



Australian Government

CPCCCO2014 Carry out concrete work

Release: 2

CPCCCO2014 Carry out concrete work

Modification History

Release 2 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.1.

Correction to Foundation Skills.

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCCCO2014A Carry out concrete work.
Updated to meet the Standards for Training Packages.

Application

This unit of competency specifies the skills and knowledge required to carry out concreting work on general construction projects for the construction of in situ reinforced concrete structures, such as slabs and other common concrete works.

It includes setting-out, reinforcing, erecting and dismantling formwork, and placing, finishing and curing concrete.

The unit supports workers to use the tools, equipment and materials to carry out concrete work, working as members of a team.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

CPCCWHS2001 Apply WHS requirements, policies and procedures in the construction industry

Unit Sector

Construction

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

1 Determine requirements to carry-out concrete

1.1 Review and clarify concrete work task.

1.2 Review task specifications, and check to make sure they

- work.
- are in accordance with legislation, regulations and codes of practice.
- 1.3 Review work health and safety (WHS) requirements for the task in accordance with safety plans and policies.
 - 1.4 Identify safety signage and barricade requirements.
 - 1.5 Review environmental requirements for the task in accordance with environmental plans and legislative requirements.
 - 1.6 Determine plant, tools, equipment and formwork components and materials required to carry out task.
 - 1.7 Calculate materials quantities.
 - 1.8 Determine location of steel reinforcement and formwork from drawings and reinforcement schedule.
- 2 Prepare to carry-out concrete work.
- 2.1 Erect identified safety signage and barricade requirements, and fit personal protective equipment (PPE).
 - 2.2 Obtain, safely handle, locate and prepare materials.
 - 2.3 Obtain plant, tools, equipment and formwork components and materials, check for serviceability and rectify or report any faults
 - 2.4 Check reinforcement against reinforcement drawings and specifications.
 - 2.5 Select fixing and fasteners.
- 3 Set out for concrete work.
- 3.1 Set string lines accurately from existing pegs.
 - 3.2 Check grades to ensure correct fall.
 - 3.3 Protect surfaces to prevent damage.
- 4 Construct and install reinforcement for
- 4.1 Cut and bend reinforcing fabric and bars in accordance with project drawings and specifications.

concrete work.	4.2	Tie and fix fabric and bars to configuration from project drawings and specifications.
	4.3	Attach stiffening rods to panels as required to facilitate handling.
	4.4	Locate reinforcement material in formwork and place on bar chairs or spacers in accordance with drawings, noting clearance from formwork.
	4.5	Locate and secure cast-in items.
5 Erect formwork for concrete work.	5.1	Clear work area and prepare surface for safe erection of formwork.
	5.2	Set out formwork to requirements of drawings and specifications.
	5.3	Assemble and erect formwork to specifications.
	5.4	Remove debris, sawdust and other waste material from formwork.
	5.5	Apply form release agent in accordance with manufacturers' specifications.
6 Carry out concrete work.	6.1	Use correct manual handling techniques with wheelbarrow to transport concrete and to discharge into formwork.
	6.2	Ensure control of discharge of concrete from concrete pump line and chute into formwork.
	6.3	Place concrete in accordance with requirements and screed to specified levels and grades.
	6.4	Compact concrete to specification using immersion vibrator or other specified method.
	6.5	Finish and cure concrete in accordance with specifications.
	6.6	Position and install control joints to specification and to current Australian Standard and codes.
	6.7	Position dowel joints in accordance with specification.

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| | 6.8 | Ensure concrete surface is adequately covered and protected. |
| 7 Strip formwork from concrete work. | 7.1 | Carefully remove edge boxing and braces in sequence. |
| | 7.2 | De-nail, clean and store timber components. |
| | 7.3 | Remove, clean, oil and store steel components. |
| | 7.4 | Discard damaged formwork components after stripping. |
| | 7.5 | Clean screens safely before movement. |
| 8 Clean up after completing concrete work. | 8.1 | Clear work area and dispose of, reuse or recycle materials in accordance with legislation, regulations, codes of practice and task requirements. |
| | 8.2 | Clean, check, maintain and store plant, tools and equipment in accordance with manufacturers' specifications and workplace requirements. |

Foundation Skills

A person demonstrating competency in this unit must have the following language, literacy, numeracy and employment skills:

