawings and prepared according to specifications.
		2.2	Surface set out, where required, to provide balanced panel or board effect.
		2.3	Fixing procedures for specified lining materials correctly identified from specifications.
3.	Install lining to frame/surface	3.1	Lining material marked, cut to length and/or shape, fitted and positioned to specifications.
		3.2	Lining installed with no gaps and vertical joints v-jointed to specified size, where applicable.
		3.3	Panelling fixed so that panel sections fit tightly against each other with edges planed where necessary to obtain specified joint.
		3.4	Securing and fixing of lining carried out to job and manufacturer's specifications.

- |    |     |  |
|----|-----|--|
|    | 3.5 | Surrounds/edging marked, cut, fitted and finished to specifications, where applicable.                         |
|    | 3.6 | Lining installed within +/- 1mm over any 2.4m length for straightness and within 0.5mm gaps for beaded joints. |
| 4. | 4.1 | Clean up<br>Area cleared free of all waste material and tools.   |
|    | 4.2 | Waste and unwanted materials disposed of safely.   |
|    | 4.3 | Unused materials stored/stacked.   |
|    | 4.4 | Tools and equipment cleaned, maintained and stored.  |

## RANGE STATEMENT

This unit applies to the lining of framed walling or battened surfaces to provide a finished surface.

Lining and panelling materials include:

- lining boards
- veneer panelling
- plywood
- hardboard
- MDF board
- particle board
- fibre cement sheet

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to work specifications

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding
- use of adhesives

Personal protective equipment may include:

- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves
- boots
- hard hat

Tools and equipment may include but are not limited to:

- |                       |                            |
|-----------------------|----------------------------|
| • measuring tape/rule | • power planer             |
| • hammer              | • nail gun                 |
| • spirit level        | • air compressor and hoses |
| • squares             | • power leads              |
| • chisels             | • hand plane               |
| • hand saws           | • string line              |
| • saw stools          | • straight edge            |
| • power saws          | • power drills             |

Preparation of surface may involve:

- fixing of battens to surface
- trimming of frame members to line
- fixing of additional noggings
- packing of frame members

Methods of fixing may include:

- nails
- screws
- adhesives

Surrounds/edging to provide finish may include:

- flat beading
- quad beading
- architrave
- skirting

Lining materials may be fixed vertically, horizontally or at an angle.

## EVIDENCE GUIDE

Competency is to be demonstrated by installing lining boards, veneered panelling and another sheeted material from those listed in the range of statement, to nominated areas to be lined.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrated compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of installing lining materials
- identify location and details of lining materials to be installed
- select and use of appropriate processes, tools and equipment
- accurately set out, mark and cut material
- use safe and effective procedures to set out, prepare and fix materials to areas
- identify typical faults and problems that may occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective workplace operations
- complete installation of materials to specifications

### (2) Pre-requisite Relationship of Units

- BCGCOR0021A Plan and organise work
- BCGCOR0051A Use hand and power tools
- BCGCAR0161A Prepare for construction process (carpentry)
- BCGCAR0202A Assemble simple partition frames
- BCGCOR0212A Prepare surfaces

This unit may be concurrently assessed with:

- BCGCAR0613A Fix timber mouldings

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- quality assurance with lining of surfaces
- materials
- tools and equipment
- fixing and fasteners
- adhesives
- calculation of material requirements
- measuring and levelling

Skills

The ability to:

- work safely
- interpret drawings and specifications
- organise work
- use tools and equipment
- use adhesives, fixings and fasteners
- calculate material quantities
- measure and level relevant to lining processes
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- workplace location with prepared surface ready for lining
- lining materials appropriate to application activities
- tools and equipment appropriate to installation processes
- drawings and specifications applicable to proposed activities

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application process
- inspection of installed area
- questioning related to underpinning knowledge

**Method of Assessment:** (cont'd)

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are being carried out under minimal supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCOR0061A: Use small plant and equipment**

Competency Descriptor:

This unit deals with the skills and knowledge required to safely and efficiently operate small construction plant and equipment, and applies to individuals working with ancillary equipment operation/masonry in the construction industry

Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Identify plant and equipment, their operations and safety requirements	1.1 Types and function of plant/equipment used in construction process identified. 1.2 Method of operation of plant/equipment identified and understood, relative to manufacturer's recommendations. 1.3 Occupational Health and Safety (OH&S) requirements for guarding and cut off switches identified. 1.4 OH&S requirements for personal protective equipment associated with using machines identified.
2. Select plant and equipment	2.1 OH&S requirements for operating and using plant and equipment recognised and adhered to. 2.2 Appropriate personal protective equipment selected, correctly fitted and used. 2.3 Plant and equipment selected consistent with needs of job. 2.4 Plant and equipment checked for serviceability/safety and faults reported to supervisor.
3. Use plant and equipment	3.1 Plant and equipment safely and effectively used. 3.2 Site hazards identified in use of plant and equipment and correct procedures used to eliminate or minimise risk. 3.3 Plant and equipment safely located when not in immediate use.

## 4. Clean up

## 4.1 Plant and equipment cleaned, maintained and stored.

**RANGE STATEMENT**

This unit applies to all small plant and equipment used in construction work

Plant and equipment includes but is not limited to:

- air compressor and hoses
- concrete mixer
- industrial wet and dry vacuum cleaner
- pallet trolley
- rollers
- compactors
- pumps and hoses
- brick/masonry saw
- terrazzo grinders
- ladders
- trestles and planks
- wheelbarrows

Personal protective equipment may include:

- overalls
- boots
- hard hat/cap
- safety glasses/goggles
- gloves
- ear plugs/muffs
- face masks/respirators

OH&S requirements are to be in accordance with relevant Statutory regulations, which may include:

- workshop/worksite safety practices
- control of noise and dust
- use of ladders and working platforms
- control of exhaust emission
- isolation of work areas

Reporting of faults may be written or verbal.

**EVIDENCE GUIDE**

Competency is to be demonstrated by the safe and effective operation of particular plant and equipment listed within the range of variable s statement relevant to the work orientation.

**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of processes
- demonstrate safe and effective operational use of tools, plant and equipment
- demonstrate and show understanding of manufacturer's specifications and recommendations
- interactively communicate with others to ensure safe and effective workplace operations

**(2) Pre-Requisite Relationship of Units**

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- portable power tools applicable to the construction process
- hand tools and a range of plant and equipment
- materials handling relevant to plant and equipment use
- workplace communication processes

Skills

The ability to:

- work safely to instructions
- use power tools, hand tools, plant and equipment applicable to the construction process
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- hand and power tools appropriate to the construction process
- plant and equipment appropriate to the construction process
- suitable work area appropriate to the construction process
- appropriate OH&S safety resources



**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **BCGMAS0091A: Carry out excavation and install support**

### Competency Descriptor:

This unit deals with the skills and knowledge required to effectively carry out excavation work and to install support for excavation, and applies to individuals working in trenching and foundation work in the construction industry.

### Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Plan and prepare work	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
		1.2	Occupational Health and Safety (OH&S) requirements recognised and adhered to in accordance with application tasks and workplace environment.
		1.3	Appropriate personal protective equipment selected, correctly fitted and used.
		1.4	Tools and equipment requirements identified to supervisor's instructions, consistent with the needs of the job.
2.	Locate excavation and erect safety equipment	2.1	Excavation located from instruction.
		2.2	Site pegs installed, service markers identified and excavation limits marked.
		2.3	Safety barricades, signs and lights erected in positions as required by OH&S requirements.
3.	Select tools and equipment	3.1	OH&S requirements associated with use of tools and equipment recognised and adhered to.
		3.2	Personal protective equipment items selected in accordance with excavation method and conditions correctly fitted and used.
		3.3	Hand tools and equipment selected consistent with the needs of the job, checked for serviceability and any faults reported to supervisor.

- |    |                                      |     |  |
|----|--------------------------------------|-----|--|
| 4. | Dig excavations by hand              | 4.1 | Where appropriate temporary drainage system established to divert surface and subsurface water to storm water drainage system. |
|    |                                      | 4.2 | Excavations safely dug with hand tools under direction.  |
|    |                                      | 4.3 | Service markers or taped areas identified.   |
|    |                                      | 4.4 | Damage or interference with underground services (power, water, gas, telephone) avoided during excavation process.             |
|    |                                      | 4.5 | Excavations cleaned out with hand tools, free from loose material.   |
| 5. | Assist machine excavation operations | 5.1 | Machine operator assisted with excavation by verbal and trimming support, ensuring it is to line and depth.                    |
|    |                                      | 5.2 | Excavation cleaned out by hand according to job requirements and instructions.   |
| 6. | Install excavation support           | 6.1 | Excavation works carried out in accordance with regulatory authority's requirements.   |
|    |                                      | 6.2 | Trench/excavation support installed to instruction according to OH&S regulations.  |
| 7. | Clean up                             | 7.1 | Site cleaned and cleared of unwanted excavated material.   |
|    |                                      | 7.2 | Tools cleaned, maintained and stored.  |

## RANGE STATEMENT

This unit applies to excavations carried out by hand and assisting excavator operators with their operation.

This unit applies to trench/excavation depth not exceeding 1.5m excavation and includes but is not limited to:

- post holes
- pits
- pad excavations
- trenches
- levelling of work area

Regulatory authorities are those under the Statutory Legislation governing:

- water
- sewerage
- gas
- electricity
- telephone

OH&S requirements are to be in accordance with the Statutory Legislation and regulations.

Work is to be undertaken in a team situation or individually under supervision.

Reporting of faults may be written or verbal.

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the safe and effective excavation and/or support of at least two different types of excavations from those listed within the range of variables statement, relevant to the work orientation.

### (1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during excavation processes
- identify and understand instruction relevant to the location of excavation
- demonstrate safe and effective operational use of tools and equipment
- interactively communicate with others to ensure safe and effective operations.

### (2) Pre-requisite Relationship of Units

- BCGCOR0001A Carry out interactive workplace communication
- BCGCOR0011A Carry out OH&S requirements
- BCGCOR0051A Use hand and power tools

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- hand tools and equipment
- materials handling
- measurement and calculations
- workplace communications
- regulatory authority's requirement for excavation/support
- range of "in ground" services and relevant markers/identifiers
- types of soil

Skills

The ability to:

- work safely to instructions
- use hand tools and equipment
- handle material
- measure relevant to excavation process
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- general construction materials for excavation support
- hand tools appropriate to excavation processes
- work area appropriate for the excavation activities
- appropriate OH&S safety resources to suit excavation location

**(5) Method of Assessment**

Competency shall be assessed while work is being done, under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work. Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of the process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGMAS0101A: Carry out concreting to simple forms**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively and safely carry out concreting to simple formwork, and applies to all individuals working in the preparation and placing of formwork and concrete.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Select tools and equipment	1.1	Quality Assurance requirements recognised and adhered to in accordance with company's construction operations.
	1.2	Occupational Health and Safety (OH&S) requirements recognised and adhered to in accordance with application tasks and workplace environment.
	1.3	Appropriate personal protective equipment selected, correctly fitted and used.
	1.4	Tools and equipment selected to instructions consistent with job requirements checked for serviceability and any faults reported to supervisor.
2. Erect and strip simple formwork	2.1	Design of formwork identified from drawings/supervisors instructions.
	2.2	Formwork safely erected on commencement and stripped on completion under direction of supervisor.
	2.3	Stripping agent applied to erected formwork, where appropriate.
	2.4	Timber components dewatered following stripping of formwork.
	2.5	All components cleaned, stacked and stored for re-use or bundled for removal.
3. Place and tie reinforcement	3.1	Reinforcing components safely handled and carried to required position.
	3.2	Reinforcing bars, rods, stirrups and mesh positioned under supervisor's directions.
	3.3	Bar chairs and spacers located in place, checking minimum edge cover under the direction of supervisor.

- |    |                |     |  |
|----|----------------|-----|--|
| 4. | Place concrete | 4.1 | Formwork/excavation cleaned of excess material and debris prior to concrete placement.                         |
|    |                | 4.2 | Concrete correctly proportioned and mixed and/or safely transported by wheelbarrow and placed under direction. |
|    |                | 4.3 | Pump line/chute controlled and concrete placed as directed.  |
|    |                | 4.4 | Concrete spread as directed to specified levels.   |
|    |                | 4.5 | Concrete consolidated under direction and screeded to finished levels as directed.                             |
|    |                | 4.6 | Surface of concrete finished as directed to specified finish.  |
| 5. | Clean up       | 5.1 | Formwork components removed from site.   |
|    |                | 5.2 | Pour site and surrounds cleared of concrete spills and other debris and surface left in safe condition.        |
|    |                | 5.3 | Worksite cleared of debris and unused materials.   |
|    |                | 5.4 | Tools and equipment cleaned, maintained and stored.  |

## RANGE OF STATEMENT

This unit applies to placing concrete to simple forms and excavations which includes:

- post holes
- trench foundations
- pad foundations
- slabs
- pathways
- simple concrete aprons
- channels
- garden edges

Formwork in this unit applies to edging forms where structural components would include:

- edge boards
- pegs
- struts
- bracing

Personal protective equipment may include:

- overalls
- boots
- hard hat/cap
- safety glasses/goggles
- gum boots
- face masks
- waterproof pants and jacket

Concrete finishes include:

- wood floated
- steel floated
- broom brushed



Excess material and debris includes:

- excavated loose soil
- off cut timber
- paper
- rags
- sticks
- nails

Concrete placement methods include:

- shovel
- wheelbarrow
- chute
- pump line

Work is to be undertaken in a team situation or individually under supervision.

Reporting of faults may be verbal or written.

OH&S requirements are in accordance with Statutory requirements.

## EVIDENCE GUIDE

Competency is to be demonstrated by the safe installation of formwork, reinforcement and concrete using any two of the simple forms listed within the range statement relevant to the work orientation.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during construction processes
- demonstrate safe and effective operational use of tools, plant and equipment
- interactively communicate with others to ensure safe and effective operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0011A Carry out OH&S requirements
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- hand tools and equipment
- concrete and formwork materials
- materials handling
- measurement and proportion
- transporting and placing concrete
- levelling equipment
- simple formwork and reinforcement components
- select and handle materials appropriate to concreting processes

Skills

The ability to:

- work safely to instructions
- measure relative to the concreting process
- use power tools and hand tools
- mix concrete by hand
- use simple levelling equipment
- communicate effectively
- select and handle materials appropriate to concreting processes

**(4) Resource Implications**

The following resources should be made available:

- general construction materials relevant to forming, re inforcing and placement of concrete
- hand tools and power tools appropriate to construction process
- tools and equipment appropriate to construction process
- suitable work area appropriate to concreting process
- information relevant to OH&S requirements

**(5) Method of Assessment**

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on inte grated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGTIL0121A: Prepare for wall and floor tiling**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively carry out work in preparing the process for laying wall and floor tiles, and applies to all individuals involve in tiling.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1	Plan for the construction process	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
		1.2	Preparation and planning requirements identified from drawings/work location and/or supervisor's instructions.
		1.3	OH&S requirements identified and adhered to in accordance with application tasks and workplace environment.
		1.4	Safety hazards identified and correct procedures adopted to minimise risk to self and others.
		1.5	Materials selected to supervisor's instructions and safely handled and stored/located ready for application.
		1.6	Appropriate personal protective equipment selected, correctly fitted and used.
		1.7	Tools and equipment selected consistent with the job requirements, checked for serviceability and any faults reported to supervisor.
		1.8	Fixing/fasteners selected consistent with job requirements, where applicable, and checked for serviceability.
2	Prepare materials selected for construction process	2.1	Activities for material preparation identified from specifications or supervisor's instructions.
		2.2	Material preparation carried out to satisfy requirements of application process.
3	Prepare work area suitable for construction process	3.1	Activities to be carried out in work area identified from type of tile, surface to be covered, method of application and access to surface.

- |   |   |     |   |
|---|---|-----|---|
|   |   | 3.2 | Work area prepared for the application process to specifications or supervisor's instructions.  |
| 4 | Use tools, plant and equipment appropriate for construction process     | 4.1 | Regular hand and power tools suitable for application process identified to job requirements.   |
|   |   | 4.2 | Hand and power tools used safely and effectively to carry out processes.  |
| 5 | Prepare underlay/sheeting for floor and walls                           | 5.1 | Assistance with underlay preparation provided under instructions and supervision.   |
|   |   | 5.2 | Surface finished flat/level with joints flush and sealed.   |
| 6 | Prepare background of brick, concrete or blockwork for solid plastering | 6.1 | Structure identified and surface wire and brushed to remove loose material and holes. Depressions and gaps filled with suitable patching material to supervisor's instructions. |
|   |   | 6.2 | Materials for splash coat proportioned and mixed to instructions ready for application to wet surface.  |
| 7 | Prepare for render surface for tiling                                   | 7.1 | Horizontal/vertical surrounds prepared for tiling process in accordance with type of tile and specified finish, where applicable.   |
|   |   | 7.2 | Materials for render coat proportioned and mixed to instructions ready for application.   |
|   |   | 7.3 | Rendered surface scratched and dried to instructions in accordance with specifications.   |
| 8 | Clean up  | 8.1 | Materials stacked/stored for re-use or disposal.  |
|   |   | 8.2 | Work area cleared.  |
|   |   | 8.3 | Tools and equipment cleaned, maintained and stored.   |
|   |   | 8.4 | Waste disposed of using appropriate method to NEPA requirements.  |

## RANGE STATEMENT

This unit applies to the preparation and construction processes carried out in preparing for the tiling of wall and floor surfaces.

Types of tiles include:

- ceramic
- marble
- stone
- granite
- terra cotta

Construction processes include:

- use of underlay material
- rendering to provide flat surface
- preparing of surfaces
- workplace preparation

Tools and equipment include but are not limited to:

- hammers
- saws
- measuring ruler/tape
- power saw
- power drills and screwdriver
- cement sheet cutters
- spirit levels
- concrete mixers
- shovels
- wheelbarrows
- wire brushes
- brooms
- power sander

Underlay materials include:

- plasterboard
- fibro cement

Fixing and fasteners include but are not limited to:

- plasterboard nails
- clouts
- soft sheet nails
- self tapping screws
- wall board adhesive

Surrounds for tiling include:

- extruded metal sections
- timber moulding

Patching materials include but are not limited to:

- plaster
- sand and cement
- cornice adhesive
- fillers (pre-mixed and mix)
- caulking compounds

Work is to be done under supervision with instructions being as part of supervisor's directions, consistent with job specifications.

Reporting of faults may be verbal or written.

OH&S requirements to be in accordance with Statutory Legislative regulations.

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the safe and effective preparation for tiling applications in accordance with the performance criteria using any of the processes and range of materials listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of construction processes
- demonstrate safe and effective operational use of tools and equipment
- give particular attention to specified finish of surfaces ready for tiling
- interactively communicate with others to ensure safe and effective workplace operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0011A Carry out OH&S requirements
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- drawings and specifications
- portable power tools
- hand tools and equipment
- materials relative to wall and floor tiling
- fixing and fasteners consistent with wall and floor tiling requirements
- workplace communications
- materials handling
- measurement relative to wall and floor tiling

Skills

The ability to:

- work safely to instructions
- use power tools and hand tools
- handle material
- select material
- measure relative to the process
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- general construction materials relevant to wall and floor tiling preparation activities
- hand and power tools appropriate to wall and floor tiling processes
- plant and equipment appropriate to wall and floor tiling processes
- suitable work area appropriate to wall and floor tiling activities

**(5) Method of Assessment**

Competency shall be assessed while work is undertaken under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.



## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGMAS0131A: Prepare for solid plastering**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively prepare the process for carrying out solid plastering work, and applies to individuals working in masonry in the construction industry.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Plan for construction process	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
	1.2	Preparation and planning requirements identified from drawings/work location and/or supervisor's instructions.
	1.3	OH&S requirements identified and adhered to in accordance with application tasks and workplace environment.
	1.4	Safety hazards identified and correct procedures adopted to minimise risk to self and others.
	1.5	Materials selected according to supervisor's instructions safely handled and stored/located ready for application.
	1.6	Appropriate personal protective equipment selected, correctly fitted and used.
	1.7	Tools and equipment selected consistent with the job requirements, checked for serviceability and any faults reported to supervisor.
	1.8	Fixing/fasteners selected consistent with the job requirements where applicable and checked for serviceability.
2. Prepare materials selected for construction process	2.1	Activities for material preparation identified from specifications or supervisor's instructions.
	2.2	Material preparation carried out to satisfy requirements of application process.
3. Prepare work area suitable for construction process	3.1	Activities to be carried out in work area identified from surface to be covered, method of application and access to surface.

		3.2	Work area prepared for construction process according to supervisor's instructions.
4.	Use tools, plant and equipment appropriate for construction process	4.1	Regular hand and power tools suitable for application process identified to job requirements.
		4.2	Hand and power tools used safely and effectively to carry out processes where applicable.
5.	Prepare background of brick, concrete or blockwork for solid plastering	5.1	Structure identified and surface prepared. Depressions patched with suitable material to supervisor's instructions.
		5.2	Concrete surface where appropriate is roughened or adhesive applied.
		5.3	Materials for scratch coat proportioned and mixed to instructions ready for application to wet surface.
6.	Clean up	6.1	Materials stacked/stored for re-use or disposed of.
		6.2	Work area cleared.
		6.3	Tools and equipment cleaned, maintained and stored.

## RANGE OF VARIABLES

This unit applies to the preparation and construction processes carried out in preparing for the application of solid plastering to surfaces.

Background surfaces for application of solid plastering include but not limited to:

- concrete
- concrete block work
- brickwork
- stonework
- polystyrene
- expanded metal or bird wire

Construction process includes:

- application of solid plaster
- preparation of surfaces
- finish of surfaces
- workplace preparation

Material preparation may include:

- locating loose materials for mixing
- preparing brackets for fixing to steelwork
- cutting expanded metal or bird-wire for placement

Tools and equipment may include but are not limited to:

- measuring tape/rule
- brushes
- broom
- screed boards
- scaffolding
- spirit level
- straight edges
- concrete mixer
- shovels
- wheelbarrows
- power leads
- hoses
- masonry hammer

Patching materials include but are not limited to:

- sand and cement
- plaster
- cornice adhesive
- caulking compounds

Work is to be undertaken either as part of a team or individually, under supervision with instruction being as part of the supervisor's directions either verbal or written.

Reporting of faults may be verbal or written.

OH&S requirements to be in accordance with the Statutory regulations.

