



Australian Government

Department of Education, Employment and Workplace Relations

CPCCJS3006A Construct fabricated stairs

Release: 1

CPCCJS3006A Construct fabricated stairs

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit specifies the outcomes required to construct fabricated stairs, which may involve one or more flights in their structure and could incorporate fabricated components that are alternatives to timber components.

Application of the Unit

Application of the unit This unit of competency supports the achievement of skills and knowledge to construct fabricated stairs, which may involve one or more flights in its structure and may include 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
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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.	1.1. Work instructions and operational details are obtained using relevant information, confirmed and applied for planning and preparation purposes. 1.2. Safety (OHS) requirements are followed in accordance with safety plans and policies. 1.3. Signage and barricade requirements are identified and implemented. 1.4. 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. 1.5. Material quantity requirements are calculated in accordance with plans, specifications and quality requirements. 1.6. Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use. 1.7. Environmental requirements are identified for the project in accordance with environmental plans and statutory and regulatory authority requirements, and are applied.
2. Set out and prepare material.	2.1. Exit and ground finish levels are determined from job drawings and site location. 2.2. Rise, going and pitch of stair calculations are determined from job drawings and site location, with all measurements and requirements conforming to the Building Code of Australia (BCA). 2.3. Full size set out of stairs is made to determine rise, going and pitch of stairs to actual location of landings, strings, treads and newels. 2.4. Location of stair and newels is determined from job drawings and pitch of stairs or full size is set out. 2.5. Location of footings, where applicable, is marked to layout of designed stairs to meet job drawings and specifications or full size set-out. 2.6. Strings components are selected in accordance with set-out. 2.7. Components for newels are selected and set out to design of stairs, storey rods and job drawings or from full size set-out. 2.8. Newels are assembled and checked to provide tight

ELEMENT	PERFORMANCE CRITERIA
3. Assemble and erect stair.	fit for strings and bearers, where applicable, to specifications. 2.9. Material for treads is checked against set-out and square to length according to requirements of stair design and BCA. 3.1. Footings with post support, where applicable, are prepared to requirements of job drawings and specifications. 3.2. Angle brackets are attached to strings to set-out locations for tread support according to requirements of detail drawings and specifications. 3.3. Newels are erected into position and temporarily braced to plumbing position and strings are located and fixed into position according to specifications. 3.4. Tie bolts, where applicable, are located and secured to specification to maintain stair width, and stair is attached to building using appropriate fixings and fasteners in accordance with detailed drawings and specifications. 3.5. Treads and decking are fixed into location to detailed drawings and specifications, and bracing and lateral ties are fixed to newels to specifications, where applicable, to maintain rigidity to stair structure.
4. Fit and fix handrailing and balustrade.	4.1. Material for handrailing and balustrade is checked to length, and adjustment is made to specification where appropriate. 4.2. Handrailing is fitted and fixed into place to specifications and measurements above nosing line of a flight and above a landing deck according to BCA. 4.3. Balustrade is fitted and fixed into place to specifications and requirements of BCA.
5. Finish stairs.	5.1. Arises and sharp edges are removed and finished to specification, where appropriate. 5.2. Non-slip surface is adhered to treads, where required, in accordance with specifications and BCA.
6. Clean up.	6.1. Area is cleared and waste disposed of safely. 6.2. Unused materials are stored and/or stacked. 6.3. Tools and equipment are cleaned, maintained and stored.

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:

- ability to recognise procedures, respond to change and contribute to workplace responsibilities, such as current work site environmental or sustainability frameworks or management systems
- communication skills to:
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - follow instructions
 - read and interpret drawings and specifications
 - use and interpret non-verbal communication
 - use language and concepts appropriate to cultural differences
- innovation skills to select appropriate tools and equipment, respond to workplace challenges and put ideas into action
- numeracy skills to apply measurements and calculations
- planning and organisational skills to identify requirements, apply relevant resources and sequence tasks
- problem solving skills to recognise and take action to rectify minor faults and problems
- teamwork skills to be able to work with others to action tasks and relate to people from a range of cultural, social, ethnic backgrounds and with varying physical and mental abilities.

