



**Australian Government**

# **CPCCCO3053A Slump test concrete**

**Release 1**

## CPCCCO3053A Slump test concrete

### Modification History

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

- Changes to 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 CPCCCO3033A Slump test concrete

### Unit Descriptor

This unit of competency specifies the outcomes required to slump test concrete to ensure the mix is workable and complies with the delivery docket and specified order.

The unit includes sampling and slump testing to a set range or tolerance. 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 those who slump test concrete designated for use on residential, commercial or civil construction sites. The results of slump tests are used to confirm the appropriateness of the concrete for the concrete work planned.

### 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.                | <p>1.1 Work instructions, <b><i>work health and safety (WHS) requirements</i></b> and other <b><i>information</i></b> relevant to the work are identified, confirmed and applied for <b><i>planning and preparation</i></b> purposes.</p> <p>1.2 <b><i>Tools and equipment</i></b> consistent with the job are selected, checked for serviceability, and faults are rectified and reported before work begins.</p> <p>1.3 Material quantity requirements are identified, calculated and confirmed according to plans, specifications and <b><i>quality requirements</i></b>.</p> <p>1.4 <b><i>Environmental requirements</i></b> are identified for the project according to environmental plans and regulatory obligations.</p> <p>1.5 Standard slumping cone is cleaned in preparation for slump testing.</p> |
| 2 | Test concrete slump measurement. | <p>2.1 <b><i>Sample</i></b> of concrete is taken, using the correct sampling procedure, directly from the delivery truck's initial discharge.</p> <p>2.2 Slumping cone is filled and compacted according to standard <b><i>slump testing</i></b> procedures.</p> <p>2.3 Slumping cone is levelled off and surplus concrete is cleared from steel plate and slumping cone.</p> <p>2.4 Slumping cone is raised without moving the sample.</p> <p>2.5 Sample is measured for conformity with tolerance levels</p>  |

and resampling is conducted if sample is outside tolerance.

2.6 Collapsed or sheared samples are recorded.

3 Clean up.

3.1 Work area is cleared and materials disposed of, reused or recycled according to regulations, codes of practice and job specification.

3.2 Tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations and standard work practices.

3.3 Work completion procedures are applied and relevant personnel notified that work is finished.

## 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 confirm correct slump of concrete
  - 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
  - interpret manufacturer instructions for safely handling tools, equipment and materials
  - understand written instructions, procedures and signage
- writing skills to complete pre-operational checklists and simple equipment fault forms

### Required knowledge

- application of relevant Acts, regulations, Australian standards relating to the specification and supply of concrete
- environmentally friendly waste management practices applicable to the task
- general construction terminology
- processes for the accurate calculation of material requirements
- properties of concrete, including its strength, durability, workability and cohesiveness
- quality requirements relating to each stage of the concreting process
- processes for material storage
- slump testing techniques
- types, uses, characteristics and limitations of slump testing tools and equipment
- 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

## 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 observation 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:

- conduct three slump tests from different batches of concrete, to determine if the mix is workable and complies with the delivery docket and specified order
- determine when slump test fails and steps to take to communicate test outcomes to relevant personnel
- locate, interpret and apply relevant information, standards and specifications relating to slump testing
- comply with site safety plans and procedures
- comply with organisational policies and procedures relating to conducting slump tests
- safely and effectively operate and use plant, tools and equipment required to slump test concrete
- communicate and work effectively and safely with others.

**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.

<b>Method of assessment</b>	<p>Assessment for this unit must verify the practical application of the required skills and knowledge, using a combination of the following methods:</p> <ul style="list-style-type: none"><li>• direct observation of tasks in real or simulated work conditions</li><li>• questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application</li><li>• review of relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.</li></ul>
<b>Guidance information for assessment</b>	<p>This unit could be assessed on its own or in combination with other units relevant to the job function.</p> <p>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.</p> <p>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.</p>

## 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.

<b><i>Work health and safety requirements</i></b> must comply with state and territory legislation and regulations and project safety plan, and may include:	<ul style="list-style-type: none"><li>• 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</li><li>• emergency procedures, including extinguishing fires, organisational first aid requirements, and evacuation procedures</li><li>• hazard control</li><li>• hazardous materials and substances</li><li>• personal protective equipment (PPE) prescribed under legislation, regulations and workplace policies and practices</li><li>• safe operating procedures, including the conduct of operational risk assessment and treatments associated with:</li></ul>
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- 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.
- diagrams or sketches
- instructions issued by authorised organisational and external personnel
- memos
- regulatory and legislative requirements relating to slump testing concrete
- relevant Australian standards
- safe work procedures relating to slump testing concrete
- safety data sheets
- signage
- verbal, written and graphical instructions, including manufacturer specifications and instructions where specified
- work bulletins
- work schedules, plans and specifications.
- assessing conditions and hazards
- determining work requirements and safety plans and procedures
- identifying and rectifying equipment defects
- inspecting work sites.
- must include:
  - bullet nosed rod (600mm x 16mm)
  - sampling scoops
  - standard slump cones
  - steel rule
  - steel slump plate (500mm x 500mm)

**Information** may include:

**Planning and preparation** must include:

**Tools and equipment:**

- steel rod
- may include:
  - brushes
  - buckets
  - sponges
  - trowels, including steel trowels
  - wooden floats.

**Quality requirements**  
must include:

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

**Environmental requirements** may include:

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

**Sampling:**

- must include that taken at initial discharge after 0.2 square metre of the load has been placed
- may include routine samples taken at three places during the load
- requires a standard slumping cone 200mm in diameter at the base, 100mm in diameter at the top and 300mm tall, with foot pieces for standing on while the sample is added.

**Slump testing** must include:

- use of a steel tray and steel rod
- appropriate frequency of rodding to ensure penetration of concrete layers.

## Unit Sector(s)

Concreting

## Custom Content Section

Not applicable.