Work area preparation may include:

- cleaning of area
- erecting restricted height scaffolding
- setting up concrete mixer
- establishing temporary water and power supply

Personal protective equipment may include:

- overalls
- waterproof pants and jacket
- boots
- water (rubber) boots
- gloves
- dust masks/respirators
- hard hat/cap
- safety goggles

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the safe and effective preparation for solid plastering applications in accordance with performance criteria using any of the range of materials and processes listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of construction processes
- demonstrate safe and effective operational use of tools, plant and equipment
- interactively communicate with others to ensure safe and effective workplace operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0011A Carry out OH&S requirements
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGCOR0071A Erect and dismantle restricted height scaffolding

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements
- drawings and specifications
- portable power tools
- hand tools and equipment
- materials relative to solid plastering
- materials handling
- measurement relative to solid plastering
- fixing and fasteners consistent with solid plastering requirements
- workplace communications

#### Skills

The ability to:

- work safely to instructions
- use power and hand tools
- handle material
- select material
- communicate effectively
- measure relative to process

**(4) Resource Implications**

The following resources should be made available:

- general construction materials relevant to solid plastering
- hand and power tools appropriate to solid plastering process
- plant and equipment appropriate to solid plastering process
- suitable work area appropriate to solid plastering activities

**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGMAS0141A: Prepare for dry wall plastering**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively carry out the preparation process of dry wall plastering, and applies to individuals erecting dry wall plastering in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan for construction process	<p>1.1 Quality Assurance requirements of company's construction operations recognised and adhered to.</p> <p>1.2 Preparation and planning requirements identified from drawings/work location and/or supervisor's instructions.</p> <p>1.3 OH&amp;S requirements identified and adhered to in accordance with application tasks and workplace environment.</p> <p>1.4 Safety hazards identified and correct procedures adopted in order to minimise risk to self and others.</p> <p>1.5 Materials selected to supervisor's instructions, safely handled and stored/located until ready for application.</p> <p>1.6 Appropriate personal protective equipment selected, correctly fitted and used.</p> <p>1.7 Tools and equipment selected consistent with the job requirements, checked for serviceability and any faults reported to supervisor.</p> <p>1.8 Fixtures/fasteners selected consistent with job requirements and checked for serviceability.</p>
2. Prepare materials selected for construction process	<p>2.1 Activities for material preparation identified from specifications or supervisor's instructions.</p> <p>2.2 Fasteners/fixing prepared for installation according to instruction.</p> <p>2.3 Material preparation carried out to satisfy the requirements of the construction process.</p>



- |    |   |     |  |
|----|---|-----|--|
| 3. | Prepare work area suitable for construction process                 | 3.1 | Activities to be carried out in work area identified from surfaces to be lined and height to be accessed.              |
|    |   | 3.2 | Work area prepared for construction process to supervisor's instructions.  |
| 4. | Use tools, plant and equipment appropriate for construction process | 4.1 | Regular hand and power tools suitable for application process identified to job requirements.                          |
|    |   | 4.2 | Hand and power tools used safely and effectively to carry out processes.   |
| 5. | Assist with sheet material installation                             | 5.1 | Sheet materials identified from stack and safely distributed to required location.                                     |
|    |   | 5.2 | Assistance provided with cutting sheets to job requirements.   |
|    |   | 5.3 | Assistance provided with placing and fixing sheets to job requirements.  |
| 6. | Clean-up  | 6.1 | Materials stacked/stored for re-use or removal.  |
|    |   | 6.2 | Work area cleared of debris.   |
|    |   | 6.3 | Tools and equipment cleaned, maintained and stored.  |
|    |   | 6.4 | Waste disposed of using appropriate method according to the National Environmental Protection Act (NEPA) requirements. |

## RANGE STATEMENT

This unit applies to the preparation processes carried out to support the installing of plaster sheeting and cornering to walls and ceilings which includes:

- plasterboard
- water resistant plasterboard

Background support of plaster sheeting includes:

- timber framework
- light steel framework
- metal furring channels
- timber battens

Work area preparation may include:

- clearing area
- preparing saw stools and planks
- work platform

Fixing and fasteners include but are not limited to:

- nails
- plasterboard nails
- clouts head nail
- self tapping screws
- wallboard adhesive
- cornice adhesive

Construction process includes:

- fixing of battens/furring channels
- worksite preparation
- fixing of sheeting
- fixing of cornice
- finish of surface

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- saws
- power drills and screwdrivers
- adhesive gun
- cutting knife
- scrapers
- saw stools and planks
- steel floats
- power leads

Material preparation may include:

- cutting corner bead to length
- identifying and marking sheets for location
- fixing material and fasteners located ready for use

Work is to be undertaken as part of a team under supervision, with instructions from supervisor and can either verbal or written.

Reporting of faults may be verbal or written.

OH&S requirements to be in accordance with statutory regulations.

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the safe and effective preparation for dry wall plastering application in accordance with the performance criteria using any of the range of materials and processes listed within the range of variables statement.

**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of construction process
- demonstrate safe and effective operational use of tools, plant and equipment
- adopt and use correct procedures in handling plaster sheets
- interactively communicate with others to ensure safe and effective installation processes

**(2) Pre-requisite Relationship of Units**

- BCGCOR0011A      Carry out OH&S requirements
- BCGCOR0051A      Use hand and power tools
- BCGCOR0061A      Use small plant and equipment

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- drawings and specifications
- portable power tools
- hand tools and equipment
- materials relative to dry wall plastering
- materials handling
- measurement relative to dry wall plastering
- fixing and fasteners consistent with dry wall plastering requirements
- workplace communication

Skills

The ability to:

- work safely to instructions
- use hand and power tools
- handle material
- select material
- communicate effectively
- measure relative to the process

**(4) Resource Implications**

The following resources should be made available:

- construction materials relevant to dry wall plastering
- hand and power tools appropriate to dry wall plastering process
- equipment appropriate to dry wall plastering process
- suitable work area appropriate to dry wall plastering activities

**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **BCGMAS0151A: Prepare for construction process (Brick/Block laying)**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively prepare the construction process for laying concrete blocks/bricks, and applies to individuals working in masonry/concrete trades in the construction industry.

Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Plan for construction process	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
		1.2	Job requirements identified from drawings and supervisor's instructions.
		1.3	Occupational Health and Safety (OH&S) requirements identified and adhered to according to application tasks and workplace environment.
		1.4	Safety hazards identified and correct procedures adopted to minimise risk to self and others.
		1.5	Materials selected to supervisor's instructions, safely handled and stored/located and ready for application.
		1.6	Appropriate personal protective equipment selected, correctly fitted and used.
		1.7	Tools and equipment selected are consistent with job requirements, checked for serviceability and any faults reported to supervisor.
2.	Prepare materials selected for construction process	2.1	Activities for material preparation identified from specifications or supervisor's instructions.
		2.2	Material preparation carried out to satisfy requirements of construction process.
		2.3	Correct manual handling techniques used to remove materials to location of placement.
		2.4	Components distributed and stacked to suit job location and construction sequence.

3.	Prepare work area suitable for construction process	3.1	Activities to be carried out in work area identified from type of brick/block, planned layout of construction and access location.
		3.2	Work area prepared for construction process according to supervisor's instructions.
4.	Use tools, plant and equipment appropriate for construction process	4.1	Regular hand and power tools suitable for application process identified to job requirements.
		4.2	Hand and power tools used safely and effectively to carry out processes.
5.	Mix mortar/concrete by hand	5.1	Materials for mortar/concrete selected to instruction.
		5.2	Additives for mortar/concrete selected to mix requirements.
		5.3	Specified proportions of materials for mortar/concrete mixture prepared accurately in accordance with instruction.
		5.4	Mortar/concrete materials mixed to a workable consistency.
6.	Assist with brick/block works	6.1	Bricks/blocks selected, visually checked to ensure that specifications are met including colour matching surrounding area and distributed to location.
		6.2	Surface brushed/scraped/washed and clean.
7.	Clean-up	7.1	Materials stacked/stored for re-use or removal.
		7.2	Work area cleared.
		7.3	Tools and equipment cleaned, maintained and stored.
		7.4	Waste disposed of using appropriate method according to EPA requirements.

## **RANGE STATEMENT**

This unit applies to the preparation processes carried out to support the laying of brickwork or block work.

Construction processes includes:

- worksite preparation
- preparation for brick/block laying
- finish brickwork/block work face

Tools and equipment include but are not limited to:

- hammer
- bolster
- shovel
- measuring tape/rule
- concrete mixer
- angle grinder
- masonry saw
- power leads
- hoses
- brushes and brooms
- wheelbarrows
- mortar boards
- bucket

Specifications for bricks/blocks should be part of Quality Assurance requirements and include:

- size
- shape
- sharp arises (where applicable)
- colour
- strength

Materials preparation may include:

- cutting concrete blocks
- locating lintels ready for placement
- distributing vents
- cutting and distributing reinforcement
- preparing materials for batching for mortar and concrete

Work is to be undertaken as part of a team under supervision with instructions being part of supervisor's directions, either verbal or written.

OH&S requirements to be in accordance with Statutory Legislation and regulations.

Reporting of faults may be verbal or writ ten.

Materials in addition to bricks/blocks include:

- cement and sand
- gravel
- adhesive
- brick/block reinforcement
- steel lintels
- mortar additives (workability and damp proofing)

Masonry units may include:

- wire cut bricks
- pressed bricks
- solid concrete blocks
- hollow concrete blocks

Work area preparation may include:

- cleaning strip footings or slab
- setting up concrete mixer
- locating mortar boards
- establishing temporary water and power supply
- preparing access for supply of mortar/concrete

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the safe and effective preparation for the laying of bricks/blocks in accordance with the performance criteria using any of the listed range of variables with either brickwork or block work.

### (1) Critical Aspects of Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of construction processes
- demonstrate safe and effective operational use of tools, plant and equipment
- adopt and use correct procedures to handle and place materials
- interactively communicate with others to ensure safe and effective worksite operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0011A Carry out OH&S requirements
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGCOR0111A Handle construction material

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements
- drawings and specifications
- portable power tools
- hand tools and equipment
- materials handling
- mortar and concrete constituents and ratio of mix
- measurement relative to brick/block work
- accessories associated with brickwork/block work construction
- workplace communications

#### Skills

The ability to:

- work safely to instructions
- read drawings
- use power tools and hand tools
- handle material
- select material
- measure relative to the construction process
- mix mortar and concrete manually and with mixer
- communicate effectively



**(4) Resource Implications**

The following resources should be made available:

- construction materials relevant to brick/block work
- hand and power tools appropriate to brick/block work processes
- plant and equipment appropriate to brick/block work processes
- suitable work area appropriate to construction process

**(5) Method of Assessment**

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCOR0171A: Prepare for demolition process**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively prepare construction process for demolition, and applies to all individuals carrying out initial demolition work in the construction industry.

Competency Field:

General and Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan for demolition process	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
		1.2	Job requirements identified from drawings/supervisor's instructions.
		1.3	OH&S requirements for demolition tasks and workplace environment recognised and adhered to.
		1.4	Safety hazards identified and correct procedures adopted to minimise risk to self and others.
		1.5	Protection of public and environment identified from demolition plan/instructions.
		1.6	Appropriate personal protective equipment selected according to job requirements, and correctly fitted and used.
		1.7	Tools and equipment selected to instructions consistent with the job requirements, checked for serviceability and any faults reported to supervisor.
		1.8	Protective equipment and materials selected to instructions, consistent with job requirements.
2.	Prepare materials for demolition process	2.1	Materials for protection of others, public and environment selected to instructions.
		2.2	Material preparation carried out to satisfy requirements of protective barriers and construction.
3.	Prepare work area for demolition process	3.1	Activities to be carried out in work area identified from supervisor's instructions.
		3.2	Protective barriers to be erected/constructed identified from drawing details and/or instructions.

	3.3	Barriers, dust blankets and/or safety fencing erected/installed to instructions.
4.	Use tools and equipment for construction processes	4.1 Regular hand and power tools suitable for application processes identified from demolition plan/supervisor's instructions.
	4.2	Hand and power tools used safely and effectively in construction processes.
5.	Set up plant and equipment for demolition processes	5.1 Position for locating plant and equipment identified in accordance with job instructions.
	5.2	Plant and equipment located and established in position ready for operation.
6.	Clean up	6.1 Unused materials stacked/stored.
	6.2	Work area cleared.
	6.3	Waste disposed of using appropriate method to NEPA requirements.
	6.4	Tools and equipment cleaned, maintained and stored.

## **RANGE OF VARIABLES**

This unit applies to the preparation processes carried out prior to and during the demolition of a building.

Construction processes include:

- preparation for protective barriers
- erection of safety fences
- erection of solid panelled fencing/hoarding
- installation of dust blankets
- worksite preparation

Demolition sites include:

- buildings on part of a block
- buildings occupying all of a block
- interiors of buildings

Personal protective equipment may include:

- overalls
- jacket
- waterproof pants and jacket
- boots
- gum boots
- hard hat
- safety goggles/glasses
- ear plugs/muffs
- gloves
- dust masks/respirators

Material item may include:

- timber
- blanket sheeting
- plywood
- steel fencing

Tools may include but are not limited to:

- hammers
- hand and power saws
- shovels
- fencing bars
- staplers
- chisels
- picks
- brooms
- cutting knife

Plant and equipment may include but are not limited to:

- air compressor and hoses
- pneumatic picks, rock-breakers
- wheelbarrows
- ladders

Work is to be undertaken as part of a team under supervision with instructions being part of supervisor's directions, either verbal or written.

OH&S requirements to be in accordance with Statutory Legislation and regulations.

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out safe and efficient preparation and construction processes in preparing for the demolition of a building using any of the listed range of variables.

### (1) Critical Aspects of Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with OH&S regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during construction and demolition processes
- demonstrate safe and effective operational use of tools, plant and equipment
- interactively communicate with others to ensure safe and effective workplace operations

**(2) Pre-requisite Relationship of Units**

- BCGCOR0011A Carry out OH&S requirements
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- portable power tools
- hand tools and equipment
- materials
- materials handling
- use of plant and equipment
- drawings and written instructions
- workplace communication

Skills

The ability to:

- work safely to instructions
- use power tools and hand tools
- handle material
- select material
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- demolition site
- hand and power tools appropriate to construction process
- plant and equipment appropriate to construction and demolition processes
- appropriate materials for construction activities

**(5) Method of Assessment**

Competency should be assessed while work is undertaken under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency shall be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGSTW0181A: Prepare for steelwork construction**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively prepare the construction process for steelwork, and applies to individuals carrying out basic activities in structural steel work in the construction industry.

Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1	Plan for construction process	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.
		1.2	Job requirements identified from drawings/work location and/or supervisor's instructions.
		1.3	OH&S requirements identified and adhered to in accordance with application tasks and workplace environment.
		1.4	Safety hazards identified and correct procedures adopted to minimise risk to self and others.
		1.5	Materials selected to supervisor's instructions, safely handled and stored/located ready for application.
		1.6	Appropriate personal protective equipment selected, correctly fitted and used.
		1.7	Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor.
		1.8	Fixing/fastenings selected to instructions consistent with job requirements.
2	Prepare materials selected for construction process	2.1	Activities for material preparation identified from specifications and/or supervisor's instructions.
		2.2	Material preparation carried out to satisfy requirements of construction process.
3	Prepare work area suitable for construction process	3.1	Activities to be carried out in work area identified from drawing details of proposed construction and supervisor's instructions.

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|---|--|-----|--|
|   |  | 3.2 | Work area prepared for construction process to supervisor's instruction.   |
| 4 | Use tools and equipment appropriate for construction process | 4.1 | Regular hand and power tools suitable for application processes identified to job requirements.                                |
|   |  | 4.2 | Hand and power tools used safely and effectively according to instruction to carry out construction processes.                 |
| 5 | Select materials and cut components                          | 5.1 | Materials obtained from stack/store according to instruction.  |
|   |  | 5.2 | Correct manual handling techniques used to move and place material.  |
|   |  | 5.3 | Materials safely moved to work area.   |
|   |  | 5.4 | Abrasive 'cut off' saw used to accurately cut one off or multiple components to the same length to instruction.                |
|   |  | 5.5 | Sharp edges of cut material ground off for safety in handling and preparation for joining.                                     |
| 6 | Distribute components  | 6.1 | Cut components distributed and stacked to suit job location and sequence of work application.                                  |
| 7 | Clean-up   | 7.1 | Unused and leftover materials stacked/stored for re-use or disposal.   |
|   |  | 7.2 | Work area cleared of debris.   |
|   |  | 7.3 | Tools and equipment cleaned, maintained and stored.  |
|   |  | 7.4 | Waste disposed of using appropriate method to according National Environmental Protection Agency (NEPA) and OH&S requirements. |



## RANGE STATEMENT

This unit applies to the preparation processes associated with structural steel work based on the construction of metal fabricated components.

Construction processes includes:

- worksite preparation
- materials preparation
  
- constructing fabricated components
- assembling of fabricated components

Fabricated units incorporating the assembly of components include but are not limited to:

- frame structure
  
- support stands for equipment
- structural columns and beams
- framework for ducting
- communications towers

Quality Assurance requirements may include:

- workplace procedures
- safety requirements
- control of handling
- quality of materials
- specifications of work

OH&S requirements are to be in accordance with Statutory Legislation and regulations and may include:

- worksite environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- emergency procedures

Hazards may include but are not limited to:

- pathway obstacles
- leftover material
- movement of other work personnel

Personal protective equipment may include:

- coveralls
- safety boots
- gloves
- hard hat/cap
- safety glasses/goggles
- ear plugs/muffs

Tools and equipment may include but are not limited to:

- measuring tape/rule
- squares
- abrasive cut off saw
- power grinders
- trolleys
- clamps
- support stands
- vertical drills
- block and chain
- work bench

Materials would involve rolled steel sections.

Fittings and fastenings may include but are not limited to:

- bolts and nuts
- self tapping screws

Material preparation may include:

- measuring and marking
- cutting to lengths
- grinding of edges
- drilling of holes
- stacking of material

Work area preparation may include:

- clearing area
- setting up equipment
- material storage

Work is to be undertaken as part of a team under supervision with instructions being part of a supervisor's directions, and maybe either verbal or written.

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by carrying out the safe and effective preparation of materials to construct a nominated fabricated structural steel unit in accordance with the listed range of variables.

**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of construction preparation processes
- demonstrate safe and effective operational use of tools, plant and equipment
- interactively communicate with others to ensure safe and effective workplace operations

**(2) Pre-requisite Relationship of Units**

- BCGCOR0011A      Carry out OH&S requirements
- BCGCOR0051A      Use hand and power tools
- BCGCOR0061A      Use small plant and equipment

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- portable power tools
- hand tools and equipment
- materials relevant to steelwork
- materials handling
- measurement relevant to steelwork construction
- drawings and specifications
- fixing and fasteners consistent with steelwork requirements
- workplace communication

Skills

The ability to:

- work safely to instructions
- interpret drawings
- use power and hand tools
- handle material
- select material
- measure relative to the processes
- prepare materials for steelwork
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- construction materials relevant to steelwork
- hand tools and power tools appropriate to steelwork processes
- plant and equipment appropriate to steelwork processes
- suitable work area appropriate to steelwork activity

**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of each process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **BCGPAD0191A: Prepare for painting and decorating**

Competency Descriptor:

This unit deals with the skills and knowledge required for effectively carrying out construction activities in preparation for painting and decoration process, and applies to individuals working in painting and decorating trades in the building and construction industry.

Competency Field:

General Construction

### **ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1	Plan for construction process	1.1	Quality Assurance requirements of company's painting and decorating operations recognised and adhered to.
		1.2	Preparation and planning requirements identified from drawings and/or plans.
		1.3	Occupational Health and Safety (OH&S) requirements determined and adhered to in accordance with application tasks and workplace environment.
		1.4	Safety hazards identified and correct procedures adopted to minimise risk to self and others.
		1.5	Materials selected according to supervisor's instructions, safely handled and stored/located and ready for application.
		1.6	Appropriate personal protective equipment selected, correctly fitted and used.
		1.7	Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor.
		1.8	Fixing/fasteners selected consistent with job requirements and checked for serviceability.
2	Prepare materials selected for construction process	2.1	Activities for material preparation identified from specifications or supervisor's instructions.
		2.2	Fasteners/fixing prepared for installation to instruction.
		2.3	Material preparation carried out to satisfy requirements of construction process.

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- |   |   |     |   |
|---|---|-----|---|
| 3 | Prepare work area suitable for construction process                     | 3.1 | Activities to be carried out in work area identified from surfaces to be finished and height to be accessed.          |
|   |   | 3.2 | Work area prepared for construction process to supervisors instructions.  |
| 4 | Use tools, plant and equipment appropriate for construction process     | 4.1 | Regular hand and power tools suitable for application process identified with job requirements.                       |
|   |   | 4.2 | Hand and power tools used safely and effectively to carry out processes.  |
| 5 | Assist with initial preparation of surfaces for painting and decorating | 5.1 | Sound surfaces prepared by either sanding or washing down using solvents or detergent.                                |
|   |   | 5.2 | Unsound surfaces prepared by scraping and/or sanding  |
| 6 | Assist with preparing surfaces for final finish                         | 6.1 | Stopping/filling material applied to a flush and even finish.   |
|   |   | 6.2 | Surface sanded by hand.   |
|   |   | 6.3 | Primer/sealer/undercoats applied to surface by brush and/or roller.   |
| 7 | Clean up  | 7.1 | Materials stacked /stored for re-use or disposal.   |
|   |   | 7.2 | Work area cleared.  |
|   |   | 7.3 | Tools and equipment cleaned and stored in a cool place.   |
|   |   | 7.4 | Waste disposed of using appropriate method according to National Environmental Protection Agency (NEPA) requirements. |
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## RANGE STATEMENT

This unit applies to the work undertaken in a team environment for the preparation and subsequent coating of general building surfaces.

Construction process includes:

- worksite preparation
- surface preparation
- application of prime and intermediate coatings

Tools and equipment may include but not limited to:

- |                      |                                |
|----------------------|--------------------------------|
| • scrapers           | • paint pans/buckets           |
| • filling            | • brush-ware accessories       |
| • knives/blades      | • roller frames                |
| • putty knives       | • covers                       |
| • duster brushes     | • roller accessories           |
| • hand sanders       | • ladders                      |
| • mechanical sanders | • trestles                     |
| • paint stirrers     | • planks                       |
| • drop sheets        | • hop-ups                      |
| • wire brushes       | • aluminium mobile scaffolding |
| • hammer             |                                |
| • nail punches       |                                |

Materials may include:

- preparatory products
- paints – solvent-borne (alkyd, urethane, urethane/alkyd, urethane oil or modified alkyd resins) and latex (PVA, PVA/acrylic, acrylic and styrene acrylic)

Surfaces to be painted may include common profiles encompassing:

- |  |                                      |
|--|--------------------------------------|
| • ply  | • in-situ-concrete                   |
| • building boards (including MDF and particle board) | • cement render                      |
| • fibre cement products, iron and steel              | • set plaster                        |
| • zinc coated and zinc alloy coated steel products   | • plaster glass products             |
| • masonry products                                   | • paper-faced gypsum plaster board   |
| • clay bricks  | • previously coated/treated surfaces |
| • concrete blocks                                    |                                      |



## EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective preparation of materials using the processes listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of construction process
- use tools, plant and equipment safely and effectively
- Processes comply with preparation of surfaces for final finish – painting and decorating

### (2) Pre-requisite Relationship of Units

- BCG0011A Carry out OH&S requirements
- BCG0051A Use hand and power tools
- BCG0061A Use small plant and equipment

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements
- portable power tools
- hand tools and equipment
- materials relevant to painting and decorating
- materials handling
- measurement and calculation
- interpreting plans
- fixing and fasteners consistent with painting and decorating requirements
- workplace communication requirements

#### Skills

The ability to:

- work safely to instructions
- use power and hand tools
- handle material
- select material
- communicate effectively
- measure relative to the process

**(4) Resource Implications**

The following resources should be made available:

- general construction materials relevant to painting and decorating
- hand and power tools appropriate to painting and decorating process
- plant and equipment appropriate to painting and decorating process
- suitable work area appropriate to painting and decorating process

**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based on integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of the process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**ITICQR0011A: Carry out data entry and retrieval procedures**

Competency Descriptor:

This unit deals with the skills and knowledge required to operate computer to enter, manipulate and retrieve data and to access information and communicate via the Internet.

Competency Field:

Information Technology and Communications - Operations

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Initiate computer system	1.1	Equipment and work environment are correctly checked for readiness to perform scheduled tasks.
	1.2	The hardware components of the computer and their functions are correctly identified.
	1.3	Equipment is powered up correctly.
	1.4	Access codes are correctly applied.
	1.5	Appropriate software is selected or loaded from the menu.
2. Enter data	2.1	Types of data for entry correctly identified and collected.
	2.2	Input devices selected and used are appropriate for the intended operations.
	2.3	Manipulative procedures of Input device conform to established practices.
	2.4	Keyboard/mouse is operated within the designated speed and accuracy requirements.
	2.5	Computer files are correctly located or new files are created, named and saved.
	2.6	Data is accurately entered in the appropriate files using specified procedure and format.
	2.7	Data entered is validated in accordance with specified procedures.
	2.8	Anomalous results are corrected or reported in accordance with specified procedures.



