



Australian Government

RIICCM209E Carry out concrete work

Release: 1

RIICCM209E Carry out concrete work

Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to carry out concrete work in civil construction, including constructing and fitting reinforcement, erecting formwork, concreting and stripping formwork.

It applies to those working in operational roles. They generally work under supervision to undertake a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying the unit.

Unit Sector

Civil construction

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for concrete work	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to carry out concrete work 1.3 Obtain and interpret emergency procedures and identify steps required to respond to emergencies 1.4 Select and wear personal protective equipment according to site requirements 1.5 Confirm and identify requirements for complying with environmental protection, safety and traffic management signage requirements 1.6 Identify, address and report environmental issues, potential hazards

ELEMENT	PERFORMANCE CRITERIA
	and risks 1.7 Select plant, tools and equipment required to carry out tasks and check for faults 1.8 Identify, confirm, and locate materials required for work application
2. Confirm task requirements and select resources	2.1 Determine location requirements of steel reinforcement and formwork 2.2 Confirm reinforcement requirements 2.3 Select formwork components and materials according to job and site requirements 2.4 Select and use fixing or fasteners according to manufacturer specifications
3. Set out for concrete work	3.1 Set string lines from existing pegs 3.2 Check grades and confirm correct fall 3.3 Identify services, protect and prevent damage
4. Construct and fit reinforcement	4.1 Cut and bend reinforcing fabric and bars according to job requirements 4.2 Tie and fix fabric and bars to configuration 4.3 Attach stiffening rods to panels as required to facilitate handling 4.4 Locate reinforcement material in formwork, and place it on bar chairs/spacers, and confirm clearance from formwork 4.5 Locate and secure cast-ins
5. Erect formwork	5.1 Clear work area and prepare surface for erection of formwork 5.2 Set out formwork according to job requirements 5.3 Assemble and brace formwork 5.4 Position expansion joints to specification and to relevant Australian standard 5.5 Position dowel joints 5.6 Remove debris, sawdust and other waste material from formwork 5.7 Apply release agent to manufacturer specifications
6. Carry out concrete work	6.1 Place concrete to specified levels and grades and avoid segregation 6.2 Compact concrete using immersion vibrator or other specified method 6.3 Screed, finish and apply curing process to concrete 6.4 Cover and protect concrete surface
7. Strip formwork	7.1 Remove edge boxing and braces sequentially 7.2 Denail, clean and store timber components according to site requirements 7.3 Clean, oil and store steel components according to site requirements

ELEMENT	PERFORMANCE CRITERIA
	7.4 Discard damaged formwork components after stripping
8. Conduct housekeeping activities	8.1 Clear work area and dispose of or recycle materials according to site requirements 8.2 Clean and maintain condition of equipment, confirm suitability for use, and address and report issues as required within scope of own role 8.3 Manage and report hazards, and maintain a safe working environment 8.4 Process records according to site requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Numeracy	Calculates basic measurements including mass and dimensions
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICCM209D Carry out concrete work.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIICCM209E Carry out concrete work

Modification History

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- carry out concrete work on at least two occasions, including:
 - setting up string lines, framework and reinforcements
 - positioning expansion and dowel joints
 - placing concrete according to job specifications
 - compacting concrete
 - screeding and finishing concrete surface.

During the above, the candidate must:

- locate and apply required legislation, documentation, policies and procedures
- identify, report and record hazards and risks
- implement the requirements, procedures and techniques for concrete work including:
 - carrying out steel reinforcement
 - completing formwork
 - clean screens before movement
- work with others to complete concrete work that meets required outcomes, including:
 - communicating with others to receive and clarify work instructions
 - using communication techniques and equipment to convey information to others, including signage to advise others of work activity and exclusion zones
 - complying with reporting requirements and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- legislation required to carry out concrete work

- policies, procedures and documentation required to carry out concrete work, including those relating to:
 - hazard and risk management
 - work health and safety
 - emergency response
 - site and equipment safety
 - environmental protection waste management
 - communication techniques and equipment
 - workplace recording and reporting
 - site isolation and traffic control responsibilities
 - operational, maintenance and basic diagnostic procedures
 - project quality requirements
 - job plans and specifications
 - housekeeping activities, including:
 - cleaning up work area
 - cleaning and maintaining condition of equipment
 - waste management
 - processing records
- principles and techniques required to carry out concrete work, including those related to:
 - cleaning screens before movement
 - organising work activities
 - concrete characteristics and properties
 - concreting, including:
 - placing
 - finishing
 - curing
 - methods to avoid segregation
 - structural technology
 - formwork
 - reinforcing fabric and bars
 - cast-in services and fixtures
- types, characteristics, technical capabilities and limitations of plant and equipment required to carry out concrete work, including:
 - pre-mix trucks
 - cranes
 - wheelbarrows
 - floats
 - trowels
 - screeds
 - tarpaulins

- curing agent applicators
- reinforcement benders
- mesh guillotines
- steam generators
- materials safety data sheet (SDS) compliance processes
- components of job safety analyses (JSAs), job safety environmental analyses (JSEAs), and safe work method statements (SWMs)
- civil construction terminology related to carrying out concrete work.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment required to carry out concrete work
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

- **Assessor requirements**

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces

- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

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