Australian Government

CPCCCO3048A Construct tilt panels on site

Release 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

CPCCCO3048A Construct tilt panels on site

Modification History

This version first released with CPC08 Construction, Plumbing and Services Training Package Version 9.

- Changes to unit title, elements and performance criteria, required skills and knowledge, range statement, critical aspects for assessment, and methods of assessment
- Range of other minor editorial changes

Not equivalent to CPCCCO3028A Carry out tilt panel construction

Unit Descriptor

This unit of competency specifies the outcomes required to work in a team to set up, pour and place concrete tilt panels to form internal and external walls for building structures.
The unit includes on-site and prefabricated methods of panel construction. It may also include working with others and as a member of a team.

Application of the Unit

This unit of competency supports the role of concreters responsible for constructing concrete tilt panels on residential, commercial or civil construction sites. Tilt panels can be used to construct internal and external walls of structures.

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification requirements apply to concreting work in different states and territories. Candidates are advised to consult with the relevant regulatory authorities.

Pre-Requisites

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

Employability Skills Information

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

Elements and Performance Criteria

1	Plan and prepare.	1.1	Work instructions, ***work health and safety (WHS) requirements*** and other ***information*** relevant to the work are identified, confirmed and applied for ***planning and preparation*** purposes.
		1.2	Plant, ***tools and equipment*** consistent with job requirements are selected and checked for serviceability, and faults are rectified and reported before work begins.
		1.3	Material quantity requirements are identified and calculated according to plans, specifications and ***quality requirements***.
		1.4	***Materials*** appropriate to the work application are obtained, prepared, safely handled and located ready for use.
		1.5	***Environmental requirements*** are identified for the project according to environmental plans and regulatory obligations.
2	Set out and construct temporary casting bed.	2.1	Appropriate area is selected to construct casting bed according to project requirements.
		2.2	Ground is prepared to a flat surface in preparation for the casting bed.
		2.3	Casting bed is placed and finished to project requirements.
		2.4	Casting bed is coated with bond breaker according to product specifications.

3	Set out and prepare formwork for panel.	3.1	Location and size of ***tilt panel*** are set out to requirements of job drawings and specifications.
		3.2	Tilt panel edge ***formwork*** is prepared, placed and fixed plumb and aligned to specification.
		3.3	Bond breaker is applied to casting bed face or casting form face of previous panel to ensure ease of panel separation, according to manufacturer dose and quantity recommendations.
		3.4	Form release agent is applied to formwork according to specifications.
4	Place and tie reinforcement and cast-in fittings.	4.1	***Reinforcement***, accessories and ***cast-in fittings*** are checked for conformity with design and engineering specifications.
		4.2	Reinforcement, accessories and cast-in fittings are positioned exactly to engineer's drawings and engineering specifications.
		4.3	Reinforcement is tied and/or welded in correct placement according to engineer's drawings and specifications.
5	Place, finish and cure concrete.	5.1	Concrete is evenly ***placed*** and consolidated to specification using approved vibration method.
		5.2	Concrete surface is screeded and ***finished*** to specification ensuring cast-in fittings are clear.
		5.3	***Curing*** process is applied according to specification.
		5.4	Bond breaker is applied to casting bed face of previous panel to ensure ease of panel separation.
6	Clean up.	6.1	Clean-up procedures are undertaken on a daily basis according to work site policies and procedures.
		6.2	Edge formwork is stripped after the final panel is cast, ensuring no damage to panels.
		6.3	Work area is cleared and materials disposed of, reused

or recycled according to regulations, codes of practice and job specification.

6.4 Plant, tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations and standard work practices.

Required Skills and Knowledge

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

Required skills

- learning skills to:
  - evaluate own actions and make judgments about performance and necessary improvements
  - respond to change, such as differences in work site, and environmental and quality requirements
- numeracy skills to check levels of lubricants in tools
- oral communication skills to:
  - enable clear and direct communication, using questioning to identify and confirm requirements, and share information
  - report work site hazards to appropriate personnel, including faults in tools, equipment or materials
  - use language and concepts appropriate to cultural differences
- reading skills to:
  - interpret documentation, including drawings and specifications
  - understand written instructions, procedures and signage
  - interpret manufacturer instructions for safely handling tools and equipment
- writing skills to complete equipment fault forms