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|---|-----|---|
|   | 2.9 | Back-up made in accordance with operating procedures.   |
| 3. Retrieve data                                  | 3.1 | The identity and source of information is established.  |
|   | 3.2 | Authority to access data is obtained where required.  |
|   | 3.3 | Files and data are correctly located and accessed.  |
|   | 3.4 | Integrity and confidentiality of data are maintained.   |
|   | 3.5 | The relevant reports or information retrieved using approved procedure.   |
|   | 3.6 | Formats to retrieved report or information conform to that required.  |
|   | 3.7 | Copy of the data is printed where required.   |
| 4. Amend data                                     | 4.1 | Source of data/information for amendment is established.  |
|   | 4.2 | Data to be amended is correctly located within the file.  |
|   | 4.3 | The correct data/Information is entered, changed or deleted using appropriate input device and approved procedures. |
|   | 4.4 | The Integrity of data is maintained.  |
| 5. Use document layout and data format facilities | 5.1 | Requirements for document are verified where necessary.   |
|   | 5.2 | The given format and layout are appropriately applied.  |
|   | 5.3 | Facilities to achieve the desired format and layout are correctly identified, accessed and used.                    |
|   | 5.4 | Data manipulating facilities are used correctly.  |
|   | 5.5 | Format reflects accuracy and completeness.  |
| 6. Monitor the operation of equipment             | 6.1 | The system is monitored to ensure correct operation of tasks.   |
|   | 6.2 | Routine system messages are promptly and correctly dealt with.  |
|   | 6.3 | Non-routine messages are promptly referred in accordance with operating requirements.                               |



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|----|--|---|---|
|    | 6.4  | Error conditions within level of authority are dealt with promptly, and uncorrected errors are promptly reported. |   |
|    | 6.5  | Output devices and materials are monitored for quality.   |   |
| 7. | Access and transmit information via the Internet | 7.1   | Access to the Internet is gained in accordance with the provider's operating procedures.  |
|    |  | 7.2   | Evidence of the ability to negotiate web sites to locate and access specified information and other services is efficiently demonstrated. |
|    |  | 7.3   | E-Mail is sent and retrieved competently.   |
| 8. | Close down computer system                       | 8.1   | The correct shut down sequence is followed.   |
|    |  | 8.2   | Problem with shutting down computer is reported promptly.   |
|    |  | 8.3   | All safety and protective procedures are observed.  |
|    |  | 8.4   | The system integrity and security are preserved.  |
| 9. | Maintain computer equipment                      | 9.1   | Cleaning materials and/or solutions used meet specified recommendation.   |
|    |  | 9.2   | The equipment is cleaned as directed.   |
|    |  | 9.3   | Wear and faults identified are promptly reported to the appropriate personnel.  |

## RANGE STATEMENT

This unit applies to activities associated with essential operations linked to using and maintaining basic computer equipment.

### Equipment:

- install supplied computer
- install supplied peripherals

### Work environment:

- equipment
- furniture
- cabling
- power supply

**Input devices:**

- keyboard
- mouse
- scanner
- microphone
- camera

**Software systems to include for:**

- word processing
- spread sheet
- internet access

**Files save on:**

- network
- magnetic media
- personal PC

**Data:**

- textual
- numerical
- graphical

**File operations:**

Naming, updating, archiving, traversing field and records in database, use of search, sort, print

**Maintenance:**

- cleaning: enclosures, screen, input devices, output devices
- checking cables, etc

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to accurately carry out basic data entry and retrieval operations on a computer system in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- Initiate the use on the equipment.
- Use document layout and data format facilities.
- Locate and access data.
- Use file operations.
- Manipulate input devices.
- Key-in and format reports.
- Access to the internet.

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

knowledge of:

- safety for working with and around computers
- computer hardware and software systems
- procedure for initiating and closing down computer
- the operation of the data entry management system
- methods of locating files
- organisation's standards applicable to accessing files
- files operations and their applications
- file operation in database setting
- creating, locating and saving files
- using input devices
- using data checking devices
- formatting functions of software
- layout function of software
- graphic productions and manipulation
- regard for accuracy and security of information
- functions on the internet

Skills

The ability to:

- identify computer hardware
- manipulate data input devices
- access data
- use file operations
- key-in and format reports and letters
- retrieve data
- amend data
- print data
- save data
- search and receive data from the internet
- send and receive E-Mail

**(4) Resource Implications**

Files saved on network, magnetic media, personal Computer

Input devices: Keyboard, mouse, other selection devices

**(5) Method of Assessment**

Competency shall be assessed while work is undertaken under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competencies in this unit may be determined concurrently. Assessment must be in accordance with the performance criteria.

**(6) Context of Assessment**

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this



**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level -	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level -	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCOR0232A: Carry out general demolition**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively carry out demolition work of general nature, and applies to individuals working in the demolition of buildings and structures in the building industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and prepare work	1.1	Occupational Health and Safety (OH&S) requirements recognised and adhered to in accordance with demolition tasks and workplace environment.
		1.2	Site plan/work plan/sketch accurately interpreted and job requirements identified.
		1.3	Appropriate personal protective equipment selected in accordance with job requirements, correctly fitted and used.
		1.4	Tools, plant and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor.
		1.5	Appropriate barricades, hoardings and signage erected where applicable for the protection of public and isolation and identification of site.
		1.6	Disconnection of all previously existing utility services confirmed through supervisor and regulatory authorities.
		1.7	Scaffolding erected to OH&S regulations, where required.
		1.8	Body harness safely used and correctly anchored/secured while working at heights.
2.	Demolish building /structure	2.1	Designated area safely and sequentially demolished under instruction in a team situation.
		2.2	Demolition procedures carried out with safe processes of dismantling/demolishing and removing materials from location.
		2.3	Materials safely handled using appropriate handling techniques in accordance with type of material and OH&S requirements.

- |    |          |   |
|----|----------|---|
|    | 2.4      | Safety measures introduced to reduce dangerous situations of fire risk, dust and created hazards. |
|    | 2.5      | Materials for salvaging identified, safely handled and stacked ready for use.                     |
| 3. | Clean-up |   |
|    | 3.1      | Site cleared free from all waste and debris.  |
|    | 3.2      | Equipment and tools cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to the demolition of buildings and structures using hand tools and equipment. Work is undertaken in a team situation under supervision where instruction is part of supervisor's direction, either verbal or written.

Types of buildings and structures include:

- single and two storey commercial buildings
- single and two storey residential buildings
- partition walling
- small buildings
- retaining walls and fences

Personal protective equipment may include but is not limited to:

- overalls
- jacket
- boots
- hard hat
- safety glasses/goggles
- gloves
- dust masks/respirators
- ear plugs/muffs
- body harness

Waste and debris separate from main demolished materials may include but are not limited to:

- loose material
- small material items
- empty containers
- cardboard
- paper

Types of construction include:

- brickwork
- block-work
- brick veneer
- timber framed
- light steel framed

OH&S requirements to be in accordance with statutory legislation and regulations and may include:

- operation of demolition sites
- safety of public
- protective clothing
- protective equipment
- safety hazards and hazard control
- working from scaffolding
- use of tools and equipment

Previous existing services may include:

- electricity
- water
- gas
- telephone
- TV cable

Tools, plant and equipment may include but is not limited to:

- pinch bars
- crow bars
- picks
- shovels
- sledge hammers
- wheelbarrows
- scaffolding and ladder
- brooms
- pneumatic picks, rock breakers
- air compressors
- power saws and leads

Safety measures to reduce dangerous situations may include but are not limited to:

- removal of combustible material
- use of dust suppression blankets
- spraying water
- maintaining clearways for traffic
- removal of demolished material before serious build up
- hazardous materials removed singularly

Reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by working with a team and carrying out the demolition of at least one of the types of buildings listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to demolition and workplace operations
- show compliance with organisational policies and procedures within the context of demolition work
- adopt and carry out correct procedures prior to and during demolition process
- demonstrate safe and effective operational use of tools, plant and equipment
- indicate careful attention given to maintaining safety and carrying out measures to minimise risks
- display correct and safe handling techniques when handling materials
- communicate interactively with others and supervisor to ensure safe and effective demolition operations

### (2) Pre-requisite Relationship of Units

- Nil

Competency in this unit may be determined concurrently, based upon integrated project work using these units of competence.

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- demolition operations
- protection of public and environment
- hand and power tools
- plant and equipment
- materials relevant to demolition work
- materials handling
- measurement
- drawings, sketches and instructions
- workplace communications
- Statutory Regulatory authority requirements for general demolition
- scaffolding

Skills

The ability to:

- work safely to instructions
- use power tools and hand tools
- use plant and equipment
- handle material
- measure
- demonstrate application of Statutory regulatory authority requirements for general demolition
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- demolition site or simulated site situation
- construction materials relevant to support work for demolition
- hand tools and power tools appropriate to general demolition process
- plant and equipment appropriate to general demolition process
- appropriate protective clothing and equipment

**(5) Method of Assessment**

Competency should be assessed while work is carried out under direct supervision with regular checks, but may include some autonomy when working as part of a team, in order to achieve outcomes within time constraints.

Assessment should be by direct observation of application to tasks and questioning on underpinning knowledge.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGSTW0262A: Carry out steel-fixing**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively fabricate and place concrete reinforcement to formworks and footings, and applies to individuals carrying out steelfixing work in building and construction industry.

Competency Field:

General Construction

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1	Plan and prepare work	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
		1.2	OH&S requirements for application tasks and workplace environment recognised and adhered to.
		1.3	Reinforcement, type of fixing and locations identified from instructions/reinforcement schedule, job drawings and specifications.
		1.4	Formwork/excavation checked for completion and conformity to receive reinforcement.
		1.5	Appropriate personal protective equipment selected, correctly fitted and used.
		1.6	Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor.
		1.7	Delivered reinforcement checked for correct size type and quantities against reinforcement schedule/details shown in job detail drawings.
2	Prepare for reinforcement placement	2.1	Reinforcement bars cut and bent to required set -out and drawing details.
		2.2	Bars tied to designed configuration from drawings.
		2.3	Reinforcement sheets cut to required sizes, where applicable.
		2.4	Stiffening rods attached to panels to instructions as required to facilitate handling processes.

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|---|--|--|---|
|   | 2.5  | Bar chairs/spacers located to requirements of reinforcement schedule and job drawings. |   |
| 3 | Place and fix reinforcement                  | 3.1  | Fabric reinforcement sheets positioned correctly in accordance with approved drawings and schedule.   |
|   |  | 3.2  | Reinforcement bars located according to specification and positioned in accordance with approved drawings and schedule.                       |
|   |  | 3.3  | Reinforcement correctly placed using bar chairs, ligatures and spacers according to specification and schedule .                              |
|   |  | 3.4  | Reinforcement fabric and/or bars tied and/or welded in correct placement in accordance with approved drawings/job specification and AS1554.3. |
|   |  | 3.5  | Cast-in items secured to reinforcement to specifications.   |
|   |  | 3.6  | Ends of protruding reinforcement covered and protected in accordance with specifications.   |
| 4 | Inspect reinforcement prior to concrete pour | 4.1  | Location and position of ties and/or welded fabric/bar reinforcement checked for accuracy and spacing before concrete placement.              |
| 5 | Clean up                                     | 5.1  | Area cleared to specification.  |
|   |  | 5.2  | Waste material removed and placed in job waste bins or rubbish stockpiles.  |
|   |  | 5.3  | Tools and equipment cleaned, maintained and stored.   |

## **RANGE STATEMENT**

This unit applies to the fabrication and placement of steel reinforcement to concrete forms and excavations for footings on site.



Forms for concrete structural members and footing excavations may include:

- beam footings
- beams
- slab on ground
- suspended slabs
- columns
- stairs
- pads
- walls

Reinforcing may include:

- deformed bars
- plain rods
- mesh sheets of plain bars
- mesh sheets of deformed bars

Personal protective equipment may include:

- safety goggles/glasses
- boots
- gloves
- respirators
- hard hat

Tools and equipment may include but are not limited to:

- bolt cutters
- hacksaw
- wire nippers
- tie wire spool
- welding equipment
- measuring tape/rule
- reinforcement benders
- mesh guillotine
- range of general hand and power tools

Quality Assurance requirements may include:

- preparation of reinforcing
- placement and support
- concrete coverage
- control of handling

OH&S requirements to be in accordance with Statutory Legislation and regulations and may include:

- protective clothing and equipment
- cutting and handling of material
- working from scaffolding
- using tools and equipment
- worksite environment and safety
- handling of materials

Welding of reinforcement fabric and/or bars to be in accordance with:

- AS1554.3 – 1983 Welding of Reinforcing Steel

Instructions and reporting of faults may be verbal or written, with instructions being part of a supervisor's directions.

Work is to be undertaken in a team situation under supervision.

## EVIDENCE GUIDE

Competence is to be demonstrated by the safe and effective placement of reinforcing to at least three (3) of the separate types of structures/members/footings listed within the range of variables.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational policies and procedures
- select and use appropriate processes, tools and equipment
- apply organisational quality procedures and processes within the context of fixing steel reinforcing
- check materials for conformity with specifications and job requirements
- Identify and follow assembly location and placement sequence
- demonstrate safe and effective use of tools and equipment and handling of materials
- place and tie/weld reinforcement to specification
- interactively communicate with others to ensure safe and effective operations in fixing the reinforcing

### (2) Pre-requisite Relationship of Units

- BCGCOR0011A      Carry out OH&S requirements
- BCGCOR0051A      Use hand and power tools
- BCGCOR0061A      Use small plant and equipment

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- formwork for concrete
- portable power tools, hand tools
- plant and equipment
- materials relevant to steel-fixing
- materials handling
- measurement and calculation
- drawings and specifications
- reinforcement schedule
- appropriate steel-fixing procedures and legislative requirements

Skills

The ability to:

- work safely to instructions
- interpret drawings and specifications/instructions
- use power tools and hand tools
- handle materials
- select materials
- measure relative to the process
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- reinforcement materials appropriate to construction process
- hand tools and power tools appropriate to steel fixing process
- plant and equipment appropriate to steel fixing process
- suitable formwork or excavation appropriate to construction process

**(5) Method of Assessment**

Competence should be assessed through direct observation of tasks and questions related to underpinning knowledge.

Competence should be assessed under general guidance checking at various stages of the process and at completion of the activity against performance criteria and specifications.

**(6) Context of Assessment**

Competency may be assessed in the workplace or simulated workplace setting.

Assessment should be while tasks are undertaken either individually or as part of a team under limited supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGMAS0292A: Carry out concrete work**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively handle, place and compact concrete, and applies to individuals working in the construction industry.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

- | <b>ELEMENT OF COMPETENCY</b>    | <b>PERFORMANCE CRITERIA</b>   |
|---------------------------------|---|
| 1. Plan and prepare work        | <ul style="list-style-type: none"> <li>1.1 Quality Assurance requirements for company's concrete operations recognised and adhered to.</li> <li>1.2 OH&amp;S requirements with application tasks and workplace environment recognised and adhered to, including identification of hazardous material.</li> <li>1.3 Appropriate personal protective equipment selected, correctly fitted and used.</li> <li>1.4 Tools and equipment selected, to carry out processes consistent with job requirements, checked for serviceability and any faults reported to supervisor.</li> <li>1.5 Procedures and the individual's role are identified through the supervisor in team operation to place concrete.</li> </ul> |
| 2. Carry out concrete placement | <ul style="list-style-type: none"> <li>2.1 Assistance provided with the undertaking of relevant concrete tests.</li> <li>2.2 Concrete transported correctly and safely with wheelbarrow and discharged into formwork using correct manual handling techniques.</li> <li>2.3 Concrete placed to instruction, minimising spillage.</li> <li>2.4 Concrete compacted to specification and instruction using immersion vibrator or other specified method.</li> <li>2.5 Concrete screeded to specified levels/grades as per instructions.</li> <li>2.6 Concrete finished to instruction to specified surface finish.</li> <li>2.7 Curing process identified and applied to instruction.</li> </ul>                   |

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|                  | 2.8 | Concrete surface adequately covered with appropriate material to support curing process and protect it from damage. |
| 3. Clean up site | 3.1 | Site cleaned free of debris.  |
|                  | 3.2 | Waste and unwanted material disposed of safely.   |
|                  | 3.3 | Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to manual handling and placing of concrete.

Work is undertaken as part of a team under supervision.

Quality Assurance requirements may include:

- workplace operations and work procedures
- quality of material
- control of placement, compaction and finish of concrete
- use and maintenance of tools, plant and equipment
- specifications of work

Tools and equipment may include:

- shovels and rakes
- wooden floats
- steel floats
- bull floats
- immersion vibrator or vibrating table
- tarpaulins/covers
- curing agent applicator
- steam generator
- wheelbarrow
- tamping rods
- screed boards
- edging tool
- brooms

Concrete work includes placement of concrete onto:

- foundation
- slab on
- simple retaining walls

Concrete may be cured by:

- atmospheric conditions
- applied moisture
- applied agents

Waste material and debris may include:

- concrete spillage
- excess concrete
- pieces of timber
- empty containers
- cardboard and paper

Personal protective equipment may include:

- safety goggles/glasses
- respirators
- ear muffs and safety boots
- boots
- water proof pants and jacket

Concrete may be transported to formwork and placed by the following methods:

- directly from pre-mix truck
- wheelbarrow
- buckets
- manually

Concrete may be finished by:

- steel float
- bull floats
- wood float
- broom

Instructions would be part of supervisor's directions. Instructions and reporting of faults may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective placement and finish of concrete using any of the conditions and types of structures listed within the range of variables statement, relevant to the work orientation.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to concrete work and workplace operations
- show compliance with organisational policies and procedures including Quality Assurance requirements
- carry out correct procedures prior to and during application of concreting process
- demonstrate safe and effective operational use of tools, plant and equipment
- interactively communicate to support team and ensure safe and effective workplace operations
- give particular attention to placement and compaction processes

**(2) Pre-requisite Relationship of Units**

Competency in this unit may be determined concurrently, based upon integrated project work using the following units of competence:

- BCGCAR0252A Erect and strip formwork for concrete work
- BCGSTW0262A Carry out steel-fixing

Pre-requisites for this unit in addition to BCGCAR0252A and BCGSTW0262A are:

- BCGCOR0011A Carry out OH&S requirements
- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGMAS0101A Carry out concrete work to simple forms

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- concrete construction
- hand tools and equipment
- materials relating to the concreting process
- materials handling
- measurement relevant to concrete work
- drawings/specifications
- transporting, placing concrete
- levelling equipment
- simple formwork and reinforcement component

Skills

The ability to:

- work safely to instructions
- use power tools and hand tools
- handle materials
- select equipment appropriate to concreting process
- measure relative to concreting process
- communicate effectively
- use simple levelling equipment

**(4) Resource Implications**

The following resources should be made available:

- hand tools and power tools appropriate to concreting process
- plant and equipment appropriate to concreting process
- suitable formwork with placed reinforcement appropriate to concreting process
- concrete testing equipment



**(5) Method of Assessment**

Competency shall be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team, in order to achieve outcomes within time constraints.

Assessment should be by direct observation of tasks and questioning related to underpinning knowledge.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria, or may be at the completion of the process.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BSBSBM0012A: Craft personal entrepreneurial strategy**

## Competency Descriptor:

This unit deals with the skills and knowledge required to craft an entrepreneurial strategy that fits with the attitudes, behaviours, management competencies and experience necessary for entrepreneurs to meet the requirements and demands of a specific opportunity.

Competency Field: Small Business Operations

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Demonstrate knowledge of the nature of entrepreneurship	1.1	Concepts associated with entrepreneurship are clearly defined.
	1.2	Factors which influence entrepreneurship in and outside of Jamaica are correctly identified and explained.
	1.3	The importance of entrepreneurship to economic development and employment is explained clearly.
	1.4	The findings of research conducted on entrepreneurial ventures and successes in the Caribbean region are clearly presented in an appropriate format.
	1.5	Differences between wage employment and entrepreneurial ventures are correctly stated.
2. Identify and assess entrepreneurial characteristics	2.1	Relevant research is carried out and required entrepreneurial characteristics identified.
	2.2	Entrepreneurial characteristics identified are assessed and ranked.
	2.3	An understanding of the process and discipline that enable an individual to evaluate and shape choices and to initiate effective action is correctly demonstrated.
	2.4	Factors that will help an entrepreneur to manage the risk and uncertainties of the future, while maintaining a future orientated frame of mind, are identified.

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- |    |                                   |     |   |
|----|-----------------------------------|-----|---|
| 3. | Develop self-assessment profile   | 3.1 | Self-assessment tools/methods to identify personal entrepreneurial potential are identified and properly used.  |
|    |                                   | 3.2 | The ability to apply creativity, problem-solving techniques and principles to solve business related problems are demonstrated.   |
|    |                                   | 3.3 | Feedback from others for the purpose of becoming aware of blind spots and for reinforcing or changing existing perceptions of strengths/ weaknesses is appropriately obtained.  |
| 4. | Craft an entrepreneurial strategy | 4.1 | A profile of the past that includes accomplishments and preferences in terms of life and work styles, coupled with a look into the future and an identification of what one would like to do is developed.                |
|    |                                   | 4.2 | Commitment, determination and perseverance; orientation towards goals; taking initiative and accepting personal responsibility; recognizing management competencies and identifying areas for development are determined. |
|    |                                   | 4.3 | Written guidelines to obtain feedback that is solicited, honest, straightforward, and helpful but not all positive or negative are developed to facilitate reviews.   |
|    |                                   | 4.4 | Framework and process for setting goals which demand time, self-discipline, commitment, dedication and practice are developed.  |
|    |                                   | 4.5 | Goals established are specific and concrete, measurable, relate to time, realistic and attainable.  |
|    |                                   | 4.6 | Priorities, including identifying conflicts and trade-offs and how these may be resolved are established.   |
|    |                                   | 4.7 | Potential problems, obstacles and risks in meeting goals are identified.  |
|    |                                   | 4.8 | Specified action steps that are to be performed in order to accomplish goals are identified.  |
|    |                                   | 4.9 | The method by which results will be measured is indicated.  |

- 4.10 Milestones for reviewing progress and tying these to specific dates on a calendar are established.
- 4.11 Sources of help to obtain resources are identified.
- 4.12 Evidence of the ability to review process and periodically revise goals is demonstrated.

## RANGE STATEMENT

At this stage of the entrepreneurial process the entrepreneur must be able to conduct a self-assessment profile, examine the frame work for self assessment, develop a personal entrepreneurial strategy, identify data to be collected in the self-assessment process and learn about receiving feedback and setting goals.

Concepts associated to include:

- risk
- entrepreneurship
- macro-screening
- micro-screening
- competition
- wage employment

Influencing factors to include:

- market conditions
- markets – demand/supply
- global trends
- level of economic activities
- funding
- economic stability
- social stability
- resources availability

The entrepreneur must be able to:

- understand the extreme complexity in predicting or aligning him/herself to specific careers in an environment of constant change
- determine the kind of entrepreneur he or she wants to become based on attitudes, behaviours, competencies, experience and how these fit with the requirements and demands for a specific opportunity
- evaluate thoroughly his or her attraction to entrepreneurship
- effectively develop personal plan
- utilize available information that will enhance his or her ability to achieve success

The entrepreneur may encounter setbacks if the planning process is not effectively pursued.