Required knowledge

Required knowledge for this unit is:

- BCA requirements relevant to stairs
- factors governing design of stairs
- interpretation of drawings and specifications
- job safety analysis (JSA) and safe work method statements
- measurement and calculation processes related to lineal measurements in stair design
- stair construction techniques
- terminology of stair components and dimensional relationships
- types and characteristics of stairs
- types and uses of materials used in stair construction.

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 assemble and erect timber and other material component stairs covering one flight to a landing, including handrail or balustrade, providing evidence of the ability to:

- comply with OHS regulations applicable to workplace operations
- comply with organisational quality procedures and processes within the context of constructing and installing fabricated stairs
- identify location and details of fabricated stair components and construction
- carry out accurate calculations to determine actual rise and going for each step and pitch of stairs
- prepare accurate set-out of stair in order to check all stair components
- adopt and use safe and effective procedures to prepare stair components, assemble and fix to position in accordance with BCA, specifications and site conditions
- identify typical faults and problems that occur and action required to rectify them
- identify types of stair construction and common terminology
- convey appropriate analysis and understanding of design concepts in drawings and specifications of nominated project
- communicate with others to ensure safe and effective workplace operations.

EVIDENCE GUIDE

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:

- drawings and information relevant to stair design activities
- suitable work location to carry out design work stair construction
- BCA documentation
- work location ready for stair construction and installation
- plant and equipment appropriate to construction process of stairs
- construction materials appropriate to proposed construction of stairs
- hand and power tools appropriate to construction process of stairs.

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 a reasonable inference that competency is not only verified under the particular assessment circumstance, but is able

EVIDENCE GUIDE

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 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 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

RANGE STATEMENT

Planning and preparation
include:

Safety (OHS) is to be in accordance with state and territory legislation and regulations and project safety plan and may include:

- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions, where specified
- material safety data sheets (MSDS)
- memos
- regulatory and legislative requirements pertaining to constructing stairs
- relevant Australian standards
- safe work procedures relating to constructing stairs
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.
- assessment of conditions and hazards
- determination of work requirements and safety plans and policies
- equipment defect identification
- work site inspection.
- emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
- hazard control
- hazardous materials and substances
- organisational first aid
- PPE prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including the conduct of operational risk assessment and treatments associated with:
 - concealed services (water, power and gas)
 - lighting
 - restricted access barriers
 - traffic control
 - work site visitors and the public
 - working at heights
 - working in confined spaces
 - working in proximity to others
- use of firefighting equipment
- use of tools and equipment

RANGE STATEMENT

Tools and equipment include:

- working platforms and scaffolding
- workplace environmental requirements and safety.
- air compressor and hoses
- bevels
- chisels
- fencing bars
- hammers
- hand saws
- measuring tapes and rules
- mechanical nailing tools
- nail bags
- power drills
- power leads
- power planers
- power saws
- saw stools
- shovels
- spanners
- spirit levels
- squares
- steel squares and fences
- string lines.

Quality requirements include:

- attention to specification of work
- control of handling procedures
- quality of materials
- relevant regulations, including:
 - Australian standards
 - internal company quality policy and standards
 - manufacturer specifications where specified
 - workplace operations and procedures
- use and maintenance of equipment
- workplace operations and procedures.

Materials include:

- handrails and balustrades made of:
 - cast acrylic materials
 - glass
 - metal
 - timber

RANGE STATEMENT

	• fibreglass strings made of: • composite materials • metal • timber • treads made of: • metal • timber • cast acrylic materials • concrete • fibreglass • fibre-cement.
<i>Environmental requirements</i> include:	• clean-up management • dust and noise • stormwater protection • waste management.
<i>Statutory and regulatory authority</i> includes:	• federal, state and local authorities administering applicable Acts, regulations and codes of practice.
<i>Fixings and fasteners</i> include:	• for timber construction: • bolts and nuts • coach screws • metal brackets • nails and spikes • steel tie rods • timber joining methods • for steel construction: • bolts • patented metal connecting plates • for stair members to masonry walls: • metal angle brackets • patented masonry anchors • wall plug and coach screw.
<i>Balustrade</i> construction may be of:	• handrailing and balusters fixed to face of newels • handrailing mortised into newels • parallel railing fixed to face of newels.

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area