



Australian Government

CPCCCO3035A Assess and specify concrete supply requirements

Release 1

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Modification History

New unit.

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

Unit Descriptor

This unit of competency specifies the outcomes required to evaluate concreting projects and determine the type and volume of concrete supply to be sourced in preparation for concreting work. It may include working with others and as a member of a team.

Application of the Unit

This unit of competency applies to concreting work in such areas as multi-storey car parks, public footpaths and residential or commercial construction projects.

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

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| 1 | Assess concreting site and nature of work. | 1.1 | Site plans are reviewed and general size and nature of required concreting work are determined. |
| | | 1.2 | Project specifications for concreting work are assessed and requirements for each area or feature are categorised according to differences in required <i>concrete material</i> properties. |
| | | 1.3 | Delivery method for concrete supply at different locations and heights is determined and implications for required concrete material properties are assessed. |
| 2 | Assess properties of concrete supply required. | 2.1 | Strength grade designation (MPa) of concrete supply for different areas and features of concrete work is confirmed from project documentation and consultation with relevant personnel, as required. |
| | | 2.2 | <i>Variable components of, and additives</i> to, concrete mix for different areas and features of concrete work are confirmed from project documentation and consultation with relevant personnel, as required. |
| | | 2.3 | <i>Concrete specifications</i> to be met at on-site delivery are identified from project documentation and consultation with relevant personnel as required |
| | | 2.4 | Concrete specifications for each area and feature are specified for supplier according to project specifications and relevant standards. |

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| 3 | Determine total volumes and cost of supply of different types of concrete. | 3.1 | Dimensions of each area or feature of concreting work are interpreted from detailed site drawings and specifications. |
| | | 3.2 | Volume of concrete required for each area or feature is calculated according to industry standards and workplace and project requirements. |
| | | 3.3 | Total volumes of concrete supply for areas and features requiring identical properties are calculated. |
| | | 3.4 | Total cost of required concrete is estimated according to workplace procedures. |
| 4 | Determine concrete delivery schedule. | 4.1 | Concrete delivery locations and site access and egress details are confirmed in consultation with relevant project personnel. |
| | | 4.2 | Project timelines and sequencing of work are assessed and concrete delivery schedule calculated to ensure continuous and timely supply. |
| | | 4.3 | Supplier specifications for volumes of different concrete mixes are developed. |
| | | 4.4 | Delivery schedule is confirmed with relevant project personnel, adjusted as required, and finalised for inclusion with concrete specifications. |
| 5 | Finalise specifications for concrete supply. | 5.1 | Specifications are reviewed and checked for accuracy of concrete mix details for different areas and features. |
| | | 5.2 | Individual area and feature dimensions and volume calculations are reviewed and checked for accuracy. |
| | | 5.3 | Total volumes of concrete supply for areas and features requiring identical properties are reviewed and checked for accuracy. |
| | | 5.4 | Team members and supervisor or manager are consulted for feedback on specifications, as required, according to workplace procedures. |
| | | 5.5 | Supplier specifications are processed according to workplace procedures. |

- 5.6 Concrete order including delivery schedule is placed with supplier and order acceptance is confirmed.

Required Skills and Knowledge

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

Required skills

- learning skills to develop and build understanding of concrete materials and supply volumes required for different types of concreting work
- numeracy skills to calculate areas and volumes of concreting projects
- oral communication skills to consult with team members and other relevant personnel regarding specifications for concreting work
- reading skills to interpret plans, specifications and concrete manufacturer information
- writing skills to prepare specifications for concrete supply

Required knowledge

- concrete additives and the effect on concrete curing, finishing and performance
- external factors affecting concrete curing, finishing and performance, and strategies for managing them, including:
 - delivery temperature
 - use of additives
- regulations and standards relating to concrete supply:
 - AS 1379 Specification and supply of concrete
 - AS 2758 Aggregate and rock for engineering purposes
 - AS 3582 Supplementary cementitious materials for use with Portland cement
 - AS 3600 Concrete structures
 - AS 3972 Portland and blended cements
- slump-test measurements required at delivery for different concrete mixes
- types, properties and limitations of different types of concrete

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 performing 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:

- assess concrete material requirements for three different types of concreting projects, including a multi-story car park; for each project, specify the types and volumes of concrete required to ensure job specifications and quality requirements are met
- prepare concrete delivery schedules
- prepare specifications for concrete supply according to workplace requirements.

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 (SDS).

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.

Concrete material must include:

- normal class with strength grades in the range N20 to N50
- special class with strength grades in the range S20 to S100.

Variable components and additives may include:

- level of air entrainment
- maximum size of aggregate
- methods to ensure coolness of concrete, such as addition of liquid nitrogen
- proportion of cement.

Concrete specifications must include:

- required temperature of concrete
- slump-test measurement, which must be:
 - fit for purpose:
 - ramp or slope
 - slab
 - consistent with:
 - formwork
 - placement method

- reinforcements.

Unit Sector(s)

Concreting

Custom Content Section

Not applicable.