Required knowledge

- concreting levelling techniques
- types, location and usage of relevant safety information:
  - job safety analyses (JSA) and safe work method statements (SWMS)
  - safety data sheets (SDS)
  - safety manuals and instructions for plant, tools and equipment
  - signage
  - environmental and work site safety plans
- formwork and reinforcing techniques and componentry
- general construction terminology
- processes for material storage and environmentally friendly waste management
- processes for placing, finishing and curing concrete
- processes for calculating material requirements
- techniques and processes for lifting inserts and ferrules positioning
- tensile strength of concrete panels

- tilt panel construction materials and techniques
- types, characteristics, uses and limitations of plant, tools and equipment used in constructing tilt panels on site
- workplace and equipment safety requirements that apply to setting up, pouring and placing concrete tilt panels

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 by undertaking a range of tasks 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 should demonstrate the ability to:

- construct casting bed and formwork box for a minimum of six tilt panels measuring an average of 20 square metres each
- construct a minimum of six tilt panels, including a minimum of two of the following tilt panels:
  - blockouts
  - door and window penetrations
  - raking edges
  - water proofing and decorative rebates
- comply with engineering specifications, organisational policies and procedures, and quality requirements during construction of tilt panels
- locate, interpret and apply relevant information, standards and specifications relating to constructing tilt panels on site
- comply with site safety plans and procedures
- safely and effectively operate and use plant, tools and equipment required to construct tilt panels on site
- communicate and work effectively and safely with others during each stage of the tilt panel construction process.

Context of and specific resources for assessment

Assessment of this unit:

- must be in the context of the work environment
- may be conducted in an off-site context, provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills
- must meet relevant compliance requirements.

Resource implications for assessment include:

- an induction procedure
- realistic tasks or simulated tasks covering the mandatory task requirements
- 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
- safety data sheets.

Method of assessment

Assessment for this unit must verify the practical application of the required skills and knowledge, using a combination of the following methods:

- direct observation of tasks in real or simulated work conditions
- questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- review of relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Guidance information for assessment

This unit could be assessed on its own or in combination with other units relevant to the job function.

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.

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.

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.

Work health and safety requirements must comply with state and territory legislation and regulations and project safety plan, and may include:

- assistance of others or the use of manual or mechanical lifting devices with handling activities where size, weight or other issues, such as disability, are a factor
- emergency procedures, including extinguishing fires, organisational first aid requirements, and evacuation procedures
- hazard control

- hazardous materials and substances
- personal protective equipment (PPE) prescribed under legislation, regulations and workplace policies and practices
- 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
  - signage and 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 outdoors in warm climates
- use of firefighting equipment
- use of tools and equipment
- workplace environmental requirements and safety.

Information may include:

- instructions issued by authorised organisational and external personnel
- memos
- regulatory and legislative requirements relating to tilt panel construction
- relevant Australian standards
- safe work procedures relating to tilt panel construction
- safety data sheets
- signage
- verbal, written and diagrammatic instructions, including manufacturer specifications and instructions where specified
- work bulletins
- work schedules, plans and specifications.

Planning and preparation must include:

- assessing conditions and hazards
- determining work requirements and safety plans and procedures
- identifying and rectifying equipment defects
- inspecting work sites.

Tools and equipment:

- must include:
  - edging tools
  - formwork

- hammers
- measuring tapes and rules
- power drills
- power leads
- screed boards
- shovels
- spanners
- spirit levels
- squares
- trowels, including power trowels
- vibrators

- may include:
  - air compressors and hoses
  - mechanical screeds
  - nail guns
  - power saws
  - rakes
  - saw stools
  - wheelbarrows.

Quality requirements must include:

- internal organisational quality policy and standards
- manufacturer specifications where specified
- relevant regulations and Australian standards
- workplace operations and procedures.

Materials may include:

- bond breaker and curing compound
- concrete
- ferrules
- form release agents
- lifters
- steel bars
- steel mesh.

Environmental requirements may include:

- clean-up management
- dust and noise control
- vibration management
- waste management.

Tilt panels may include:

- blockouts
- door and window penetrations
- raking edges
- water proofing and decorative rebates.

Formwork must include:

- bracing
- edge form timber

Reinforcement components must include:	• plywood. • ligatures • mesh • reinforcement bars and rods.
Cast-in fittings may include:	• panel lifters • services and fixtures tied to the reinforcement • structural steel ferrules.
Placing methods for concrete may include:	• kibble • pumping equipment • shovelling • tremmies • truck-placed • vibrating • wheelbarrows.
Finishing techniques for concrete may include:	• broom finished • brushed • bull float • mechanical trowelling machine • steel trowel • wood float.
Curing may include:	• applied moisture • coating with a membrane • curing compound • flooding • plastic sheeting • steam.

Unit Sector(s)

Concreting

Custom Content Section

Not applicable.