Pitfalls may include:

- proceeding without effective planning which may result in commitment to uncertainty
- commitment to a premature path with the desirability of flexibility can lead to disaster
- personal plans fail for the same reasons as business plans including frustration if the plan appears not to be working immediately and the challenges of changing behaviour from an activity-oriented routine to one that is goal oriented
- developing plans that fail to anticipate obstacles, and those that lack progress milestones and reviews

## EVIDENCE GUIDE

Competency is to be demonstrated when the entrepreneur is able to undertake a personal entrepreneurial assessment exercise to determine if he or she possesses the necessary credentials to be a successful entrepreneur. This stage of the entrepreneurial process is critical since experience has shown that the founder is one of the deciding forces if the venture is to succeed and prosper.

### (1) Critical Aspects of Evidence

The entrepreneur will be assessed by his/her action in developing an orchestrated plan in order to effectively pursue the business concept.

### (2) Pre-requisite Relationship of Units

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- personal entrepreneurial profile systems
- effective management systems: marketing, operations/productions, finance, administration, law
- how to measure feedback
- the method of developing a personal plan and a business plan
- understanding the difference between entrepreneurial culture and management culture

Skills

The ability to:

- determine barriers to entrepreneurship
- minimize exposure to risk
- exploit any available resource pool
- tailor reward systems to meet a particular situation
- effectively plan and execute activities
- use computer technology to undertake assessments

**(4) Resource Implications**

The following resources should be made available:

Personal computer with access to the internet and appropriate software that will enable one to conduct the necessary analysis using the internet

**(5) Method of Assessment**

A useful method of assessment is to determine if the venture can stand up to the test of critical evaluation.

**(6) Context of Assessment**

This stage of the entrepreneurial process is assessed when comparisons are made between actual outcomes and plans/projections.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0423A: Install windows to wall framing**

Competency Descriptor:

This unit deals with the skills and knowledge required to competently install windows to wall framing, and applies to individuals working in the installation of windows in the construction industry.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Plan and prepare work	<p>1.1 Quality Assurance requirements for company's construction operations recognised and adhered to.</p> <p>1.2 Occupational Health &amp; Safety (OH&amp;S) requirements for installing of timber and aluminium window frames to framed walls recognised and adhered to.</p> <p>1.3 Windows for installation checked for conformity against drawings and specifications.</p> <p>1.4 Appropriate personal protective equipment selected, correctly fitted and used.</p> <p>1.5 Tools and equipment selected to carry out processes consistent with requirements of job and checked for serviceability.</p> <p>1.6 Materials for packing selected and cut to practical sizes less than width of wall studs.</p>
2. Install timber or aluminium window frame	<p>2.1 Window opening size checked to be greater than overall window frame, to clearance on width for plumb fitting of window frame and on height for fitting of sill and head to level.</p> <p>2.2 Reveals butt joined at corners and fixed securely to aluminium frames to specification.</p> <p>2.3 Sill trimmer of opening, checked for level and packers placed at ends to level, where required.</p> <p>2.4 Window frame positioned and fixed into place so that head/sill are level and stiles plumb and out of winding to specification.</p>



- 2.5 Window head and sill fixed level to + or – 1mm and faces and edges of stiles plumb to + or – 1mm.
  - 2.6 Fixing of window frame to wall frame to be through/to studs in accordance with specified fixing.
  - 2.7 Reveals or frame finished flush with face of inside wall lining.
  - 2.8 Window frame located to suit perpend and storey rod for brick veneer construction, where applicable, to + or – 2mm.
3. Clean-up
    - 3.1 Waste and unwanted material disposed of safely.
    - 3.2 Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to timber and aluminium window frames installed to timber or metal wall framing.

Wall framing includes:

- masonry walls
- timber walls
- partition, nonload bearing

Quality assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

OH&S requirements to be in accordance with Statutory Legislation and regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stools
- power saws
- power drills
- nail gun
- air compressor and hoses
- power leads

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- gloves
- safety helmet

Fixing methods to wall framing may include but not limited to:

- nails
- screws
- self tapping screws

Materials for packing may include:

- plywood
- hardboard
- particle board

## EVIDENCE GUIDE

Competency is to be demonstrated by installing both a timber window frame and an aluminium window frame to a framed wall. In one situation the wall frame is to be of timber construction and the other of metal.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of installing windows into wall frames
- identify location and details of window frames to be installed
- select and use appropriate processes, tools and equipment
- give particular attention to window frame being plumb and level to specifications
- carry out fixing of window frame through packing material between stiles and studs
- demonstrate safe and effective procedures to prepare and install each window
- identify typical faults and problems that occur and necessary action taken to rectify
- Interactively communicate with others to ensure safe and effective installation processes

### (2) Pre-requisite Relationship of Units

- BCGCOR0051A Use hand and power tools
- BCGCOR0081A Use simple levelling devices
- BCGCOR0242A Carry out levelling

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- work drawing and specifications
- wall frame construction
- window construction
- materials
- installation procedures
- tools and equipment
- fixing and fasteners

Skills

The ability to:

- work safely
- read and interpret drawings
- organise work
- use tools and equipment
- fix materials
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- workplace location with wall framing and openings
- windows units appropriate to installation process
- tools and equipment appropriate for installation processes
- drawings and specifications

**(5) Method of Assessment**

Competency will be assessed while tasks are undertaken.

Assessment may involve:

- observation of application process
- inspection of installed unit
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency will be assessed in the normal or simulated workplace environment.

Assessment will be while tasks are undertaken individually or while working with a partner under minimal supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level -	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCOR0433A: Carry out basic setting out**

Competency Descriptor:

This unit deals with the skills and knowledge required to carry out basic setting out of buildings and structures, and applies to individuals working in carpentry and masonry trades in the

Competency Field:

General Construction

**ELEMENT OF  
COMPETENCY****PERFORMANCE CRITERIA**

1. Plan and prepare work	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.
	1.2	OH&S requirements for setting out processes on developed/undeveloped sites recognised and adhered to.
	1.3	Building/structure to be set out identified in details from site drawings.
	1.4	Appropriate personal protective equipment selected, correctly fitted and used.
	1.5	Tools and equipment selected to carry out processes consistent with requirements of job and checked for serviceability.
	1.6	Materials for pegs and profile board selected and cut to determined lengths.
2. Identify and indicate site boundaries	2.1	Survey pegs at corners of site located and identified.
	2.2	String lines set accurately into position to identify boundaries of site in accordance with site plan and survey pegs.
3. Set out building line	3.1	Measurements of building line from boundary or existing building determined from site drawings.
	3.2	Approximate position and length of line plus 1.5m clearance at each end determined for hurdle location.
	3.3	Pegs and profile board installed so that profile approximately level across and between one another with adequate provision to mark footing and wall width on profile board.

		3.4	Location for line accurately marked with nails on profile board and line set taut into position to true alignment with boundary.
4.	Set out right angled corner	4.1	Corner of building determined on set building line to true measurement from adjacent boundary and marked with peg.
		4.2	Right angle set up to line from corner peg using the 3, 4, and 5, principle.
		4.3	Profile board installed to approximate level of other profile board and line set taut to right angled alignment.
5.	Install other building lines	5.1	Profile board for remaining building lines installed to appropriate locations approximately level with established profile board.
		5.2	Measurement for remaining building lines accurately marked and nailed on profile board to dimensions from site drawings.
		5.3	String lines set taut into position to nailed locations on profile board.
6.	Check for square	6.1	Diagonals of main rectangle checked to ensure square and where discrepancy more than 5mm over minimum diagonal length of 5m, lines adjusted to provide square relationship within 5mm.
7.	Clean up	7.1	Unused materials stored/stacked.
		7.2	Tools and equipment cleaned, maintained and stored.

## RANGE OF STATEMENT

This unit applies to the setting out of buildings or structures with straight lines and square corners.

It applies to the set out of regular plan shaped buildings, which may be of the following construction:

- timber framed
- brick veneer
- block veneer
- steel framed
- solid brick
- solid stone

Quality assurance requirements may include:

- workplace operations and procedures
- use and maintenance of equipment
- attention to specifications and measurements

Personal protective equipment may include:

- boots
- hard hat
- safety glasses
- ear plugs/muffs
- dust mask/respirator
- jacket

OH&S requirements to be in accordance with Statutory legislation and regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment

Tools and equipment may include but are not limited to:

- measuring tape/rule
- sledge hammer
- hammers
- power saw
- hand saw
- nail bag
- string lines
- spirit levels
- framing square

Site boundaries may be marked by:

- survey pegs
- fence built on line
- building built on line

Fence built on boundary may need to be checked for:

- true line of boundary
- centre of fence line
- face of fence

## EVIDENCE GUIDE

Competency is to be demonstrated by the performance of setting out, and establishing profiles board and building lines for a nominated 'L' shaped building on a building block.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of setting out the location of a building
- identify location and details of building and site for set out
- select and use appropriate processes, tools and equipment
- use accurate and effective procedures to establish initial building line
- give attention to accuracy in setting line up square to initial line

**Critical Aspects of Evidence (Cont'd).**

- apply accurate and appropriate procedures to establish profiles for all building lines
- give attention to ensure profiles approximately level
- identify typical faults and problems that occur and necessary action taken to rectify
- set-out completed to all requirements and accurate measurements
- interactively communicate with working partner to ensure safe and effective work procedures

**(2) Pre-requisite Relationship of Units**

- BCGCOR0031A Draw and interpret simple drawings
- BCGMAS0151A Prepare for brick/block laying
- BCGCOR0242A Carry out levelling

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawing and specifications
- tools and equipment
- measuring
- levelling
- setting out procedures
- construction of profiles
- knowledge of restricted covenant

Skills

The ability to:

- work safely
- organise work
- read and interpret drawings
- use tools and equipment
- measure accurately
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- building site and appropriate drawings for activity
- tools and equipment appropriate for setting out process
- materials appropriate for setting out processes



**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application process
- inspection of completed set out
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or while working with a partner.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 3	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 3	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0463A: Erect timber pitched roof framing**

Competency Descriptor:

This unit deals with the skills and knowledge required to erect all types timber pitched roof framing, and applies to individuals working in roof framing in the carpentry trade.

Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and prepare work	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.
		1.2	Occupational Health and Safety (OH&S) requirements for workplace environment and roof framing construction processes recognised and adhered to.
		1.3	All construction, cross sectional dimensions and spacing to be in accordance with specifications.
		1.4	Material and quantity requirements determined from job drawings and specifications.
		1.5	Appropriate personal protective equipment selected, correctly fitted and used.
		1.6	Tools and equipment selected to carry out processes consistent with job requirements, checked for serviceability and any faults reported to rectified/appropriate person.
		1.7	Delivered materials checked to ensure conformity to determined quantity requirements.
2.	Set out and prepare for erection	2.1	Set out on wall plates checked for position of members + or – 3mm to designed construction from drawings and specifications.
		2.2	Pitch and plumb cut for common rafter determined from drawings and specifications.
		2.3	Height above birdsmouth on rafter determined, with birdsmouth no more than one third depth of rafter.
		2.4	Template for marking plumb cut and birdsmouth accurately made.
		2.5	Plumb cut for hip and valley rafters determined from pitch of roof.

- 2.6 Length of common rafter calculated correctly for pitch of roof in accordance with dimensions for  $\frac{1}{2}$  span of roof/run of rafter.
  - 2.7 Pattern rafter set out and cut to length allowing for overhang. Length within + or – 2mm and plumb cut to + or – 1mm.
  - 2.8 Material for common rafters selected with bows up, marked to length with plumb cut and birdsmouth and cut accurately allowing for roof overhang.
  - 2.9 Main ridge boards marked and cut to length within + or – 2mm from set out.
  - 2.10 Ridge boards requiring abutment joints scarfed or butt jointed and fixed and supported in accordance with job specification.
  - 2.11 Ridge boards for minor spans marked and cut to length within + or - 2mm from set out.
  - 2.12 Ridge boards marked for rafter positions from wall plates within + or – 2mm.
  - 2.13 Shortenings for valley jack rafter length determined and shortenings applied to determine all valley jack rafter lengths.
  - 2.14 Longest valley jack rafter length determined and shortenings applied to determine all valley jack rafter lengths.
  - 2.15 Valley jack rafters marked and cut to length allowing for overhang.
3. Erect roof
    - 3.1 Roof constructed and erected in accordance with specifications.
    - 3.2 All component members securely fastened together in accordance with specifications.
    - 3.3 Main ridge board and two end sets of rafters erected into position, fixed with birdsmouth hard against wall plates and temporarily braced with ridge level within + or – 3mm over 3 metres.
    - 3.4 Jack rafters, where applicable, located and fixed into position with birdsmouth hard against wall plate.
    - 3.5 Ridge boards supported in position by struts in accordance with maximum spacing as per specification.

- 
- 3.6 Intermediate sets of common rafters located and fixed into position to level line at ridge within + or - 2mm.
  - 3.7 Hip rafters measured, marked, cut to length and fixed into place maintaining birdsmouth height above wall plate.
  - 3.8 Flying/broken hips measured, marked, cut to length and located and fixed into position.
  - 3.9 Valley rafters measured, marked, cut to length and located and fixed into position maintaining centre line alignment with roof surface within + or - 3mm.
  - 3.10 Valley jack rafters located and fixed into position maintaining alignment of roof surface.
  - 3.11 Hip and valley rafters supported by struts under purlins or tie bolt and truss system at same spacing as common rafters.
  - 3.12 Scotch valley constructed with pitching board of sufficient width to provide adequate bearing for valley jack and securely fastened at each rafter crossing.
  - 3.13 Common rafters restrained from lateral deflection by fixing securely to adjacent ceiling joists, supporting under purlins and with full bearing at upper end ridge board.
  - 3.14 Deep rafters restrained from deflecting laterally by solid blocking or herringbone strutting.
- 4. Install under purlins
    - 4.1 Under purlins installed in single lengths where possible and fixed in straight runs at right angles to direction of rafters.
    - 4.2 Face and edge cuts for purlins abutting hips and valleys determined in accordance with pitch of roof.
    - 4.3 Materials for purlins measured, marked and cut to length.
    - 4.4 Under purlins to be joined are spliced/halved, lapped and nailed together over a point of support where required.
    - 4.5 Under purlins fixed within middle third of common rafter span or equally spaced if more than one required.
- 5. Install roof strutting
    - 5.1 Roof struts; strutting beams and scissor rafters/tie bolt and truss system for stiffening and supporting roof members installed to specifications.
    - 5.2 Struts measured, marked, cut to length and fixed into position.

- 
- |    |                      |  |
|----|----------------------|--|
|    | 5.3                  | Roof struts, strutting beams and scissor rafters located immediately above a stud or load is distributed over top plate by blocking.   |
| 6. | Install collar ties  | 6.1 Collar ties fitted to each alternative pair of rafters immediately above under purlins or if under purlins not used, two thirds of roof rise from top of plate.            |
| 7. | Install wind bracing | 7.1 Roofs, which are not adequately braced by hips/valleys securely, braced against longitudinal wind forces by crossed metal strap bracing or internal brace.                 |
| 8. | Construct eaves      | 8.1 Gable ends trimmed for overhang and finished with barge board to line + or – 2mm over any 3 metres of length to specifications.  |
|    | 8.2                  | Overhang of rafters marked and cut to line and plumb/angle.  |
|    | 8.3                  | Fascia fitted and fixed to roof structure overhang to line and level + or – 2mm over any 3 metres of length to specifications.   |
|    | 8.4                  | Open eaves lined/sheeted on upper or underside of rafters with noggings or cleats fixed to permit fixing of outside lining as necessary to top lined eaves; where necessary.   |
|    | 8.5                  | Boxed eaves where necessary constructed with soffit bearers fixed to wall frame or supported by hangers from rafters to line and level + or - 2mm over any 3 metres of length. |
|    | 8.6                  | Soffit bearers fixed to wall frames located clear of top of masonry walls to allow for frame shrinkage.  |
| 9. | Clean-up             | 9.1 Area cleaned and waste material disposed of safely.  |
|    | 9.2                  | Unused material stored/stacked.  |
|    | 9.3                  | Tools and equipment cleaned, maintained and stored.  |

## RANGE STATEMENT

This unit applies to the erection and construction of timber pitched and supported roof framing and eaves finishes.

All work is to be undertaken in accordance with the National Building Code.

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Pitched roofs include:

- gable
- hip
- hip and valley, and
- combinations thereof

OH&S requirements to be in accordance with Statutory Legislation and regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- safety helmet

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stools
- power saws
- nail gun
- air compressor and hoses
- power leads
- scaffolding
- string lines

Plumb cuts and lengths of common rafters may be determined by a variety of methods, which include:

- use of steel square and fence
- use of roofing manual
- full size set out
- scale geometric drawing

All members of timber pitch roof structures should be selected and used with bows/springs upwards.

Reporting of faults should be in accordance with company's workplace procedures and may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by setting out, cutting and erecting a pitched roof for a nominated roof structure incorporating hips, valley/s and a gable end.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of erecting a timber pitched roof
- identify and give attention to details of roof structure, ceiling framing and pitch of roof
- correctly calculate lengths and shortenings for common rafters and valley jack
- correctly determining bevels for all roof member cuts from pitch of roof
- demonstrate correct setting out and cutting of pattern rafter
- select and use appropriate processes, tools and equipment
- use of safe and effective procedures to cut, erect and fix key structural members of roof
- accurately measure and mark lengths of hip and valley rafters
- adopt and use safe and effective procedures to erect all roof members and support roof in accordance with given specifications.
- give attention to accurate setting out and cutting of overhangs to form eaves and gable ends
- identify faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective work procedures
- complete roof structure to specifications

### (2) Pre-requisite Relationship of Units

- BCGCAR0161A Prepare for carpentry construction
- BCGCAR0443A Construct and erect timber wall framing
- BCGCRI0793A Erect ceiling framing (pitched roof)

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawing and specifications
- wall and ceiling framing
- materials
- tools and equipment
- roof pitches and roofing calculations
- calculation of material requirements
- scaffolding

#### Skills

The ability to:

- work safely
- organise work
- read and interpret drawings and specifications
- interpret documentation
- use tools and equipment
- communicate effectively
- calculate material quantities

**(4) Resource Implications**

The following resources should be provided:

- wall and ceiling framed structure completed ready for roofing application
- suitable materials appropriate for roof construction application
- tools and equipment appropriate for erection and construction processes
- drawings and specifications of proposed construction activity

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of application process
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or as part of a team operation.



## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 3	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0473A: Erect timber roof trusses**

## Competency Descriptor

This unit deals with the skills and knowledge required to competently erect timber fabricated roof trusses, and applies to individuals carrying out roof construction in the carpentry trade in the construction industry.

## Competency Field:

General Construction

**ELEMENT OF COMPETENCY      PERFORMANCE CRITERIA**

- |    |                       |      |  |
|----|-----------------------|------|--|
| 1. | Plan and prepare work | 1.1  | Quality Assurance requirements of company's construction operations recognised and adhered to.   |
|    |                       | 1.2  | Occupational Health and Safety (OH&S) requirements for the erection of timber roof trusses, recognised and adhered to.   |
|    |                       | 1.3  | Job requirements identified from site location, drawings, and specifications.  |
|    |                       | 1.4  | Trusses and material requirements identified from job drawings and specifications.   |
|    |                       | 1.5  | Appropriate personal protective equipment selected, correctly fitted and used.   |
|    |                       | 1.6  | Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.   |
|    |                       | 1.7  | Delivered roof trusses checked for conformity to quantity order and specifications for span and pitch.   |
|    |                       | 1.8  | Walls checked to ensure: plumb within 2mm over 2.4 metres, level and to line within +/- 2mm over any 3 metres, straight to within +/- 2mm over any 3 metres, strengthened to resist point loads in accordance with the National Building Code. Temporarily braced for straight, where applicable, and remedied where required. |
|    |                       | 1.9  | Walls are braced and tied where required to provide straightened support for stacking of trusses on walls.   |
|    |                       | 1.10 | Trusses lifted by crane where applicable, using correct lifting gear and techniques to eliminate possible damages in handling and placement.   |

- 2. Erect timber roof trusses
  - 2.1 Erection of timber roof trusses carried out in accordance with job drawings and specifications.
  - 2.2 Location of all trusses checked on set-out or set out on wall plates to spacing within +/- 3mm to plan layout and specifications.
  - 2.3 End trusses erected into position checked for straight and plumb and temporarily braced.
  - 2.4 Line fixed between trusses at apex for alignment of intermediate trusses.
  - 2.5 Roof trusses erected with apexes aligned to centre line within 2mm.
  - 2.6 Roof trusses erected and fixed to external wall plates to set-out locations with galvanised plate connectors to specifications.
  - 2.7 Trusses supported on two points only unless otherwise designed.
  - 2.8 Trusses tied to erected trusses near apex by temporary spreaders to hold at designed spacing and plumb.
  - 2.9 Hip ends constructed by fitting and fixing hip trusses and jack truss over truncated trusses to end standard truss, to specifications.
  - 2.10 Valleys constructed by fixing saddle trusses to line on erected adjacent roof trusses to form abutting roof surfaces to specifications.
  - 2.11 Where required Dutch hip ends constructed by fitting and fixing hip trusses and jack trusses/rafters to dutch hip girder truss to specifications.
  - 2.12 All trusses installed straight and plumb and fixed to truss structure and wall plates according to specifications.
  - 2.13 Creeper rafters, where required, set out, cut, located and fixed to specifications.
  - 2.14 Roof bracing provided through hip construction, valley construction, diagonal metal tension bracing or a combination of these to specifications.

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- 2.15 Roof battens installed to provide lateral restraint to truss top chord and consistent with roof cladding and manufacturers' specifications.
  - 2.16 Roof battens fixed to line, maintaining alignment of top chords of trusses.
  - 2.17 Lateral ties provided to bottom chords of trusses at panel points in accordance with specifications to provide stability and alignment to bottom chords where required.
  - 2.18 Where bottom chord of truss used to provide lateral support for internal walls, partition brackets installed to manufacturer's and job specifications.
  - 2.19 Tie members (binders) installed to specifications where necessary to provide lateral bracing to external walls.
  - 2.20 Ceiling battens installed to line and spacing to provide lateral restraint to truss bottom chords, consistent with ceiling system and manufacturers' specifications.
3. Construct gable and eaves structure
- 3.1 Scaffolding erected, where applicable, to job requirements and OH&S regulations.
  - 3.2 Outriggers or trimmers fitted to raking truss for gable overhang to specifications.
  - 3.3 Overhang cut to line and barge-boards cut, fitted and fixed to line within +/- 2mm over any 3 metres to specifications.
  - 3.4 Overhang for eaves marked and cut to line of eaves dimension to specification for fascia finish.
  - 3.5 Fascia set out, cut, fitted and fixed to roof structure overhang to level and line within +/- 2mm over any 3 metres and specifications for fixing.
  - 3.6 Open eaves lined/sheeted on upper or underside of rafters with noggings or cleats fixed to permit fixing of outside linings as necessary to top lined eaves.
  - 3.7 Boxed eaves constructed with soffit bearers fixed to wall frame or supported by hangers from top chords.
  - 3.8 Soffit bearers fixed to wall frames located clear of top of masonry walls to allow for frame shrinkage.

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|----|-----------|-----|---|
| 4. | Clean -up | 4.1 | Area cleared and waste material disposed of safely. |
|    |           | 4.2 | Unused materials stored/stacked.                    |
|    |           | 4.3 | Tools and equipment cleaned, maintained and stored. |

## RANGE STATEMENT

This unit applies to the erection of timber-fabricated trusses, designed to the plan, pitch of roof and roof load bearing factors governing a proposed building.

All erection and construction applications are to be in accordance with the National Building Code.

