



Australian Government

Department of Education, Employment and Workplace Relations

CPCCCA3016A Construct timber external stairs

Release: 1

CPCCCA3016A Construct timber external stairs

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit of competency specifies the outcomes required to construct and install timber external stairs, that may involve one or more flights, to provide access into a structure. It includes timber treads and stringers.

Application of the Unit

Application of the unit This unit of competency supports achievement of skills for constructing stairs to external access to a building or construction structure, which includes working with others and as a member of a team.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare.	<p>1.1. Work instructions, including plans, specifications, quality requirements and operational details, are obtained, confirmed and applied from relevant information for planning and preparation purposes.</p> <p>1.2. Safety (OHS) requirements are followed in accordance with safety plans and policies.</p> <p>1.3. Signage and barricade requirements are identified and implemented.</p> <p>1.4. Plant, tools and equipment selected to carry out tasks are consistent with job requirements, checked for serviceability, and any faults are rectified or reported prior to commencement.</p> <p>1.5. Material quantity requirements are calculated in accordance with plans, specifications and quality requirements.</p> <p>1.6. Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use.</p> <p>1.7. Environmental requirements are identified for the project in accordance with environmental plans and statutory and regulatory authority obligations, and are applied.</p>
2. Set out and prepare material.	<p>2.1. Exit and ground finish levels are determined from job drawings and site location.</p> <p>2.2. Rise and going of stairs are calculated from job drawings, site location and regulations.</p> <p>2.3. Newel posts and footings are set out and placed to layout of designed stairs, job drawings and specifications.</p> <p>2.4. Materials for stringers are selected and set out to the pitch of stairs with treads and risers according to regulations.</p> <p>2.5. Stringers are housed to accommodate treads, and risers or metal brackets are fixed to support treads.</p> <p>2.6. Stringers are cut and housed into newel posts and/or landings where specified.</p> <p>2.7. Material for treads are selected and risers are set out and cut to length to requirements of stair design.</p>
3. Assemble and erect stairs.	<p>3.1. Strings are located and fixed into position.</p> <p>3.2. Landing is constructed where specified.</p>

ELEMENT	PERFORMANCE CRITERIA
	3.3. Treads and <i>risers</i> are fixed to the stringers.
	3.4. Tie bolts are located and secured to maintain stair width where specified.
	3.5. Bracing and lateral ties are fixed to newels in accordance with specifications to maintain rigidity of stair structure where specified.
4. Fit handrails, balustrade and finish.	4.1. Material for handrails and balusters are marked and cut to length.
	4.2. <i>Handrails and balusters</i> are fitted and fixed in accordance with regulations.
	4.3. Non-slip strips are installed to treads, where specified.
5. Clean up.	5.1. Work area is cleared and materials disposed of, reused or recycled in accordance with legislation, regulations, codes of practice and job specification.
	5.2. Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and standard work practices.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- communication skills to:
 - determine requirements
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - follow instructions
 - read and interpret:
 - documentation from a variety of sources
 - plans, specifications and drawings
 - report faults
 - use language and concepts appropriate to cultural differences

REQUIRED SKILLS AND KNOWLEDGE

- use and interpret non-verbal communication, such as hand signals
- numeracy skills to apply measurements and make calculations
- organisational skills, including the ability to plan and set out work
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technological skills to:
 - use a range of mobile technology, such as two-way radio and mobile phones
 - voice and hand signals to access and understand site-specific instructions.

Required knowledge

Required knowledge for this unit is:

- application and requirements for line, level and plumb in construction projects
- construction terminology
- job safety analysis (JSA) and safe work method statements
- material safety data sheets (MSDS)
- materials storage and environmentally friendly waste management
- plans, specifications and drawings
- plant, tools and equipment types, characteristics, uses and limitation
- processes for setting out and measuring
- processes for calculating material requirements
- quality requirements of timber stairs
- stair building materials
- stair construction techniques
- stair types
- stair regulations
- workplace and equipment safety requirements.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- locate, interpret and apply relevant information, standards and specifications
- comply with site safety plan, OHS regulations and state and territory legislation applicable to workplace operations
- comply with organisational policies and procedures, including quality requirements
- safely and effectively use tools, plant and equipment
- communicate and work effectively and safely with others
- complete the setting out and construction of full size stairs (free standing or against a wall), including a landing, handrail and balustrade to a minimum height of 1.2 metres, in accordance with regulations.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the

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mandatory task requirements

- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at

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the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge

- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Information includes:

- diagrams or sketches
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions where specified
- memos
- MSDS
- organisation work specifications and requirements
- plans and specifications
- regulatory and legislative requirements pertaining to constructing timber external stairs

RANGE STATEMENT

Planning and preparation
include:

Safety (OHS) is to be in accordance with state or territory legislation, regulations, codes of practice, organisational safety policies and procedures, and project safety plan and may include:

- relevant Australian standards
- safe work procedures related to constructing timber external stairs
- signage
- verbal or written and graphical instructions
- work bulletins
- work schedules.
- work site inspection
- equipment defect identification
- assessment of conditions and hazards
- determination of work requirements.
- emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
- handling of materials
- hazard control
- hazardous materials and substances
- safe operating procedures, including the conduct of operational risk assessment and treatments associated with:
 - earth leakage boxes
 - lighting
 - power cables, including overhead service trays, cables and conduits
 - restricted access barriers
 - surrounding structures
 - traffic control
 - trip hazards
 - work site visitors and the public
 - working at heights
 - working in confined spaces
 - working in proximity to others
 - working with dangerous materials
- organisational first aid
- personal protective clothing and equipment prescribed under legislation, regulations and workplace policies and practices
- use of firefighting equipment
- use of tools and equipment
- workplace environment and safety.

RANGE STATEMENT

Tools and equipment include:

- clamps
- compressors
- crimping tools
- docking saws
- drop saws
- explosive power tools
- hammers
- laser levelling equipment
- levels and power leads
- marking equipment
- masonry drills
- measuring tapes and rules
- nail guns
- pop riveters
- power drills
- saw stools
- scaffolding
- screw guns
- spirit levels
- squares (combination/tri)
- steel squares
- straight edges
- string lines
- templates
- tin snips.

Quality requirements include relevant regulations, including:

- Australian standards
- internal company quality policy and standards
- manufacturer specifications, where specified
- workplace operations and procedures.

Materials include:

- anti-slip products
- coach screws
- masonry anchors
- metal brackets
- patented metal fasteners and connectors
- steel tie rods
- timber and nails, including bolts and nuts
- wall plugs.

Environmental requirements include:

- clean-up protection
- noise and dust
- vibration

RANGE STATEMENT

<i>Statutory and regulatory authorities</i> include:	<ul style="list-style-type: none"> • waste management. • federal, state and local authorities administering applicable Acts, regulations and codes of practice.
<i>Stairs:</i>	<ul style="list-style-type: none"> • may be constructed with housed stringers or metal brackets to accommodate treads • can be between ground level and landing, landing and landing, and free standing or against a wall.
<i>Newel posts</i> and handrails may be:	<ul style="list-style-type: none"> • metal • timber.
<i>Stringers</i> can be:	<ul style="list-style-type: none"> • open • housed.
<i>Risers</i> can be:	<ul style="list-style-type: none"> • open • closed.
<i>Handrails and balusters</i> include:	<ul style="list-style-type: none"> • handrail and balusters fixed to face of newels • handrails mortised into newels • parallel railing fixed to face of newels.

Unit Sector(s)

Unit sector	Construction
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Co-requisite units

Co-requisite units	Nil
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Functional area

Functional area