- reading skills to:
 - interpret task documentation, including drawings, specifications and plans
 - review safety plans and policies and environmental plans
 - understand written instructions, procedures and signs
 - interpret manufacturers' specifications and workplace requirements
 - interpret legislative requirements including those of regulatory authorities, Australian standards and the National Construction Code (NCC)
- numeracy skills to:
 - calculate quantities of materials
 - calculate formwork and fixing requirements
 - set out for concrete work
- communication and teamwork skills to:
 - determine requirements

- enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
- follow instructions
- identify and accurately report any faults
- use and interpret non-verbal communication, such as hand signals

Unit Mapping Information

Supersedes and is equivalent to CPCCCO2014A Carry out concrete work

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCCCO2014 Carry out concrete work

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Performance Evidence

To demonstrate competency in this unit, a person must carry out concrete work in three concreting projects. Each project must:

- use a minimum of two cubic metres of concrete
- incorporate a minimum of two different finishes.

At least one project must contain angled formwork and bent reinforcement.

In doing this, the person must meet the requirements of the unit's elements and associated performance criteria:

- determining requirements to carry-out concrete work
- preparing to carry-out concrete work\
- setting-out for concrete work
- constructing and installing reinforcement for concrete work
- erecting formwork for concrete work
- carrying out concrete work
- stripping formwork from concrete work
- cleaning-up after completing concrete work.

Knowledge Evidence

To be competent in this unit, a person must demonstrate knowledge of:

- rules and guidelines for using explosive power tools under applicable Commonwealth, state or territory legislation, standards and codes of practice. These include requirements for work health and safety and protection of the environment:
 - job safety analyses (JSAs)

- safe work method statements (SWMSs)
- safety data sheets (SDSs)
- safety manuals and instructions for plant, tools and equipment
- signage and barricades
- personal protection equipment (PPE)
- working at heights requirements
- environmental and work site safety plans
- requirements of state and territory regulators, Australian standards and the National Construction Code (NCC) relating to carrying out concrete work
- site and equipment safety requirements, including:
 - job safety analysis (JSA) and safe work method statements (SWMS)
 - safety data sheets (SDS)
- workplace requirements for all aspects of carrying out concrete work including interpreting work orders and reporting problems
- interpreting engineering drawings and specifications
- processes for determining materials quantities
- quality requirements
- concreting work, including:
 - beams
 - columns
 - footings
 - footpaths
 - lintels
 - pads
 - ramps
 - repairing of kerb and channel
 - slabs on ground
 - stairs
 - structural members
 - suspended slab
 - walls
- concrete characteristics and properties
- concreting principles
- steel reinforcement characteristics
- structural technology principles relative to minor concreting works
- concreting equipment types, characteristics, technical capabilities and limitations, including:
 - bolt cutters
 - brushes
 - buckets
 - chutes

- curing agent applicator
- edging tools
- floats
- hammers
- hoses
- kibble
- mesh guillotine
- nips
- rakes
- reinforcement benders
- rods
- screeds
- short handle shovels
- shutters
- sponges
- steam generator
- tarpaulins
- tremies
- trowels
- vibrators
- wheelbarrows
- types of concreting formwork, their applications and installation methods, including:
 - expanded polystyrene
 - fiberglass
 - masonry
 - plywood
 - steel shutters
 - structural cardboard
 - timber
- concreting processes and equipment, including:
 - setting out
 - erecting formwork
 - transporting concrete, including:
 - crane and kibble
 - pre-mix truck
 - pumping equipment
 - wheelbarrow
 - placing concrete, including:
 - kibble
 - pumping equipment

- shoveling
- tremies
- truck placed
- vibrating
- wheelbarrow
- materials handling methods
- finish techniques, including:
 - broom finished
 - brushed
 - using bull float
 - using mechanical troweling machine
 - using steel trowel
 - using wood float
- curing, including:
 - applied moisture
 - coating with a membrane
 - curing compound
 - flooding
 - plastic sheeting
 - steam.

Assessment Conditions

Assessors must satisfy the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment of performance must be undertaken in the workplace or in a simulated workplace environment. Tasks are to be performed to the level of proficiency and within the time limits expected in a workplace.

Candidates must have access to:

- industry-standard equipment used to perform the tasks specified in performance evidence
- appropriate workplace information and records, including policies, procedures and legislative requirements.

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