Timber installation to be affixed to timber walled framing or timber wall plates according to the requirements of the National Building Code.

Truss types include:

- standard
- girder
- truncated
- truncated girder
- hip
- jack
- saddle
- raked

Roof types include:

- gable
- hip
- hip and gable
- hip and valley
- dutch gable
- dutch hip

OH&S requirements to be in accordance with the Statutory Legislation and Regulations and may include:

- workplace environment and safety
- fall safe protection
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control and handling procedures
- use and maintenance of equipment
- attention to specifications of work

Metal connectors may include but are not limited to:

- triple grip brackets
- girder brackets
- angle brackets
- speed brace
- internal wall brackets

Personal protective equipment may include:

- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves
- hard hat

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stool
- power saws
- power drills
- nail gun
- air compressor and hoses
- power leads
- builders line
- tin snips

Fixing connections may include:

- nails
- threaded nails
- clouts
- coach screws
- bolts

## EVIDENCE GUIDE

Competency is to be demonstrated by erecting a trussed roof structure to a nominated roof plan incorporating both hip and gable ends and involving valley construction.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational quality procedures and processes within the context of erecting a roof of timber roof trusses
- identify roof structure and details of respective roof trusses and specified fixing
- select and use appropriate processes, tools and equipment to carry out tasks
- give attention to accuracy in setting out and aligning trusses
- use safe and effective procedures to locate and fix all trusses and creepers in place
- apply correct procedures to tie together, brace and fix all holding down connectors
- adopt safe and effective procedures to finish gable and eaves structure
- identify typical faults and problems that occur and the necessary action taken to rectify
- interactively communicate with others to ensure safe and effective work procedures
- completion of truss roof installation according to specifications

### (2) Pre-requisite Relationship of Units

- BCGCOR0071A Erect and dismantle restricted height scaffolding
- BCGCAR0161A Prepare for carpentry construction
- BCGCAR0443A Construct and erect timber wall framing

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- design and principle of truss roofs
- types of roof trusses
- truss roof construction
- methods of installing truss roofs
- workplace and equipment safety requirements
- work drawing and specifications
- wall framing
- materials
- tools and equipment
- fixing and fasteners
- measuring and marking
- crane operations
- worksite communication

Skills

The ability to:

- work safely
- organise work
- read and interpret drawings and specifications
- interpret documentation
- set out work
- use tools and equipment
- fix materials
- communicate effectively
- calculate material quantities

**(4) Resource Implications**

The following resources should be provided:

- workplace location with erected walls ready for roof structure
- trusses and materials required to erect and install roof
- tools and equipment appropriate to the erection and construction processes
- drawings and specifications relative to installation activity

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application process
- questioning related underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or as part of a team operation.

### CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level -	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



**BCGSTW0503A: Erect steel roof trusses**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and erect steel roof trusses, and applies to individuals working in carpentry or other roof erection trades in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA
1. Plan and prepare work	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.
	1.2	OH&S requirements for workplace environment and erection of steel roof trusses recognised and adhered to.
	1.3	Trusses and material requirements identified and checked for conformity in accordance with constructed walls, drawings and specifications.
	1.4	Appropriate personal protective equipment selected, correctly fitted and used.
	1.5	Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.
	1.6	All design, construction, cross sectional dimensions and spacing are in accordance with specifications for Cold Formed Steel Structures.
	1.7	Zinc coating of members repaired by cleaning and coating with appropriate paint.
	1.8	Walls checked to ensure set plumb, level, straight and square unless otherwise designed.
	1.9	Temporary bracing located to wall positions to maintain alignment of wall, where applicable.
2. Erect steel roof trusses	2.1	Location of roof trusses set-out on wall plates to plan layout and specifications.
	2.2	Roof trusses erected and fixed to set out positions in accordance with detailed drawings and specifications.
	2.3	Trusses fixed in place with apexes to line and height line of top chords above wall plates to + or - 2mm over any 3 metre length.

- |             |  |
|-------------|--|
| 2.4         | Ceiling trimming and creeper rafter members fixed to spacing according to specifications, where designed.  |
| 2.5         | Where bottom chord of truss used to provide lateral support for internal walls, provision is made for free vertical movement of truss.   |
| 2.6         | Roof bracing provided through hip construction, valley construction, diagonal metal tension bracing or a combination of these, and fixed to specification.                         |
| 2.7         | Roof battens installed to provide lateral restraint to truss top chord and consistent with roof cladding manufacturer's specifications and spacing.                                |
| 2.8         | Ceiling battens installed to designed spacing for ceiling lining to provide lateral restraint to truss bottom chords consistent with ceiling system manufacturer's specifications. |
| 2.9         | Roof frame temporarily earthen during erection and connection to permanent earthing system upon completion.  |
| 3. Clean-up |  |
| 3.1         | Area cleaned and waste material disposed of safely.  |
| 3.2         | Unused material stored/stacked.  |
| 3.3         | Tools and equipment cleaned, maintained and stored.  |

## RANGE STATEMENT

This unit applies to the erection of steel roof trusses constructed of cold-formed sections from zinc coated or aluminium/zinc coated steel to Steel Sheet and Strip – Hot Dipped Zinc Coated or Aluminium Zinc Coated.

Trusses may be fixed to steel or timber wall plates.

OH&S requirements to be in accordance with Statutory Legislation and regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Tools and equipment may include but are not limited to:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• measuring tape/rule</li> <li>• hammers</li> <li>• spanners</li> <li>• squares</li> <li>• power drills</li> <li>• nail bags</li> </ul> | <ul style="list-style-type: none"> <li>• screwdrivers</li> <li>• clamps</li> <li>• string lines</li> <li>• power leads</li> <li>• power screwdrivers</li> </ul> |
|--|---|

Personal protective equipment may include but is not limited to:

- boots
- safety goggles/glasses
- ear plugs/muffs
- respirators/dust masks
- gloves
- hard hat

Connections to wall plates include but are not limited to:

- metal plates
- self tapping screws
- screws
- bolts
- metal brackets
- slotted brackets for truss movement

## EVIDENCE GUIDE

Competency is to be demonstrated by the performance of erecting and installing a steel roof truss structure to a nominated roof plan.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of erecting a roof structure of steel roof trusses
- identify roof structure and details of respective roof trusses and specified fixing
- select and use appropriate processes, tools and equipment
- give attention to accurate setting out and fixing of truss connections
- adopt and use safe and effective procedures used to locate and fix all trusses in place
- apply correct procedures applied to brace roof structure and carry out temporary and permanent earthing
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communication with others to ensure safe and effective work procedures
- complete roof truss erection process to specification

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCOR0061A Use small plant and equipment
- BCGSTW0262A Carry out steel fixing
- BCGCAR0513A Construct and erect steel wall framing

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawing and specifications
- steel wall framing
- steel truss construction
- materials
- tools and equipment
- fixing and fasteners
- temporary bracing
- measuring relative to erection of trusses

Skills

The ability to:

- work safely
- organise work
- read and interpret drawings and specifications
- use tools and equipment
- carry out fixing processes
- set out work
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- erected walls ready for the erection of trusses and construction of roof
- tools and equipment appropriate to erection and construction processes
- trusses and allied materials appropriate to erection and construction processes
- drawings and specifications applicable to proposed activity

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application process
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or as part of a team operation.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	To measure self-performance
Communicate ideas and information	Level 2	With members of the work team
Plan and organise activities	Level 2	For self
Work with others and in team	Level 2	In completing scheduled tasks
Use mathematical ideas and techniques	Level 1	As an aid to measure and schedule tasks
Solve problems	Level 1	As an aid to self-development
Use technology	Level 1	To manage scheduling and completion of tasks

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0513A: Construct and erect steel wall framing**

Competency Descriptor:

This unit deals with the skills and knowledge required to plan, construct and erect steel wall framing, and applies to individuals engage in framing out wall structures from steel.

Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	<p>1.1 Quality Assurance requirements for company's construction operations recognised and adhered to.</p> <p>1.2 Occupational Health and Safety (OH&amp;S) requirements for workplace environment and construction and installing of steel wall framing recognised and adhered to.</p> <p>1.3 Material requirements determined from job drawings and specifications.</p> <p>1.4 Appropriate personal protective equipment selected, correctly fitted and used.</p> <p>1.5 Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability and safe operation.</p> <p>1.6 All design, construction, cross-sectional dimensions and spacing are in accordance with drawings manufacturer's and job specifications and requirement for Cold Formed Steel Structures.</p>
2. Construct and erect walls	<p>2.1 Location of walls set out to dimensions from job drawings and marked on base or sub-floor frame structure.</p> <p>2.2 Lengths of wall plates determined in accordance with wall junction and method of joining.</p> <p>2.3 Wall frame members set out to lengths, cut and prepared in accordance with specifications for assembly.</p> <p>2.4 Frames assembled by welding using metal inert gas MIG, carbon welding, self-drilling/self tapping screws or by blind rivets.</p> <p>2.5 Zinc coating of members repaired after welding by cleaning and coating with appropriate paint system.</p> <p>2.6 Top and bottom plates joined to job and manufacturer's specifications with splice plates at ends to maintain continuity and alignment.</p>

- 2.7 Studs installed in single lengths at not more than 600mm spacing with multiple studs placed no more than 40mm from concentrated ceiling or roof load.
  - 2.8 Lintels installed over openings in accordance with job and manufacturer's specifications.
  - 2.9 Noggings installed at not more than 1350mm centres between rows to specified fixing.
  - 2.10 Walls braced with diagonal tension strap bracing, diagonal noggings or full panel bracing, fixed to job and manufacturer's specifications.
  - 2.11 Walls erected, temporarily braced in location and fixed to base to line and position in accordance with specifications.
  - 2.12 Service holes in structural members for plumbing and electrical services provided with plastic/rubber bushes or grommets.
  - 2.13 Walls set plumb, level, straight and square unless otherwise designed.
3. Clean-up
- 3.1 Area cleared and waste material disposed of safely.
  - 3.2 Unused materials stored/stacked.
  - 3.3 Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to wall framing constructed of cold formed sections from zinc coated or aluminium/zinc coated steel and assembled either on-site or off-site.

Cold-formed sections are to be in accordance with Steel Sheet and Strip - Hot Dipped Zinc Coated or Aluminium Zinc Coating

OH&S requirements to be in accordance with Statutory Legislation and Regulations may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- use of welding equipment

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- spirit Level
- squares
- nail bag
- screwdrivers
- hacksaws
- saw stools
- power saws
- power drills
- power grinder
- clamps
- string lines
- power leads

Personal protective equipment may include but is not limited to:

- boots
- safety goggles/glasses
- ear plugs/muffs
- respirators/dust masks
- gloves
- hard hat

Fixing of wall frames to base or sub-floor framed structures may involve:

- screws
- self tapping screws
- masonry nails
- nails
- masonry plugs
- masonry anchors
- explosive driven nails
- masonry nail

Base or sub floor framed construction may include:

- reinforced concrete slab
- steel bearers and joists
- steel ladder frames
- timber bearers and joists
- structural sheet flooring fixed to sub-floor structure

Timber sections may be incorporated into wall structure as noggings and/or added support for fixing at openings.

## EVIDENCE GUIDE

Competency is to be demonstrated by the performance of assembling and/or erecting steel wall framing for a nominated building involving door and window openings.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of constructing and erecting steel wall framed structures
- identify location and details of wall construction for proposed building
- select and use appropriate processes, tools and equipment to carry out construction work



**Critical Aspects of Evidence (Cont'd)**

- adopt and use safe and effective procedures to prepare material and assemble and fix components for each wall
- adopt and use safe and effective procedures used to erect walls and brace assembled structure
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective work procedures
- secure junctions of wall frame members and wall frames
- complete assembling and erection processes to specification

**(2) Pre-requisite Relationship of Units**

Pre-requisites for this unit are:

- BCGCOR0061A Use small plant and equipment
- BCGSTW0262A Carry out steel fixing

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawing and specifications
- steel wall framing
- materials
- tools and equipment
- fastening methods for light steel materials
- calculation of material requirements
- temporary bracing
- measurement and calculations

Skills

The ability to:

- work safely
- organise work
- set-out work
- read and interpret drawings and specifications
- use tools and equipment
- communicate effectively
- calculate material quantities
- use fixings and fasteners

**(4) Resource Implications**

The following resources should be provided:

- prepared floor structure ready for wall erection processes
- tools, plant and equipment appropriate to construction processes
- construction materials appropriate to proposed steel wall framing processes
- drawings and specification applicable to proposed activity

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application process
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or as part of a team operation.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0523A: Construct timber roof structures - irregular roofs**

## Competency Descriptor:

This unit deals with the skills and knowledge required to construct irregular shape timber roof structures, and applies to individuals working in the carpentry trade in the construction industry.

## Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	<p>1.1 Quality Assurance requirements for company's construction operations recognised and adhered to.</p> <p>1.2 OH&amp;S requirements for workplace environment and application processes recognised and adhered to.</p> <p>1.3 All construction, cross sectional dimensions and spacings to be in accordance with the National Building Code and roof structural design.</p> <p>1.4 Materials and quantities determined from job drawings and specifications.</p> <p>1.5 Appropriate personal protective equipment selected, correctly fitted and used.</p> <p>1.6 Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.</p> <p>1.7 Delivered materials checked to ensure conformity to determined quantity requirements.</p>
2. Set-out and prepare members for roof erection	<p>2.1 Set out location of roof members checked or roof set out on top plates to spacings +/- 3mm to designed construction from drawings and specifications.</p> <p>2.2 Pitch and plumb cut for common rafter as determined from drawings and specifications.</p> <p>2.3 Plumb cuts and edge cuts for all pitched members determined in accordance with roof design and pitch of roof surfaces.</p> <p>2.4 Length of common rafter calculated correctly to pitch of roof and run of rafter.</p> <p>2.5 Pattern rafter set out and cut to length allowing for overhang. Length within + or - 2mm and plumb cut to +/- 1 mm.</p>

- 2.6 Materials for common rafters selected with bows up, marked to length with plumb cut, edge cut if applicable, birds-mouth/foot-cut and cut accurately allowing for roof overhang.
- 2.7 Ridge boards, where applicable, marked to length from top plate set out and cut to length within +/- 2mm.
- 3. Erect pyramidal or conical roof
  - 3.1 Scaffolding erected, where required, according to OH&S requirements.
  - 3.2 Initial rafters located into position and fixed into place to specifications.
  - 3.3 Temporary bracings/ties fixed into place where required to maintain stability to structure or initially erected rafters.
  - 3.4 Additional rafters located into designed positions and fixed to specification.
  - 3.5 Trimmers and/or trimming rafters set out and cut to length, located in designed positions and fixed to specifications.
  - 3.6 Lateral/collar ties cut to length, located and fixed to design requirements and specifications.
- 4. Erect roof to splayed plan end
  - 4.1 Common rafters, ridge and jack rafter erected into position and fixed to specifications.
  - 4.2 Set out made and developed to determine face and edge cuts to each hip rafter.
  - 4.3 Lengths of hips measured from long point to birdsmouth and bevel gauges set to respective face and edge cuts from set out.
  - 4.4 Hip rafters set out and cut accurately to length within +/- 2mm maintaining birdsmouth height above wall plate.
  - 4.5 Hip rafters located and fixed into designed position to specifications.
  - 4.6 Shortenings and face and edge cuts determined for creeper rafters in accordance with respective hip rafters and spacing of rafters.
  - 4.7 Creeper rafters set out and cut accurately to respective lengths within +/- 2mm in accordance with applicable shortenings and face and edge cuts.
  - 4.8 Creeper rafters located and fixed to designed positions and specifications.
  - 4.9 Roof support of under purlins, strutting/underpurlin support and collar ties installed in accordance with roof design.

- |    |                                    |     |   |
|----|------------------------------------|-----|---|
| 5. | Construct dormers in roof surfaces | 5.1 | Dormer locations and roof design identified from job drawings and specifications.   |
|    |                                    | 5.2 | Roof constructed with trimming between rafters at head and foot of dormer openings in accordance with roof design and specifications.                                       |
|    |                                    | 5.3 | Dormer roof intersection set out on roof surface to design requirements and specifications.   |
|    |                                    | 5.4 | Scotch valleys constructed with pitching board of sufficient width to provide adequate bearing for valley creepers and securely fastened to roof surface to specifications. |
|    |                                    | 5.5 | Roof members set out and cut accurately to length to requirements of roof design and specifications.  |
|    |                                    | 5.6 | Dormer roof constructed with all members located and fixed in accordance with roof design and specifications.   |
| 6. | Complete eaves and barge ends      | 6.1 | Gable ends trimmed for overhang and finished with barge board to line + or – 2mm over any 3 metres length, to specifications.   |
|    |                                    | 6.2 | Overhang of rafters measured, marked and cut to line in accordance with roof design and specifications.   |
|    |                                    | 6.3 | Fascia fitted and fixed to roof structure overhang to line and level for –2mm over any 3 metres length, to specifications.  |
|    |                                    | 6.4 | Eaves constructed and finished to job drawings and specifications.  |
| 7. | Clean-up                           | 7.1 | Area cleared and waste material disposed of safely.   |
|    |                                    | 7.2 | Unused materials stored/stacked.  |
|    |                                    | 7.3 | Tools and equipment cleaned, maintained and stored.   |

## **RANGE STATEMENT**

This unit applies to the construction of pitched roofs on irregular plan shapes.

All work undertaken in accordance with the National Building Code.

Roof surfaces may be equal pitch or unequal pitch.

Roofs above dormer windows may be pitched wholly onto roof surface or onto walls protruding above roof surfaces.

Irregular shapes to include:

- skewed or splayed ends
- conical roofs
- pyramidal roofs
- dormer windows

OH&S requirements to be in accordance with Statutory legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stools
- power saws
- nail gun
- air compressor and hoses
- power leads
- scaffolding
- string lines

Roof types may include:

- gable
- hip
- hip and valley
- combination thereof

Personal protective equipment may include but is not limited to:

- boots
- safety goggles/glasses
- ear plugs/muffs
- respirators/dust masks

Quality assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work
- 

All members of timber pitched roof structures should be selected and used with bows/springs upwards.

## EVIDENCE GUIDE

Competency is to be demonstrated by erecting an irregular roof structure to a nominated roof plan.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of erecting a timber pitched roof
- identify and give attention to details of roof structure, ceiling framing and pitch of roof
- select and use appropriate processes, tools and equipment
- apply correct set out procedures to determine all plumb and edge cuts for all pitched members
- demonstrate correct setting out procedures and cutting of common rafter/s
- use safe and effective procedures to cut, erect and fix key structural members of roof
- accurately measure and mark lengths of hips and valley rafters
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective workplace operations
- complete roof structure to specifications

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCAR0433A Construct and erect timber wall framing
- BCGCAR0793A Erect ceiling framing (pitched roof)
- BCGCAR0463A Erect timber pitched roof framing

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- timber pitched roof construction
- wall and ceiling framing
- materials
- tools and equipment
- The National Building Code
- fixing and fasteners
- calculation of material requirements
- scaffolding

#### Skills

The ability to:

- work safely
- organise work
- set out measurements
- read and interpret drawings and specifications
- use tools and equipment
- interpret documentation
- erect scaffolding
- calculate material quantities
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- wall and ceiling framed structure appropriate to roof construction
- suitable materials appropriate to proposed roof construction
- hand/power tools, plant and equipment appropriate to proposed construction processes
- drawings and specifications of proposed construction activity

**(5) Method of Assessment**

Competency should be determined concurrently based upon integrated project work.

Assessment may involve:

- observation of application process
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency may be assessed in the workplace or simulated work environment.

Assessment should be while tasks are undertaken either individually or as part of a team operation.



## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0563A: Construct timber external stairs**

Competency Descriptor:

This unit deals with the skills and knowledge required to construct an external timber stairs, and applies to individuals working in the carpentry trade in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	<p>1.1 Quality Assurance requirements for company's construction operations recognised and adhered to.</p> <p>1.2 OH&amp;S requirements for application tasks and workplace environment recognised and adhered to.</p> <p>1.3 Design of stair and method of joining identified from job drawings and specifications and in accordance with the National Building Code.</p> <p>1.4 Materials and quantities determined from job drawings and specifications.</p> <p>1.5 Appropriate personal protective equipment selected, correctly fitted and used.</p> <p>1.6 Tools and equipment selected to carry out processes consistent with requirements of job and checked for serviceability.</p> <p>1.7 Safety hazards identified and correct procedures used to minimise risk to self and others.</p>
2. Set out and prepare material	<p>2.1 Exit and ground finish levels determined from job drawings and site location.</p> <p>2.2 Rise, going and pitch of stairs determined from job drawings, site location, rise measurements and requirements of the National Building Code.</p> <p>2.3 The full size set out of stairs made to determined rise, going and pitch of stairs to provide actual location of landings, strings, treads and newels or pins.</p> <p>2.4 Location of stair and newels determined from job drawings and pitch of stairs or full size set out.</p> <p>2.5 Location of newels and footings set out to layout of designed stairs, job drawings and specifications or full size set out, where applicable.</p> <p>2.6 Material for strings selected and set out to pitch of stairs with rises not to exceed 125mm space between treads.</p>

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|----|---|--|
|    | 2.7                                     | Strings cut square to length and shape in accordance with set out and junction with newels.  |
|    | 2.8                                     | Material for newels selected and set out to design of stairs, storey rods and job drawings or from full size set out.                        |
|    | 2.9                                     | (Pin)/Newels cut square to length and housed out to provide tight fit for strings and bearers, where applicable, to specifications.          |
|    | 2.10                                    | Material for treads set out and cut square to length according to the requirements of stair design and Building Code.                        |
| 3. | Assemble and erect stair                |  |
|    | 3.1                                     | Footings with metal post support prepared to requirements of job drawings and specifications, where applicable.                              |
|    | 3.2                                     | Metal angle brackets screwed/bolted to strings to set out locations for tread support to requirements of detail drawings and specifications. |
|    | 3.3                                     | (Pins)/Newels erected into position and temporarily braced to plumb position.  |
|    | 3.4                                     | Runner/Strings located and fixed into position according to specifications.  |
|    | 3.5                                     | Tie bolts, located and secured to specification, to maintain stair width, where applicable.  |
|    | 3.6                                     | Landing bearers and joists placed and fixed into position to specifications.   |
|    | 3.7                                     | Stair attached to building in accordance with detailed drawings and specifications.  |
|    | 3.8                                     | Treads and decking fixed into location to detailed drawings and specifications.  |
|    | 3.9                                     | Bracing and lateral ties fixed to newels to specifications to maintain rigidity of stair structure, where applicable.                        |
| 4. | Fit and fix hand railing and balustrade |  |
|    | 4.1                                     | Material for hand railing and balustrade marked and cut to length.   |
|    | 4.2                                     | Hand railing fitted and fixed into place to specifications at no less than 865mm above nosing line on a flight and 1m above a landing deck.  |
|    | 4.3                                     | Balustrade fitted and fixed into place to specifications and the requirements of the Building Code.  |

- |    |               |     |   |
|----|---------------|-----|---|
| 5. | Finish stairs | 5.1 | Arises and sharp edges removed and finished to specification.                         |
|    |               | 5.2 | Non-slip strips adhered to treads, where required, in accordance with specifications. |
| 6. | Clean up      | 6.1 | Area cleared and waste disposed of safely.  |
|    |               | 6.2 | Unused materials stored/stacked.  |
|    |               | 6.3 | Tools and equipment cleaned, maintained and stored.                                   |

## RANGE STATEMENT

This unit applies to all timber constructed for external stairs, which may involve one or more flights in its structure and could incorporate fabricated steel posts as an alternative to timber for newels.

All construction to be carried out in accordance with structural requirements as laid down in the Building Code for: Fixed Platforms, Walkways, Stairways and Ladders – Design, Construction and Installation.

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Connections for timber construction include but are not limited to:

- nails/spikes
- bolts and nuts
- coach screws
- steel tie rods
- metal brackets

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stools
- power saws
- power drill

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specification of work

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators

- power plane
- nail gun
- air compressor and hoses
- power leads/extension cords
- string lines
- shovels
- fencing bars
- spanner
- steel square and fence
- bevels

Balustrade construction may be of:

- parallel railing fixed to face of pins/newels
- handrail and balusters fixed to face of pins/newels
- hand railing morticed into newels

Connections for steel construction may include:

- bolts
- welding
- patented metal connecting plates

Methods of fixing stair members to masonry walls may include but are not limited to:

- masonry anchors
- metal angle brackets
- wall plug and coach screw

## EVIDENCE GUIDE

Competency is to be demonstrated by the safe and effective assembly and erection of timber external stairs covering one flight and a landing including handrail or balustrade, to a nominated project.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of constructing and installing timber external stairs
- identify location and of external timber stair construction
- carry out accurate calculations to determine actual rise for each step and pitch of stairs
- prepare accurate set out of stair in order to mark all stair components
- select and use appropriate processes, tools and equipment to construct stair
- accurate setting out of each stair member in accordance with determined stair construction or full size set out
- adopt and use safe and effective procedures to prepare stair components, assemble and fix to position in accordance with the National Building Code and within specifications
- identify typical faults and problems that occur and necessary action taken to rectify
- complete stair construction to location and specification
- interactively communicate with others to ensure safe and effective workplace operations

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BGCOR0031A Read and interpret plans
- BGCAR0161A Prepare for construction process (carpentry)
- BGCOR0042A Carry and levelling
- BGCAR0483A Install sub floor framing

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- National Building Code
- stair construction
- levelling and measuring
- calculations related to stair construction
- materials
- tools and equipment
- fixing and fasteners

Skills

The ability to:

- work safely
- organise work
- read and interpret drawings
- use tools and equipment
- measure and level relevant to stair construction
- set out material and location
- calculate stair measurement details and quantities
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- work location ready for stair construction and installation
- plant and equipment appropriate to construction processes
- construction materials appropriate to proposed construction
- hand and power tools appropriate to construction process
- drawings and specifications and documentation applicable to proposed construction

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of application process
- questioning related to underpinning knowledge
- inspection of completed construction

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or while working with a partner.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	To measure self-performance
Communicate ideas and information	Level 2	With members of the work team
Plan and organise activities	Level 2	For self
Work with others and in team	Level 2	In completing scheduled tasks
Use mathematical ideas and techniques	Level 1	As an aid to measure and schedule tasks
Solve problems	Level 1	As an aid to self-development
Use technology	Level 1	To manage scheduling and completion of tasks

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0583A: Install fitments**

## Competency Descriptor:

This unit deals with the skills and knowledge required to prepare for and install fitments, and applies to individuals working in the carpentry and joinery trades of the construction.

## Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	1.1 Quality Assurance requirements for company's construction operations recognised and adhered to. 1.2 OH&S requirements for workplace environment for preparing and installing fitments identified and adhered to. 1.3 Drawings and specifications interpreted so that units are correctly located and material requirements and method of installation are identified. 1.4 Appropriate personal protective equipment selected, correctly fitted and used. 1.5 Tools and equipment selected to carry out processes consistent with job requirements and, checked for serviceability.
2. Select and prepare materials for installing fitments	2.1 Fitments and materials selected and checked for conformity against drawings and specifications.
3. Install fitments	3.1 Location of fitment set out and prepared to installation requirements from drawings and specifications. 3.2 Fitment located into place, fitted where applicable and installed level and plumb within +/- 1mm. 3.3 Fitments installed to specifications so that visual gaps and spaces are no greater than 1mm. 3.4 Bench tops positioned, secured and aligned parallel to face and end of fitment units, according to specifications. 3.5 Units fixed securely into position to specifications. 3.6 Finish to walls or floor carried out to specified requirements.



- |    |          |     |   |
|----|----------|-----|---|
| 4. | Clean up | 4.1 | Area surrounding unit cleaned.                      |
|    |          | 4.2 | Waste and unwanted materials disposed of safely.    |
|    |          | 4.3 | Tools and equipment cleaned, maintained and stored. |

## RANGE STATEMENT

This unit applies to the fitting and fixing of fitments to walls and floors of buildings.

Types of fitments include:

- vanity cabinet
- medicine cabinet
- laundry cupboard
- kitchen units
- shelving units
- wall units
- bar units
- robes
- cabinets
- cupboards

Wall structure for fixing of fitments may be:

- timber wall frame
- metal wall frame
- brickwork
- block work
- concrete

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Floor structure for fixing of fitments may be:

- flooring boards on sub floor structure of steel or timber
- structural sheeting on sub floor structure
- reinforced concrete slab

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves

Tools and equipment may include but are not limited to:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• measuring tape/rule</li> <li>• hammer</li> <li>• spirit level</li> <li>• squares</li> <li>• chisels</li> <li>• hand saws</li> <li>• saw stools</li> <li>• power drills including impact masonry drills</li> </ul> | <ul style="list-style-type: none"> <li>• nail gun</li> <li>• air compressor and hoses</li> <li>• power leads</li> <li>• spanners</li> <li>• explosive power tools</li> <li>• hand plane</li> <li>• power plane</li> </ul> |
|--|---|

Preparation of location to installation requirements may include:

- packing or planning of studs
- locating studs behind sheet plastered walls
- marking level or plumb line
- positioning and fixing plugs to masonry or concrete wall
- checking of levels floor
- positioning and fixing plugs to concrete floor

Fitting of fitments prior to fixing into place may include:

- planning edge to fit wall or floor surface
- packing surface to fit level or plumb
- marking fixing locations to fitment

Methods of fixing may include:

- nails
- screws
- bolts
- adhesives
- drive pins
- patented fasteners
- masonry anchors

Finish to walls or floor may include timber moulding fixing.

## EVIDENCE GUIDE

Competency is to be demonstrated by installing at least two (2) of the types of fitments listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- select and use appropriate processes, tools and equipment
- apply organisational quality procedures and processes within the context of installing fitments
- identify location, flashing and fixing details from drawings or specifications
- give attention to accuracy in fitting and fixing fitment to level and plumb
- give attention to handling of fitment and secure fixing into place
- protect face surfaces from damage during installation and follow up trades
- use safe and effective procedures to install fitment to specification
- identify typical faults and problems that occur and the necessary action taken to rectify
- interactively communicate with others to ensure safe and effective installation operations

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCOR0051A Use hand and power tools
- BCGCAR0161A Prepare for construction process (carpentry)
- BCGCAR0212A Prepare surfaces
- BCGCOR0242A Carry out levelling
- BCGCAR0282A Use explosive power tools

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawing and specifications
- wall and floor construction
- types of fitments
- materials
- tools and equipment
- fixing and fasteners
- methods of fixing
- levelling and measuring

Skills

The ability to:

- work safely
- read and interpret drawings
- organise work
- use tools and equipment
- use fixings and fasteners
- measure and level relative to installing fitments
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- workplace location for installation process
- tools and equipment appropriate to installation processes
- fitments and associated materials appropriate to proposed activity
- drawings and specifications relevant to proposed activity

**(5) Method of Assessment**

Competency in this unit should be assessed through direct observation and questions related to underpinning knowledge.

Competency should be assessed under general guidance checking at various stages of the process and at the completion of the activity against performance criteria and specifications.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace setting.

Assessment should be while tasks are undertaken either individually or as part of a team under limited supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	To measure self-performance
Communicate ideas and information	Level 1	With members of the work team
Plan and organise activities	Level 2	For self
Work with others and in team	Level 1	In completing scheduled tasks
Use mathematical ideas and techniques	Level 2	As an aid to measure and schedule tasks
Solve problems	Level 2	As an aid to self-development
Use technology	Level 2	To manage scheduling and completion of tasks

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0593A: Carry out wet area construction/installation**

Competency Descriptor:

This unit deals with the skills and knowledge required to carry out wet area construction/installation work, and applies to individuals erecting timberwork for the installation of bathroom and other wet area fixtures.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Plan and prepare work	1.1	Quality Assurance requirements with company's construction operations recognised and adhered to.
	1.2	Occupational Health & Safety (OH&S) requirements for workplace environment and to carry out wet area construction/installation identified and adhered to.
	1.3	Type of construction and support materials and flashings identified from job drawings and specifications.
	1.4	All work carried out in accordance with the National Building Regulations for bathroom and other wet areas.
	1.5	Appropriate personal protective equipment selected, correctly fitted and used.
	1.6	Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.
2. Set out	2.1	Fitment or fixture checked for specific measurements in accordance with drawings and specifications.
	2.2	Construction/installation set-out to specified location and dimensions.
3. Prepare for bath installation	3.1	Studs checked out to required depth to receive lip of bath.
	3.2	Dwarf timber walls constructed to specifications for support of bath to height and level.
	3.3	Nogging and short studs, where required, fitted and fixed flush to wall face according to specifications, for fixing surround sheeting.
	3.4	Water resistant plasterboard or fibre cement sheeting and flashing fitted and fixed according to specifications.

- |    |                                      |     |  |
|----|--------------------------------------|-----|--|
| 4. | Prepare for shower base installation | 4.1 | Wall plates and studs checked out to required depth to received shower base.   |
|    |                                      | 4.2 | Flooring installed according to specification.   |
|    |                                      | 4.3 | Nogging and short studs, where required, fitted and fixed flush to wall face according to specifications for fixing surround sheeting. |
|    |                                      | 4.4 | Corner flashing installed to Building Code Regulations.  |
|    |                                      | 4.5 | Water resistant plasterboard or fibre cement sheeting and flashing fitted and fixed to specifications if required.                     |
|    |                                      | 4.6 | Waterproofing applied to specifications and in accordance with the National Building Code  |
| 5. | Install vanity unit                  | 5.1 | Flashing for vanity unit fitted to vanity top in accordance with specifications and Building Code                                      |
|    |                                      | 5.2 | Vanity unit located level in position and fixed to specifications.   |
| 6. | Install sink unit                    | 6.1 | Flashing for sink unit fitted to unit top in accordance with specifications and Building Code.   |
|    |                                      | 6.2 | Sink unit located level in position and fixed to specifications.   |
|    |                                      | 6.3 | Fibre cement sheet, where required, cut to size, fitted and fixed to wall, according to specifications.                                |
| 7. | Clean-up                             | 7.1 | Area cleaned and waste material disposed of safely.  |
|    |                                      | 7.2 | Unused materials sealed and stored/stacked.  |
|    |                                      | 7.3 | Tools and equipment cleaned, maintained and stored.  |

## RANGE STATEMENT

Wet area construction areas include:

- bathrooms
- Laundries
- showers
- Ensuites
- kitchens
- food preparation

This unit applies to fixtures and fitments fitted into or against walls and may include:

- pre-cast baths
- shower bases
- vanity units
- sink units
- trough units

Vanity and sink units may have basins designed centrally or fitted to back of bench tops

Personal protective equipment may include:

- safety goggles/glasses
- boots
- gloves
- respirators/dust masks
- ear muffs/plugs

Quality Assurance requirements may include:

- condition of supplied unit
- quality control of handling
- quality of materials
- skill application
- specification finish

OH&S requirements to be in accordance with Statutory Legislation and regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials

Waterproofing agents may be membrane type or liquid.

Tools and equipment may include but are not limited to:

- spanners
- measuring tape/rule
- Level
- hammer
- hand saw
- power saw
- power drill
- chisels
- power leads
- nail gun
- air compressor and hoses
- screwdrivers
- power planer
- explosive power tool

Methods of fixing include but are not limited to:

- nailing
- use of nail gun
- screws
- clouts

## EVIDENCE GUIDE

Competency is to be demonstrated by installing supporting framework, fixtures and flashings associated with wet area construction for a bath, a shower base and a sink unit.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- select and use appropriate processes, tools and equipment
- apply organisational quality procedures and processes within the context of wet area construction/installation
- ensure all noggings, trimmers and dwarf walls installed to line level and plumb
- calculate and maintain allowances for linings and finishes
- remove minimum material from structural members when checking out to accommodate fixtures

### Critical Aspects of Evidence (Cont'd)

- install all fittings with falls to waste outlets
- install flashings in accordance with the National Building Code Regulations
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective workplace operations
- complete installation to specifications

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCOR0051A Use hand and power tools
- BCGCOR0081A Use simple levelling devices
- BCGMAS0141A Prepare for construction (dry wall plastering)
- BCGCOR0212A Prepare surfaces
- BCGCAR0282A Use explosive power tools

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements including relevant statutory regulations and codes
- capillary action
- electrolysis and corrosion of dissimilar metals
- National Building Code for wet areas within residential buildings
- waterproofing and flashing
- drawing and specifications
- fitment and fixtures
- materials
- tools and equipment
- fixing and fasteners
- measuring and levelling

#### Skills

The ability to:

- work safely
- organise work
- interpret drawings and specifications
- interpret documentation from a wide range of sources
- use tools and equipment
- use fixtures and fasteners
- measure and level relevant to installation processes
- communicate effectively
- carry out calculations

### (4) Resource Implications

The following resources should be provided:

- workplace location ready for installation
- tools and equipment appropriate to construction and installation processes
- fittings and fixtures applicable to proposed activities
- materials appropriate to installation processes
- drawings, specifications and documentation relevant to proposed activity



**(5) Method of Assessment**

Competency in this unit should be assessed through direct observation of application to tasks and questions related to underpinning knowledge.

Competency should be assessed under general guidance checking at various stages of the process and at the completion of the activity against performance criteria and specifications.

**(6) Context of Assessment**

Competency may be assessed in the workplace or simulated workplace setting.

Assessment should be while tasks are undertaken either individually or working with a partner under indirect supervision.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages processes</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0633A: Erect door jamb/frame (built-in unit)**

## Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and erect built-in door jamb/frame unit, and applies to individuals working in carpentry and joinery trades in the construction industry.

## Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	1.1 Quality Assurance requirements for company's construction operations recognised and adhered to. 1.2 OH&S requirements for building door frames into masonry walls and workplace operations recognised and adhered to. 1.3 Hand of door swing determined from job drawings and door schedule. 1.4 Size of openings and thickness of wall determined from job drawings. 1.5 Type and size of door jamb/frame determined from door schedule. 1.6 Appropriate personal protective equipment selected, correctly fitted and used. 1.7 Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability. 1.8 Door jamb/frame identified and checked for size including height allowance for floor finish. 1.9 Stiles of doorjamb adjusted and cut to length, where required.
2. Set out and prepare door jamb/frame	2.1 Doorframe location set out on slab in accordance with dimensions from job drawings. 2.2 Appropriate 'spreaders' located and temporarily fixed between doorjamb stiles. 2.3 Appropriate brace attached to door jamb/frame to maintain frame 'square'. 2.4 Built in attachments fixed to jamb/frame in accordance with specifications.

- |    |                         |     |  |
|----|-------------------------|-----|--|
| 3. | Install door jamb/frame | 3.1 | Door jamb/frame erected/positioned in correct location according to set out.                                 |
|    |                         | 3.2 | Base of door jamb/frame fixed to floor using specified fixing method in accordance with job specifications.  |
|    |                         | 3.3 | Door jamb/frame levelled, plumbed both ways and braces fixed to frame and surrounds to maintain in position. |
| 4. | Clean up                | 4.1 | Waste materials removed from job area and placed into job waste bins or rubbish stockpile.                   |
|    |                         | 4.2 | Tools and equipment cleaned, maintained and stored.  |

## RANGE OF VARIABLES

This unit applies to both timber and metal doorjamb and doorframes built into solid or cavity brickwork or block work construction.

For clarification, doorframes incorporate a sill in their structure whilst doorjamb consist only of a head and stiles.

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- hammer drill
- explosive power tools
- spirit level
- saw stool
- square
- hand saw
- power saw
- power leads
- hand plane

Personal protective equipment may include:

- safety goggles/glasses
- boots
- gloves
- ear plugs/muffs
- dust masks/respirators

Built in attachments fixed to frame may involve:

- strips fitted for cavity construction
- brackets/straps for wall ties
- steel dowels fitted to base of stiles (no sill)

## EVIDENCE GUIDE

Competency is to be demonstrated by setting out, fixing and bracing a door jamb/frame into place, in preparation for being built-in within the constructing of masonry or a concrete wall.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- select and use appropriate processes, tool and equipment
- apply organisational quality procedures and processes within the context of erecting door jamb/frame for built in construction
- identify and select left or right handed frame
- determine finished floor height from drawings and specifications
- carry out accurate measurement to ensure frame/jamb located correctly
- door framed plumb with stile edges parallel
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective workplace operations
- complete erection process with frame/jamb braced into place within specifications

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCOR0051A Use hand and power tools
- BCGCAR0161A Prepare for construction process (carpentry)
- BCGCOR0242A Carry out levelling
- BCGCAR0282A Use explosive power tools
- BCGCAR0533A Install door frames

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- workplace and equipment safety requirements
- drawings and specifications
- door frames and jambs
- masonry construction
- bracing for stability
- materials
- tools and equipment
- measure and levelling
- installation procedures

#### Skills

The ability to:

- work safely
- read and interpret drawings and specifications
- organise work
- set out work
- use tools and equipment
- carry out levelling and bracing
- fix materials
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- workplace location with completed slab floor
- tools and equipment appropriate for application processes
- door frame/jamb and associate material appropriate to installation processes
- drawings and specifications relevant to proposed activity

**(5) Method of Assessment**

Competency should be assessed through direct observation of application to tasks and questions related to underpinning knowledge.

Competency should be assessed under general guidance checking at various stages of the process and at the completion of the activity against performance criteria and specifications.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or working with a partner under indirect supervision.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	To measure self-performance
Communicate ideas and information	Level 1	With members of the work team
Plan and organise activities	Level 2	For self
Work with others and in team	Level 2	In completing scheduled tasks
Use mathematical ideas and techniques	Level 2	As an aid to measure and schedule tasks
Solve problems	Level 2	As an aid to self-development
Use technology	Level 2	To manage scheduling and completion of tasks

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0643A: Fix timber raking moulds**

## Competency Descriptor:

This unit deals with the skills and knowledge required to cut and fix timber moulding, and applies to individuals working in carpentry and joinery trades in the construction industry.

## Competency Field:

General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	1.1 Quality Assurance requirements for company's construction operations recognised and adhered to. 1.2 OH&S requirements for application tasks and workplace environment recognised and adhered to. 1.3 Materials and quantities to carry out tasks, determined from job drawings and specifications. 1.4 Appropriate personal protective equipment selected, correctly fitted and used. 1.5 Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.
2. Set out and develop bevel cuts and moulds	2.1 Standard mould and relevant sections checked for conformity against drawings, specifications and quantity order. 2.2 Set out made to plan and elevation using standard mould, plan shape and designed rake to determine adjoining moulds. 2.3 Set out developed to determine face and edge cuts for moulding.
3. Run moulds to designed shapes and required lengths	3.1 Patterns made to, or cut directly from set out to produce required shapes of adjoining moulds. 3.2 Materials selected to overall size and required length for adjoining mould and checks/cuts ends for square. 3.3 Pattern applied and materials accurately set out to designed shape. 3.4 Materials dressed to smooth finish to produce moulding accurate to set out lines and shape.
4. Cut and fix moulding into place	4.1 Location of moulding set out to position in accordance with drawings and specifications. 4.2 Bevel gauges set to required face and edge cuts from set out for each respective moulding and location.

- |             |   |
|-------------|---|
| 4.3         | Length measured and bevel gauges applied to accurately mark respective moulding for joint cuts.   |
| 4.4         | Scribed joints cut and fitted true without gap for internal angle joint between moulding lengths. |
| 4.5         | Moulding lengths cut accurately to set out marks and fitted to provide true joint without gaps.   |
| 4.6         | Long lengths joined by splayed joint to specifications.   |
| 4.7         | Moulding fitted to set out location to line and fixed to specifications.                          |
| 5. Clean-up |   |
| 5.1         | Moulding and joints sanded to smooth finish according to specifications.                          |
| 5.2         | Area cleared and waste materials disposed of safely.  |
| 5.3         | Unused materials stored/stacked.  |
| 5.4         | Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to all timber moulding applications where joining occurs at wall intersections and involves change of levels and moulding running at a slope or rake.

Junctions of walls may be at right angles or of obtuse or acute angles.

The term 'standard' mould applies to the original designed shape of moulding for the project, which may be applied on a rake or level.

Raking mould may be for hand railing or dado level, picture railing or cornice.

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Types of moulding profile may include:

- splayed
- bull nosed
- multi-curved
- ornate period profile

QUALITY ASSURANCE REQUIREMENTS MAY INCLUDE:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Personal protective equipment may include:

- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- spirit level
- squares
- bevels
- chisels
- hand saws
- saw stools
- power saws
- power drills
- power planer
- nail gun
- air compressor and hoses
- power leads/extension cords
- power router
- portable work bench
- coping saw
- hand plane

Method of fixing of moulding may include:

- nailing
- use of nail gun
- screws
- self tapping screws

## EVIDENCE GUIDE

Competency is to be demonstrated by fixing at least one separate type of moulding from those listed in the range of variables statement, to each of the element situations shown in the standard.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of fitting and fixing timber mouldings
- identify location and details of each moulding to be installed
- select and use appropriate processes, tools and equipment
- carry out accurate setting out to develop face and edge cuts and moulding shape
- produce developed moulding accurately to design shape
- adopt and use safe and effective procedures to accurately cut, fit and fix mouldings
- identify typical faults and problems that occur and the necessary action taken to rectify
- complete installation of moulding to specification

### (2) Pre-requisite Relationship of Units

In addition to basic industry skill pre-requisites for this unit are:

- BCGCAR1523A    Fix linings and panelling
- BCGCAR0613A    Fix timber mouldings



**(3) Underpinning Knowledge and Skills**Knowledge

knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- Quality Assurance
- materials
- moulding of timber
- wall framing structure
- tools and equipment
- calculation of material requirements
- measuring and levelling
- geometry applications
- fixing and fasteners

Skills

The ability to:

- work safely
- interpret drawings and specifications
- organise work
- measure accurately
- set out work
- use tools and equipment
- calculate material quantities
- fix material
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- suitable work area appropriate to proposed activities
- plant and equipment appropriate to application tasks
- construction materials appropriate to proposed activities
- hand and power tools appropriate to installation processes
- communication of documentation relevant to the proposed activity

**(5) Method of Assessment**

Competency may be determined concurrently based upon integrated project work.

Assessment may involve:

- observation of application process
- questioning related to underpinning knowledge
- inspection of installed mouldings

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or as part of a team under limited supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 3	
Work with others and in team	Level 3	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0653A: Restore/renovate windows and frames**

## Competency Descriptor:

This unit deals with the skills and knowledge required to restore and/or renovate timber windows and frames, and applies to individuals working in carpentry and joinery trades of building construction/building restoration industry.

## Competency Field:

General Construction/Building Restoration

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1. Select and prepare materials and equipment	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.	
	1.2	OH&S requirements for application tasks and workplace environment recognised and adhered to.	
	1.3	Scope of work and materials required for carrying out tasks determined from examination of damaged unit and specifications of repair work.	
	1.4	Materials to renovate windows checked against scope of work, drawings and specifications.	
	1.5	Appropriate personal protective equipment selected, correctly fitted and used.	
	1.6	Tools and equipment selected to carry out processes consistent with job requirements and checked for serviceability.	
2. Restore and renovate curved window frame	2.1	Set out made of unit to be repaired/replaced, where applicable, to determine shape and dimensions of all members.	
	2.2	Semi-elliptical jamb or other form of arch/circular window constructed with ribs shaped to size, rebated and moulded to specified shape within +/- 1mm.	
	2.3	Rail joints made to specification to fit overall size of frame to set out.	
	2.4	Radiating bars fitted to ribs and boss fitted to bottom rail to specifications and set out.	
	2.5	Key joint fitted and wedged tight to form joint to set out and specifications.	
	2.6	Frame assembled and surfaces finished to specifications.	

- |    |   |     |   |
|----|---|-----|---|
| 3. | Restore and renovate a casement window    | 3.1 | Window constructed to rod set out with all joints correct.  |
|    |   | 3.2 | Frame fixed square and true with sash clearance in frame to 3mm all round.  |
| 4. | Restore and renovate a double hung window | 4.1 | Joints for junction of frame members marked out and cut to set out rod for window.  |
|    |   | 4.2 | Double hung window frame constructed with all joints assembled and fixed tight to specifications and temporarily braced for square. |
|    |   | 4.3 | Sash material set out from set out rod to form sashes to fit frame.   |
|    |   | 4.4 | Joints made and sashes assembled to specifications, square and out of winding.  |
|    |   | 4.5 | Sashes dressed and fitted to window frame and fixed in accordance with specifications for assembly and sash operation.              |
|    |   | 4.6 | All furniture fitted correctly to manufacturer's specifications.  |
| 5. | Clean up                                  | 5.1 | Waste and unwanted material disposed of safely.   |
|    |   | 5.2 | Unused material stored/stacked.   |
|    |   | 5.3 | Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to timber-constructed windows and may involve the replacement of part or all of a window frame and/or sash.

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials

Methods of fixing joints may include but are not limited to:

- gluing and cramping
- wedging
- use of screws
- nailing
- use of dowels

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

Double hung windows may be operated by:

- sash balances
- weights and cords

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- straight edge
- squares
- chisels
- hand saws
- work bench
- drop/docking saw
- power drills
- power planer
- power leads
- power router
- clamps

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves

## EVIDENCE GUIDE

Competency is to be demonstrated by restoring and renovating window units, either whole or part thereof as referred to in the range of variables.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of repairing or renovating window frames and sashes
- identify location and details of window/frame and building structure
- give attention to accurate measuring and setting out processes to carry out renovations
- select and use appropriate processes, tools and equipment
- apply safe and effective procedures in repairing or renovating window/frame to specifications and finish
- identify typical faults and problems that occur and necessary action taken to rectify
- complete repair or renovation work to specifications

### (2) Pre-requisite Relationship of Units

In addition to basic industry and basic stream skills appropriate to the work orientation the following pre-requisite is required for this unit:

- BCGCAR0423A Install windows to wall framing

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements
- working drawings and specifications
- window frame and sash construction
- wall construction
- materials
- tools and equipment
- fixing and fasteners
- set outs
- measuring and marking

Skills

The ability to:

- work safely
- read and interpret drawings and specifications
- organise work
- set out work
- use tools and equipment
- construct material joints
- fix materials

**(4) Resource Implications**

The following resources should be provided:

- suitable work area appropriate to work application
- tools and equipment appropriate to application processes
- materials relevant to application of task
- drawings and specifications relevant to the proposed activities

**(5) Method of Assessment**

Competency in this unit may be determined concurrently, based upon integrated project work.

Assessment may involve:

- observation of the application process
- questioning related to underpinning knowledge
- inspection of completed work

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are being done under minimal supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	To measure self-performance
Communicate ideas and information	Level 2	With members of the work team
Plan and organise activities	Level 2	For self
Work with others and in team	Level 2	In completing scheduled tasks
Use mathematical ideas and techniques	Level 1	As an aid to measure and schedule tasks
Solve problems	Level 2	As an aid to self-development
Use technology	Level 2	To manage scheduling and completion of tasks

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0673A: Erect/dismantle jump type formwork**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare, erect and strip jump type formwork, and applies to individuals working in concreting in the construction industry.

Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	Quality Assurance requirements for company's construction operations recognised and adhered to.	
	1.2	OH&S requirements for application tasks and workplace environment recognised and adhered to.	
	1.3	Design of formwork structure identified from site and engineering detailed drawings.	
	1.4	Appropriate personal protective equipment selected, correctly fitted and used.	
	1.5	Tools and equipment selected to carry out processes consistent with job requirements, checked for serviceability and any faults reported to supervisor.	
2. Set out	2.1	Set out points and lines located according to engineer's drawings, survey datum points and site plan.	
	2.2	Formwork positioning located to predetermine set out.	
3. Assemble core form system	3.1	Internal pre-fabricated system wall form shutters erected and fixed into locations to engineer's drawings.	
	3.2	Concrete nib walls poured to heights consistent with engineer's requirements.	
	3.3	Erected shutters fitted to nib walls.	
	3.4	Shear key feet installed to manufacturer's specifications.	
	3.5	Platforms and assembly fitted into core to manufacturer's specifications.	
	3.6	Structural steel systems grid-work and hydraulic hose lines fitted to manufacturer's specifications.	
	3.7	Wall form shutters suspended and system cladding and platforms fitted and completed to manufacturer's specifications and engineer's requirements.	



- |     |                                 |      |   |
|-----|---------------------------------|------|---|
|     |                                 | 3.8  | Temporary lighting and emergency electrical work carried out according to specifications and authority requirements.                    |
| 4.  | Locate and install penetrations | 4.1  | Locations and dimensions of penetrations set out in line with designated tolerance from engineering drawings.                           |
|     |                                 | 4.2  | Penetration, block outs constructed where required to engineering drawings.   |
|     |                                 | 4.3  | Penetrations installed to requirements of engineering drawings.   |
| 5.  | Install reinforcement           | 5.1  | Reinforcement bars and/or mesh installed and fixed to conform to engineer's specifications.   |
| 6.  | Close shutters                  | 6.1  | External prefabricated system wall shutters erected and fixed into location according to engineer's and manufacturer's specification.   |
| 7.  | Place concrete                  | 7.1  | Concrete placed and consolidated within the system wall form shutters to engineer's requirements.                                       |
|     |                                 | 7.2  | Concrete cured to engineer's specification.   |
| 8.  | Strip shutters                  | 8.1  | Shutters loosened and stripped according to manufacturer's requirements.  |
| 9.  | Jump system                     | 9.1  | Formwork system electrically/hydraulically jacked into new position according to engineering drawing and manufacturer's specifications. |
|     |                                 | 9.2  | Trailing platforms installed to engineer's specifications.  |
|     |                                 | 9.3  | Stairs and access ways installed according to drawings and engineer's specifications.   |
| 10. | Dismantle system                | 10.1 | System dismantled in accordance with manufacturer's and engineer's specifications.  |
|     |                                 | 10.2 | Safe working area maintained to OH&S regulations.   |
| 11. | Clean-up                        | 11.1 | Waste materials removed and placed into job waste bins or rubbish stockpiles.   |
|     |                                 | 11.2 | System components cleaned, maintained to manufacturer's specified condition and stored.   |
|     |                                 | 11.3 | Tools and equipment cleaned, maintained and stored.   |

## RANGE STATEMENT

This unit applies to systemised formwork constructed and operated to engineer's specifications for jump formwork.

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding
- working with hydraulic equipment

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- spirit level
- nail bag
- levelling equipment
- chisels
- hand saws
- saw stools
- power saws
- power drills
- air compressor and hoses
- power leads
- spanners
- pneumatic wrenches

Applications of jump formwork include:

- cores
- walls
- silos

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves
- hard hat
- overhall

Formwork is to be in accordance with Regulation for Formwork for Concrete.

Reporting of faults should be in accordance with worksite operational procedures and may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by the performance of working with a team to carry out the safe and effective erecting/dismantling of jump form formwork to engineer's design and industry standards on a designed project.

### (1) Critical Aspects of Evidence

It is essential that competence is observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational policies and procedures
- select and use of appropriate processes, tools and equipment
- apply organisational quality procedures and processes within the context of erecting and operating jump formwork to form concrete
- give attention to accurate setting out for location of formwork
- adopt and use safe and effective procedures in the assembling of shutters
- give attention to specification details in erecting formwork and structural steel support
- apply correct procedures in connecting hydraulic hose lines
- give attention to assembling and installing all platforms, walkways and stairs supporting formwork operation.
- apply correct procedures in setting up block-outs and placing reinforcement to specifications
- give appropriate attention in team operation to the processes of pouring concrete and jumping formwork to next location.
- identify faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective worksite operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGCOR0242A Carry out levelling
- BCGCAR0662A Erect and dismantle formwork

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements including relevant statutory regulations, codes and standards
- systemised formwork construction
- jump formwork design
- understanding of hydraulic pressure on formwork by concrete when placed
- safe handling and storage of chemicals and flammable liquids
- formwork for concrete
- materials and components
- company's quality system and the role of the individual within that system
- understanding of electrical/hydraulic jacking systems
- plant, tools and equipment
- reinforcement in concrete
- worksite communication

Skills

The ability to:

- work safely
- interpret drawings, specifications and documentation
- organise work
- use tools plant and equipment
- select and identify materials relative to task
- handle materials
- fit and secure materials
- measure accurately
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- worksite location developed to base slab
- materials and components appropriate to proposed activity
- tools, plant and equipment appropriate to construction and installation processes
- appropriate communication of documentation relevant to the activity and tasks

**(5) Method of Assessment**

Competency in this unit may be determined concurrently based upon integrated project work.

Competency should be assessed through direct observation of application to tasks and questions related to underpinning knowledge.

Competency should be assessed under general guidance checking at various stages of the processes and at the completion of each activity against the performance criteria and specifications.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace setting.

Assessment should be while tasks are undertaken either individually or as part of a team under limited supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 3	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGCAR0793A: Erect ceiling framing (pitched roof)**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and erect ceiling framing for a pitched roof structure, and applies to individuals working in carpentry trade in the construction industry.

Competency Field: General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	1.1 Quality Assurance requirements for company's construction operations recognised and adhered to. 1.2 OH&S requirements for framing construction processes and workplace environment recognised and adhered to. 1.3 Materials and quantity requirements identified from job drawings and specifications. 1.4 Appropriate personal protective equipment selected, correctly fitted and used. 1.5 Tools and equipment selected to carry out processes consistent with job requirements checked for serviceability and any faults reported to supervisor. 1.6 Top of wall frames checked for alignment and temporary bracing or ties, where required, fixed to maintain true line.
2. Install plates on masonry walls	2.1 Timber for wall plates, not less than 75mm x 38mm, selected and cut to length to specifications. 2.2 Wall plates placed and tied down into position to masonry wall in accordance with specifications.
3. Install ceiling joists	3.1 Location of ceiling joists checked for set out or set out on top plate to specifications for spacing for pitched roof and ceiling members. 3.2 Ceiling joists direction designed to ensure joists are adjacent to roof rafters and clear of underneath of roof members. 3.3 Ceiling joists cut to length, placed and securely fixed to locations to specifications. 3.4 Trimmers cut and fixed to required locations to specifications. 3.5 Openings in ceiling trimmed all round to specifications to provide full support for ceiling lining.

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|----|-------------------------|-----|--|
| 4. | Install hanging beams   | 4.1 | Hanging beam sizes and spacing checked in accordance with specifications.  |
|    |                         | 4.2 | Hanging beams installed with end bearing of full width of top plate and if greater than three metres in length positioned above a stud on trimming joist or supported by intermediate block. |
|    |                         | 4.3 | Hanging beams on external walls placed alongside rafter locations, where applicable.   |
|    |                         | 4.4 | Ceiling joists connected to hanging beams and either secured against deflection by metal straps or timber cleats arranged on alternate sides of hanging beam to specifications.              |
|    |                         | 4.5 | Tie members installed, where necessary, to provide lateral bracing to external walls.  |
| 5. | Install ceiling battens | 5.1 | Ceiling battens, where required, of size to conform to load requirements of ceiling, fixed to ceiling joists to ensure flat finish to specifications.  |
|    |                         | 5.2 | Battens joined on ceiling joists to specifications.  |
| 6. | Clean-up                | 6.1 | Area cleared and waste material disposed of safely.  |
|    |                         | 6.2 | Unused materials stored/stacked.   |
|    |                         | 6.3 | Tools and equipment cleaned, maintained and stored.  |

## RANGE STATEMENT

This unit applies to the construction of framed ceilings to suit types of pitched supported roof framing.

All work to be carried out in accordance with National Building Code for roof framing.

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to specifications of work

TYPES OF ROOF TO INCLUDE:

- gable roofs
- hip roofs
- hip and valley roofs
- combination of gables, hips and valleys

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials

Personal protective equipment may include:

- boots
- safety/goggles
- ear plugs/muffs
- dust masks/respirators

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammers
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stools
- power saws
- nail gun
- air compressor and hoses
- power leads
- string lines

Work to be undertaken in a team situation.

Reporting of faults should be in accordance with workplace procedures and may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by setting out and installing ceiling framing to a nominated project involving a hip and valley roof.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of erecting ceiling framing for a pitched roof
- identify details of proposed pitched roof structure and wall framing support
- ensure all walls are straight and braced prior to commencing ceiling construction
- select and use appropriate processes, tools and equipment to carry out construction
- use safe and effective procedures to install ceiling joists, trimmers and hanging beams to specification
- ensure hanging beams correctly supported and ceiling joists and trimmers located alongside rafters
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective work procedures
- complete ceiling framing construction to proposed pitched roof and specifications

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- BCGCAR0161A Prepare for construction process (carpentry)
- BCGCAR0442A Construct and erect timber wall framing



**(3) Underpinning Knowledge and Skills****Knowledge**

Knowledge of:

- workplace and equipment safety requirements
- working drawing and specifications
- Building Code for timber frame roofing
- materials
- wall framing and roof construction
- tools and equipment
- fixing and fasteners
- calculation of material requirements

**Skills**

The ability to:

- work safely
- organise work
- set out work
- read and interpret drawings
- interpret documentation
- use tools and equipment
- communicate effectively
- calculate material quantities

**(4) Resource Implications**

The following resources should be provided:

- workplace location with erected walls in position
- appropriate material to carry out construction process
- tools and equipment appropriate to construction processes
- drawings and specifications relevant to construction activity

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of application process
- questioning related to underpinning knowledge

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the normal or simulated workplace environment.

Assessment should be while tasks are undertaken either individually or as part of a team operation.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGROF1493A: Fix shingles - roofs and facades**

## Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and fix shingles to roofs and wall facades, and applies to individuals working in carpentry and roofing trades in the construction industry.

## Competency Field:

General Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1. Plan and prepare work	1.1	Quality Assurance requirements of company's roofing operations recognised and adhered to.	
	1.2	OH&S requirements for work environment and fixing shingles to roof and other surfaces recognised and adhered to.	
	1.3	Surfaces to be covered and identified from job drawings quantities of shingles/shakes calculated.	
	1.4	Quantities of battens, sarking materials and boards, if specified, calculated and selected to job drawings and specifications.	
	1.5	Appropriate personal protective equipment selected, correctly fitted and used.	
	1.6	Tools and equipment selected to carry out processes consistent with job requirements, checked for serviceability and any faults reported.	
	1.7	Roof/wall surface checked to ensure complete and ready for covering.	
	1.8	Safety hazards identified and correct procedures used to reduce risk to self and others.	
2. Prepare roof surface	2.1	Fall safe devices installed to roof perimeter to OH&S regulations.	
	2.2	Scaffolding erected to OH&S regulations, where applicable.	
	2.3	Elevator assembled to manufacturer's specifications and used in accordance with OH&S regulations.	
	2.4	Roof surface set out, sarked and boarded where required to specifications.	
	2.5	Battens cut, fitted and fixed to line and spacing to shingle manufacturer's and job specifications.	
	2.6	Metal valley sheets laid and fixed into place by nailing on edge extremities to specification.	

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|-----------------------------------|-----|---|
|                                   | 2.7 | Protrusions prepared for installation of flashing with covered roof surface.  |
| 3. Lay and secure shingles/shakes | 3.1 | Shingles/shakes loaded on to roof, supported and evenly distributed.  |
|                                   | 3.2 | Bituminous felt laid below initial course of shingles, to job specifications.   |
|                                   | 3.3 | Shingles/shakes fixed in double thickness to line specified spacing between and guttering overhang to specification.        |
|                                   | 3.4 | Subsequent courses laid with bituminous felt and fixed to shingle to manufacturer's recommendations and job specifications. |
|                                   | 3.5 | Staggered joints with overlapping shingles/shakes maintained to +40mm.  |
|                                   | 3.6 | Singles/shakes split/cut to work junctions with walls or roof surfaces.   |
|                                   | 3.7 | Valleys finished to specification.  |
|                                   | 3.8 | Gable ends finished to line to minimum 50mm overhang.   |
| 4. Finish hips and ridges         | 4.1 | Same size shingles/shakes selected for hips and ridges.   |
|                                   | 4.2 | Edges of shingles/shakes bevel cut to provide butt joints in capping sections.  |
|                                   | 4.3 | Hips and ridges covered using capping sections and metal flashing to specification.   |
|                                   | 4.4 | Hips and ridges fixed and finished to line according to specifications.   |
| 5. Clad walls and facades         | 5.1 | Method of finishing shingles/shakes on wall/facade identified from specifications.  |
|                                   | 5.2 | Sheathed surfaces sheeted and fixed to framework to job specifications.   |
|                                   | 5.3 | Wall/facade set out to spacing for battens, if applicable, and specified exposure of shingles/shakes.                       |
|                                   | 5.4 | Permeable building paper and shingles/shakes fitted and nailed to specified method for fixing.                              |
|                                   | 5.5 | Junctions at corners constructed to specified finishes.   |
| 6. Clean-up                       | 6.1 | Flashings finished to specification.  |
|                                   | 6.2 | Roof and guttering cleaned free of debris.  |

- 6.3 Re-usable material removed and stored.
- 6.4 Waste material and debris removed and work area left clean.
- 6.5 Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to the fixing of timber shingles or shakes to provide a waterproof covering to roofs and walls/facades.

OH&S requirements to be in accordance with Statutory Legislation and regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding
- fall safe devices

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to work specifications

Tools and equipment may include but are not limited to:

- measuring tape/rule
- hammer
- spirit level
- squares
- nail bag
- chisels
- hand saws
- saw stools
- power saws
- power drills
- power planer
- nail gun
- air compressor and hoses
- power leads
- string lines
- chalk lines
- ladders
- cutting blades

Types of shakes include:

- straight -split
- taper split
- hand-split and re-sawn

Lengths of shakes and shingles may be:

- 450mm
- 600mm

Widths for shingles/shakes vary from 100mm – 300mm.

Roofs are best covered providing a triple thickness with less than 50% of shingle/shake exposed to the elements. Exposure tables provide batten spacing.

Sarking material should be vapour permeable.

Minimum recommended pitch of roofs is 18 degree or 1 in 3 slope.

Wall/facade covering methods include:

- single coursing
- double coursing

Types of roof protrusions include:

- chimneys
- dormed windows
- two-storey insert
- skylights
- pipes and flues

Personal protective equipment may include:

- safety goggles/glasses
- ear plugs/muffs
- dust masks/respirators
- gloves
- cap

Junctions at roof valleys may be:

- open
- closed

Groundwork for shingles/shakes on roof surfaces may be:

- battened and felted
- board and felted
- boarded, battened and felted

Joining at wall corners may be:

- butted against boards - external
- butted against timber stop - internal or external
- laced - external
- laced with flashing behind - internal

## EVIDENCE GUIDE

Competency is to be demonstrated by covering a roof surface and a wall using either shingles or shakes, in accordance with any of the conditions listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with OH&S regulations applicable to workplace roofing operations
- apply organisational quality procedures and processes within context of fixing shingles to a roof
- identify location and details of methods of fixing shingles/shakes
- select and use appropriate processes, tools and equipment to carry out tasks
- accurately set out and install boarding, sarking and battens
- use safe and effective procedures to ensure specified fixing and carry out covering of fixing
- use safe and effective procedures to complete surfaces to finish specifications
- identify typical faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGROF0683A Tile a regular roof

**3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- relevant Statutory Occupational Health and Safety legislation, standards and codes of practice
- workplace and equipment safety requirements
- site drawings and specifications
- scaffolding and fall safe devices
- materials and characteristics
- tools and equipment
- flashing of surfaces
- fixing of materials

Skills

The ability to:

- work safely
- interpret drawings and documentation
- organise work
- calculate material quantities
- set out work
- use tools and equipment
- communicate effectively

**4) Resource Implications**

The following resources should be provided:

- workplace location
- materials appropriate to installation activities
- scaffolding components appropriate to tasks
- tools and equipment appropriate to installation processes
- appropriate documentation related to tasks

**(5) Method of Assessment**

Competency should be assessed while tasks are undertaken.

Assessment may involve:

- observation of the application process
- questions related to underpinning knowledge

**Method of Assessment**

Assessment may be by intermittent checking at various stages of each task application or at the completion of each task in accordance with the performance criteria.

**(6) Context of Assessment**

Competency may be assessed in the workplace or simulated workplace setting.

Assessment should be while tasks are undertaken either individually or working with a partner under indirect supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	To measure self-performance
Communicate ideas and information	Level 1	With members of the work team
Plan and organise activities	Level 3	For self
Work with others and in team	Level 2	In completing scheduled tasks
Use mathematical ideas and techniques	Level 3	As an aid to measure and schedule tasks
Solve problems	Level 2	As an aid to self-development
Use technology	Level 1	To manage scheduling and completion of tasks

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



**BCGCAR1543A: Erect/dismantle slip form formwork**

## Competency Descriptor:

This unit deals with the skills and knowledge required to prepare, erect/dismantle slip formwork, and applies to individuals engaged in the erection and removal of formwork for concreting in the construction industry.

## Competency Field:

General and Civil Construction

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan and prepare work	1.1	Quality Assurance requirements of company's construction operations recognised and adhered to.
		1.2	OH&S requirements for application tasks and workplace environment recognised and adhered to.
		1.3	Design of formwork structure identified from site and detailed engineering drawings.
		1.4	Appropriate personal protective equipment selected, correctly fitted and used.
		1.5	Tools and equipment selected to carry out processes consistent with job requirements, checked for serviceability and any faults reported to the supervisor.
2.	Set out	2.1	Set out points and lines located according to engineering drawings, survey datum points and site plan.
		2.2	Formwork positioning located to predetermined set out.
3.	Assemble core form system	3.1	Internal pre-fabricated system wall form shutters erected and fixed into locations to engineering drawings and specifications.
		3.2	Concrete nib walls poured to heights consistent with engineer's requirements.
		3.3	Erected shutters fitted to nib walls.
		3.4	Shear key feet installed to manufacturer's specifications.
		3.5	Platforms and assembly fitted into core to manufacturer's specifications.
		3.6	Structural steel systems grid-work and hydraulic hose lines fitted to manufacturer's specifications.
		3.7	Wall form shutters suspended and system cladding and platforms fitted and completed to manufacturer's specifications and engineer's requirements.
		3.8	Temporary lighting and emergency electrical work carried out according to specifications and authority requirements.

- |     |  |      |  |
|-----|--|------|--|
| 4.  | Locate and install penetrations                  | 4.1  | Locations and dimensions of penetrations set out in line with designated tolerance from engineering drawings.                        |
|     |  | 4.2  | Penetration block outs constructed where required to engineering drawings and specifications.  |
|     |  | 4.3  | Penetrations installed to requirements of engineering drawings and specifications.   |
|     |  | 4.4  | Penetration block outs installed as slip form reaches locations, to engineer's specifications.                                       |
| 5.  | Install reinforcement                            | 5.1  | Reinforcement bars and/or mesh installed and fixed to conform to engineer's specifications.  |
|     |  | 5.2  | Jacking rods installed and fixed to designed locations to engineer's specifications.   |
| 6.  | Close shutters                                   | 6.1  | External prefabricated system wall shutters erected and fixed into location to engineer's and manufacturer's specification.          |
| 7.  | Locate yokes, jacks and connect hydraulic system | 7.1  | Systemised yokes installed to jacking rods within reinforcement and wall form shutters in accordance with engineer's specifications. |
|     |  | 7.2  | Jacks installed on yokes to requirements in accordance with system design and engineer's specifications.                             |
|     |  | 7.3  | Hydraulic hose lines fitted to jacks and central control system to engineer's specifications.  |
| 8.  | Place concrete                                   | 8.1  | Concrete placed and consolidated within system wall form shutters to engineer's requirements.  |
|     |  | 8.2  | Rate of placement of concrete maintained to rate of slip of formwork to engineer's specifications and instructions.                  |
|     |  | 8.3  | Concrete cured to engineer's specification.  |
| 9.  | Activate jacking system                          | 9.1  | Hydraulic jacking system activated in accordance with engineer's specifications and design to slip formwork.                         |
| 10. | Slip system                                      | 10.1 | Formwork systems hydraulically jacked into progressive position according to engineer's specifications.                              |
|     |  | 10.2 | Trailing platforms installed to engineer's specifications.   |
|     |  | 10.3 | Stairs and access ways installed according to drawings and engineer's specifications.  |
|     |  | 10.4 | Formwork progressively slipped to completion of pour.  |
|     |  | 10.5 | Reinforcement and jacking rods extended during progress of slip operation, to engineer's specifications/directions.                  |

11. Dismantle system	11.1	System dismantled in accordance with manufacturer's and engineer's specifications.
	11.2	Safe working area maintained to OH&S regulations.
12. Clean up	12.1	Waste materials removed and placed into job waste bins or rubbish stockpiles.
	12.2	System components cleaned, maintained to manufacturer's specified condition and stored.
	12.3	Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to systemised formwork constructed and operated to engineer's specifications for slip formwork.

Quality Assurance requirements may include:

- workplace operations and procedures
- quality of materials
- control of handling procedures
- use and maintenance of equipment
- attention to work specifications

Applications of slip formwork include:

- cores
- walls
- silos

OH&S requirements to be in accordance with Statutory Legislation and Regulations and may include:

- workplace environment and safety
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding
- working with hydraulic equipment

Personal protective equipment may include:

- boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves
- hard hat

Tools and equipment may include but are not limited to:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• measuring tape/rule</li> <li>• hammer</li> <li>• spirit level</li> <li>• nail bag</li> <li>• levelling equipment</li> <li>• chisels</li> <li>• hand saws</li> </ul> | <ul style="list-style-type: none"> <li>• saw stools</li> <li>• power saws</li> <li>• power drills</li> <li>• air compressor and hoses</li> <li>• power leads/extension cords</li> <li>• spanners</li> <li>• pneumatic wrenches</li> </ul> |
|--|---|

Formwork to be in accordance with Standards -Formwork for Concrete.

Reporting of faults should be in accordance with worksite operational procedures and may be verbal or written.

## EVIDENCE GUIDE

Competency is to be demonstrated by working with a team to carry out the safe and effective erecting/dismantling of slip form formwork to engineer's design and industry standards on a designed project.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational policies and procedures
- select and use appropriate processes, tools and equipment
- apply organisational quality procedures and processes within context of erection and operation of slip formwork to form concrete
- demonstrate accurate setting out for location of formwork
- adopt and use safe and effective procedures in the assembling of shutters
- display compliance with specification details in erecting formwork and structural steel support
- apply correct procedures in connecting hydraulic hose lines
- demonstrate safe and effective procedures in assembling and installing all platforms, walkways and stairs supporting formwork operation
- apply correct procedures in setting up block-outs and placing reinforcement to specifications
- demonstrate sound procedures in effectively supporting team operation with processes of pouring concrete to slip formwork operation
- identify faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective worksite operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0051A Use hand and power tools
- BCGCOR0061A Use small plant and equipment
- BCGCOR0242A Carry out levelling
- BCGCAR0663A Erect and dismantle formwork

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- workplace and equipment safety requirements including relevant statutory regulations, codes and standards
- systemised formwork construction
- slip formwork design
- understanding of hydraulic pressure on formwork by concrete when placed
- safe handling and storage of chemicals and flammable liquids
- Standards – Formwork for Concrete
- materials and components
- company's quality system and role of individual within that system
- understanding of hydraulic jacking systems
- plant, tools and equipment
- reinforcement in concrete
- worksite communication

Skills

The ability to:

- work safely
- interpret drawings, specifications and documentation
- organise work
- use tools plant and equipment
- select and identify materials relevant to task
- handle materials
- fit and secure materials
- measure accurately
- communicate effectively

**(4) Resource Implications**

The following resources should be provided:

- worksite location developed to base slab
- materials and components appropriate to proposed activity
- tools, plant and equipment appropriate to construction and installation processes
- appropriate communication of documentation relevant to activity and tasks

**(5) Method of Assessment**

Competency in this unit may be determined concurrently based upon integrated project work.

Competency should be assessed through direct observation of application to tasks and questions related to underpinning knowledge.

Competency should be assessed under general guidance, checking at various stages of the processes and at the completion of each activity against the performance criteria and specifications.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace setting.

Assessment should be while tasks are undertaken either individually or as part of a team under limited supervision.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	To measure self-performance
Communicate ideas and information	Level 1	With members of the work team
Plan and organise activities	Level 2	For self
Work with others and in team	Level 2	In completing scheduled tasks
Use mathematical ideas and techniques	Level 3	As an aid to measure and schedule tasks
Solve problems	Level 2	As an aid to self-development
Use technology	Level 2	To manage scheduling and completion of tasks

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BCGROF1553A: Install sheeting and cladding roofing materials**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and install sheeting and cladding to roof frames and applies to individuals working in carpentry and roofing trades, in the construction industry.

Competency Field:

General Construction

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Plan and prepare work	1.1	Source of job instructions accurately interpreted and technical information derived from given sources relates to roofing material to be installed.
	1.2	Occupational Health and Safety (OH&S) requirements for workplace environment and for installing metal roofing recognised and adhered to.
	1.3	Where appropriate, resources required are accurately determined/prepared and submitted to relevant personnel
	1.4	Appropriate personal protective equipment selected, correctly fitted and used.
	1.5	The correct types and quantity of metal sheeting and fasteners selected or obtained.
	1.6	Materials are handled safely and placed in a location to provide for ease of use and protection against damage or lost.
	1.7	Tools and equipment selected are consistent with job requirements, are checked for serviceability and faults identified are appropriately dealt with.
	1.8	Drawings and other like sources of technical information are safely handled and stored to prevent damage.
2. Prepare roof framing for sheeting	2.1	Access equipment (ladder/scaffolding) correctly set-up checked and confirmed safe.
	2.2	Laid out reference marks conform with job specifications and/or manufacturer's specification on relevant Building Codes.
	2.3	The transfer of levels from given points conforms with job specification.

- |    |  |   |
|----|--|---|
|    | 2.4  | The roof frame is prepared suitable for the type of sheeting material and fastening devices to be used.   |
|    | 2.5  | Where appropriate, holes drilled/tapped are suitable for the type of fastening devices.   |
|    | 2.6  | Sealants, valleys and troughs are correctly located and securely fixed in place.  |
| 3. | Position and fix metal sheet-roofing materials |   |
|    | 3.1  | Locations for installing sheeting are rechecked and confirmed ready for installation and referenced points or starting line correctly identified. |
|    | 3.2  | Sheeting materials are correctly positioned and fixed to conform with job specifications.   |
|    | 3.3  | Sheeting are aligned vertically and horizontally and are uniform in appearance.   |
|    | 3.4  | All fastening devices are securely tightened.   |
|    | 3.5  | Valleys, hips, ridges and gables conform to job specifications and capable of providing the desired leak-proof result.                            |
|    | 3.6  | Overlapping profiles and overhanging tails at eaves conform with job specifications.  |
|    | 3.7  | There are no holes, dents or defects in the installed sheeting.   |
| 4. | Clean up                                       |   |
|    | 4.1  | Roof and guttering cleaned free of waste.   |
|    | 4.2  | Waste material disposed of safely.  |
|    | 4.3  | Unused materials stored/stacked.  |
|    | 4.4  | Tools and equipment cleaned, maintained and stored.   |

## **RANGE STATEMENT**

This unit applies to the installation of the range of sheeting and cladding materials used for roofing across the range of roof frame structures

Source of information:

- Building drawings, job specifications, oral/written job instructions, relevant statutory regulations, manufacturers' technical information, schedules, health and safety regulations



Roofing systems may include but not limited to:

Site assembled systems

- gable to gable
- hips
- valleys

OH&S requirement to be in according with Statutory Regulation and may include:

- workplace environment and safety
- fall safe protection
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Single skin systems

- gable -to-gable
- hips
- valleys

Resources may include:

Materials, tools, equipment and manpower

Materials/components:

- (a) Site assembled systems: - natural finish/coated profiled fibre cement sheet materials, natural finished/coated profiled metal sheet materials, profiled translucent sheet materials, profiled foamed insulating materials, mineral/glass wool insulating materials, plastic membrane materials, spacers, lining boards, profiled metal liners, flashings, fitting, sealers, fillers, clips and fasteners
- (b) Single skin systems:- natural finish/coated profiled fibre cement sheet materials, natural finished/coated profiled metal sheet materials, profiled translucent sheet materials, flashings, fitting, sealers, fillers, and fasteners
- (c) Fabricated composite systems: - profiled coated metal prefabricated composite panel materials, profiled translucent sheet materials, flashings, fittings, sealers, fillers, fasteners

Locations may include:

- Old and new roofing situations

Backgrounds may include:

- Metal and timber, rafters, etc., previous installed shingles, valleys and troughs

Tools and equipment may include but not limited to:

- general purpose saw
- hacksaw
- hand drill
- hand shears
- nibbler
- riveting tools
- reciprocating saw
- hammer
- measuring tape
- spirit levels
- straight edge
- chalk line
- scaffolding
- mastic gun
- screw gun
- screwdriver
- ladder
- spanner

## EVIDENCE GUIDE

Competency is to be demonstrated by setting out and installing metal sheeting and cladding roofing to a roof frame incorporating irregular shapes or unequal pitches.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures
- select and use appropriate processes, tools and equipment
- apply organisational quality procedures and processes within the context of sheeting/cladding an irregular roof
- inspect roof framing to ensure all structural members are in place and fastened
- check roof surfaces to ensure all valley guttering, flashings and soakers are in place, where applicable
- install fall safety devices to regulatory requirements
- accurately cut sheeting to line for finishes around openings, gutters and gable end
- position and secure sheeting in accordance with manufacturer's recommendations
- identify faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective roofing operations

### (2) Pre-requisite Relationship of Units

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- information sources: site, detailed drawings, etc.
- types of, advantages and limitation of metal sheeting and cladding roof materials
- procedures for installing sheeting and cladding roofing materials
- types of sealants - gun applied – preformed strip
- types of profile closure
- responsibility with regard to building regulations
- fall safety devices
- types, method/purpose of fasteners:
  - crown fastening
  - valley fastening self-tapping, self-drilling, stand off fasteners
  - hook/crook bolts
- screw fastening, rivet fastening
- types/purpose of spacers and profile fillers
- types and purpose of sealants

Skills

The ability to:

- read and interpret blueprints, drawings, schedules and other technical information
- identify materials, tools, equipment and manpower requirements
- estimate job and prepare material lists
- set up and check access equipment
- measure and mark off reference points
- level and plumb reference marks
- cut shape and bend materials to form valley troughs, eaves, caps, etc.
- fasten joints to form valley troughs, eaves caps
- install fall safety devices
- drill and tap holes in metal rafters etc.
- fit and install valleys and troughs
- position fit, fix and secure troughs, membranes, fillers, etc.
- install metal sheeting and cladding materials using range of fastening devices
- install translucent sheet materials
- install ridge caps
- apply sealants

**(4) Resource Implications**

The following resources should be provided:

- completed roof structure ready for installing sheeting or cladding
- tools and equipment appropriate for installation processes
- roof sheeting or cladding and associated materials required for installation
- specifications for application of roof sheeting/cladding

**(5) Method of Assessment**

Competency will be assessed through direct observation of application to tasks and questions related to underpinning knowledge.

Competency will be assessed under general guidance checking at various stages of the process and at the completion of the activity against performance criteria and specifications.

**(6) Context of Assessment**

Competency may be assessed in the workplace or simulated work setting.

Assessment will be while tasks are being done either individually or as part of a team under limited supervision.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
Carries out established processes Makes judgement of quality using given criteria	Manages process Selects the criteria for the evaluation process	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## BCGROF1563A      **Repair sheeting and cladding roofing materials**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and install sheeting and cladding to roof frames and applies to individuals working in carpentry and roofing trades.

Competency Field:

General Construction

### ELEMENT OF COMPETENCY      PERFORMANCE CRITERIA

1.	Plan and prepare work	1.1	Source of job instructions accurately interpreted and technical information derived from given sources relates to roofing material to be removed and replaced.
		1.2	Occupational Health and Safety (OH&S) requirements for workplace environment and for installing metal roofing recognised and adhered to.
		1.3	Appropriate personal protective equipment selected, correctly fitted and used.
		1.4	Access equipment accurately set up/checked and fitted and confirmed safe before being used.
		1.5	Tools and equipment selected are consistent with job requirements, are checked for serviceability and faults identified are appropriately dealt with.
		1.6	Faults in sheeting or cladding are accurately located and identified.
		1.7	Where required, reports of faults identified are accurate, clear and concise.
		1.8	Resources required for carrying out repairs are accurately determined.
2.	Remove defective sheet and cladding roofing	2.1	Defective materials are removed in accordance with job specification or manufacturers' recommendations.
		2.2	Reusable roofing materials are inspected, cleaned and appropriately stored.
		2.3	The background surface is properly prepared to receive replacement-roofing materials.

- 2.4 Prepared background surfaces are checked and confirmed as ready to receive replacement-roofing components.
- 2.5 The correct type of material is used in the preparation of background surfaces.
- 2.6 Work process minimizes or prevents further damage to roof surfaces and the environment.
- 3. Fit and secure replacement sheeting and cladding
  - 3.1 Locations for installing replacement-roofing materials are checked and confirmed ready for installation.
  - 3.2 Where appropriate, reference points or starting line are located.
  - 3.3 Sheeting or cladding roofing materials are properly fitted and fixed in accordance with fastening specifications.
  - 3.4 Roofing sheets or cladding are aligned vertically and horizontally with existing roofing.
  - 3.5 All fixing devices are accurately fastened
  - 3.6 Sealant, troughs, valleys and ridges components are installed in accordance with job specifications and provide desired leak-proof results.
  - 3.7 Overlapping profiles and overhanging tails at eaves conform to job specifications.
  - 3.9 The repairs carried out in a manner to prevent or minimize waste of materials.
- 4. Clean-up
  - 4.0 Damage to the built environment is prevented or minimized
  - 4.1 Roof and guttering cleaned free of waste.
  - 4.2 Waste material disposed of safely.
  - 4.3 Unused materials stored/stacked.
  - 4.4 Tools and equipment cleaned, maintained and stored.

## RANGE STATEMENT

This unit applies to the removal and replacement of the range of sheeting and cladding materials used for roofing across the range of roof frame structures.

Source of information may include:

- building drawings
- job specifications
- oral/written job instructions
- relevant statutory regulations
- manufacturers' technical information
- schedules health and safety regulations

Prefabricated composite systems:

- gable to gable
- hips
- valleys

OH&S Requirement to be in according with Statutory/Legislation Regulation and may include:

- workplace environment and safety
- fall safe protection
- protective clothing and equipment
- use of tools and equipment
- handling of materials
- working platforms and scaffolding

Roof materials:

- Natural finish/coated profiled fibre cement and metal sheet materials
- profiled translucent sheet materials
- profiled foamed insulating materials
- spacers
- lining boards
- profiled metal liners
- flashings
- fitting, sealers
- fillers
- clips and fasteners

Backgrounds:

- Metal and timber - rafters, sarking, eaves, etc

Roofing systems may include:

Site assembled systems:

- gable to gable
- hips
- valleys

Single skin systems:

- gable -to-gable
- hips
- valleys

Personal protective equipment may include:

- safety boots
- safety glasses/goggles
- ear plugs/muffs
- dust masks/respirators
- gloves

Faults may include:

- Loose/damaged/corroded materials and components

Structures may include:

- Vertical and inclined roof surfaces

Tools and equipment may include but not limited to:

- general purpose saw
- hacksaw
- hand drill
- hand shears
- nibbler
- riveting tools
- reciprocating saw
- hammer
- measuring tape
- spirit levels
- straight edge
- chalk line
- scaffolding
- mastic gun
- screw gun
- screwdriver
- ladder
- spanner

## EVIDENCE GUIDE

Competency is to be demonstrated by removing and replacing defective metal sheeting and cladding roofing materials to a roof frame incorporating irregular shapes or unequal pitches.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures
- select and use appropriate processes, tools and equipment
- apply organisational quality procedures and processes within the context of repairing roofs
- inspect roof framing to ensure all structural members are in place and fastened
- check roof surfaces to ensure all valley guttering, flashings and soakers are in place, where applicable
- accurately cut sheeting to line for finishes around openings, gutters and gable end
- position and secure sheeting in accordance with manufacturer's recommendations
- identify faults and problems that occur and necessary action taken to rectify
- interactively communicate with others to ensure safe and effective tiling operations

### (2) Pre-requisite Relationship of Units

- BCGCOR0051A Use hand and power tools
- BCGCOR0071A Erect and dismantle restricted height scaffolding



**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- potential leak sources and effects of leakage
- correct sealing at laps
- correct positioning and securing of flashings
- characteristics, uses and limitations of metal roofing materials
- method/purpose of primary fastening: crown fastening, valley fastening, self-tapping, self-drilling, stand off fasteners, hook/crook bolts
- types/purpose of spacers and profile fillers
- types and purpose of sealants and vapour checks
- types and purpose of breather membranes
- procedures for the removal of fibre cement and metal sheets; and lining materials
- method of correcting defects or deficiencies in supporting backgrounds
- types and purposes of primer
- responsibilities with regard to building regulations

Skills

The ability to:

- read and interpret drawing and other relevant technical information
- determine and organize job requirements
- set up and/or check access equipment
- examine roof surface for defects
- prepare and submit reports
- loosen and remove defective sheeting and cladding roofing
- check condition of background structure and roofing materials removed
- remove and replace defective sections of background structure
- drill holes into background structure
- prime surfaces of background structure
- measure and mark roofing materials
- cutting and drilling roof sheeting and cladding materials
- fit, fix and secure components
- installing and tightening fasteners applying sealants

**(4) Resource Implications**

The following resources should be provided:

- defective roofing available for repairing sheeting or cladding material
- tools and equipment appropriate for installation processes
- roof sheeting or cladding and associated materials required installation
- specifications for application of roof sheeting

**(5) Method of Assessment**

Competency should be assessed through direct observation of application to tasks and questions related to underpinning knowledge.

Competency should be assessed under general guidance checking at various stages of the process and at the completion of the activity against performance criteria and specifications.

**(6) Context of Assessment**

Competency may be assessed in the workplace or simulated work setting.

Assessment should be while tasks are undertaken either individually or as part of a team under limited supervision.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	To measure self-performance
Communicate ideas and information	Level 2	With members of the work team
Plan and organise activities	Level 2	For self
Work with others and in team	Level 2	In completing scheduled tasks
Use mathematical ideas and techniques	Level 1	As an aid to measure and schedule tasks
Solve problems	Level 2	As an aid to self-development
Use technology	Level 2	To manage scheduling and completion of tasks

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## BCGCOR1583A: Read and interpret plans

### Competency Descriptor:

This unit deals with the skills and knowledge required to effectively read and interpret building plans and drawings, and applies to individuals working in the general & civil construction industry.

Competency Field: General Construction

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Identify types of drawings and their functions	1.1 Main types of plans and drawings used in the construction industry identified.
	1.2 Key functions of each type of drawing identified.
	1.3 Key users of these drawings identified.
2. Recognise commonly used symbols and abbreviations	2.1 Commonly used terms, symbols, scales and abbreviations recognised.
	2.2 Function of legend understood and explained.
3. Locate and identify key features on a site plan	3.1 Key features and dimensions of site identified and located.
	3.2 Orientation of site identified.
	3.3 Access from roadways to worksite located and identified.
	3.4 Services identified.
	3.5 Knowledge of construction details and conformity to building regulations demonstrated.
4. Identify and locate key features from sectional details and elevations	4.1 Specific key features identified correctly from sectional details and elevations.
	4.2 Structural features and horizontal/vertical measurements located.
	4.3 The ability to identify and relate to site survey of conditions of soil, natural damage, existing pits, foundations, drains, trees, etc. demonstrated.

5.	Recognise amendments	5.1	Title panel checked. Verification that drawing used is latest amendment.
6.	Read and interpret specifications	6.1	Purpose of specifications identified.
		6.2	Types of details identified from specifications.
7.	Read and interpret other drawings and plans	7.1	Drainage requirements determined.
		7.2	Existing surface level and finished surface level identified.
		7.3	Evidence of ability to read and interpret basic plans of other occupational areas demonstrated.

## RANGE STATEMENT

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment.

The following variables may be present for this particular unit:

Types of drawings include:

- site plans
- elevations
- floor plans
- foundation
- roof plan
- sectional plans/elevations
- structural details and specification providing illustrations and dimensions
- sectional plans/elevations
- details and specification providing illustrations and dimensions

Other drawings and plans:

- electrical
- plumbing
- drainage
- roads
- landscape

Key features of site plans may involve:

- shape of site
- proposed building/s
- roads
- easements
- existing buildings/structures
- services
- dimensions

Key features of plans and elevations may involve:

- type of structure – structural members
- shape of building/structure
- type of construction
- layout of rooms
- service requirements
- location of plant or machinery
- vertical and horizontal measurements

Types of construction include but are not limited to:

- structural steel framed
- light steel framed
- timber framed
- reinforced concrete
- pre-cast concrete
- solid brick
- brick veneer

Services may include:

- drainage
- sewerage
- gas
- water
- electricity

Civil construction includes:

- tunnels
- bridges
- culverts
- earthworks and other types of construction

Types of structures include:

- single storey buildings
- double storey buildings
- multi storey buildings
- bridges
- fabricated towers
- 

Types of details include but are not limited to:

- structural steelwork
- timber framework
- brickwork
- concrete work
- plastering

Orientation of site includes:

- relationship to 'north'
- location of roads
- relationship to roads and neighbouring sites

## EVIDENCE GUIDE

Competency is to be demonstrated by effectively reading and interpreting drawings to locate or identify nominated features or functions in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- identify and understand various types of drawings
- identify dimensions, symbols, abbreviations and key features
- identify title panel and reference date as to up-to-date copy of drawings
- indicate sound understanding of purpose of specifications in accordance with the work orientation

### (2) Pre-requisite Relationship of Units

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- a range of drawings
- materials relative to drawings/specifications
- measurements and calculations
- symbols, dimensions and terminology

Skills

The ability to:

- read and interpret drawings
- measure accurately
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- Suitable range of drawings and specifications

**(5) Method of Assessment**

Competency should be assessed while work is being done under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competency in this unit may be determined concurrently, based upon integrated project work.

Assessment may be by intermittent checking at the various stages of the job application in accordance with the performance criteria.

**(6) Context of Assessment**

Competency should be assessed in the workplace or simulated workplace environment in accordance with work practices and safety procedures.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.