



Australian Government

RIICCM209 Carry out concrete work

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Modification History

Release	Comments
1	This unit of competency was first released in RII Resources and Infrastructure Industry Training Package Release 11.0.

Application

This unit describes the skills and knowledge required to carry out basic slab-on-ground concrete and other common basic concrete works in civil construction, including constructing and fitting reinforcement, erecting formwork, concreting and stripping formwork.

It applies to those under supervision to perform a prescribed range of functions involving known routines and procedures and take some responsibility for the quality of work outcomes.

Licensing/Regulatory Information

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

Pre-requisite unit(s)

No pre-requisite units

Competency field(s)

N/A

Unit sector(s)

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. Required knowledge, skills and application should be considered and clearly articulated.</i>
1. Plan and prepare for concrete work	1.1 Access and apply relevant safety planning documents including safe work method statements (SWMS), job safety

	analyses (JSA) or equivalents in accordance with applicable legislation, regulatory requirements and worksite instructions 1.2 Confirm own responsibilities, construction methodology and sequencing of work task with relevant worksite personnel in accordance with worksite procedures 1.3 Identify and address potential risks and hazards in accordance with work health and safety (WHS) requirements and within scope of own role 1.4 Wear designated personal protective equipment (PPE) prescribed by site signage and SWMS/JSA (or their equivalents) after confirming serviceability, in accordance with WHS requirements and worksite or manufacturer instructions 1.5 Confirm emergency procedures and be prepared for accidents and emergencies in accordance with WHS requirements and worksite instructions 1.6 Select plant, tools, equipment and materials required to carry out tasks after confirming serviceability, in accordance with WHS requirements and manufacturer and worksite instructions
2. Confirm task requirements and select resources	2.1 Review and compare all plans and identify and address discrepancies if required with relevant site personnel 2.2 Determine location requirements of formwork in accordance with project documentation or worksite instructions 2.3 Confirm reinforcement requirements in accordance with project documentation or worksite instructions 2.4 Select formwork components and materials to meet job, site and finish requirements in accordance with project documentation or worksite instructions 2.5 Select and use fixing or fasteners in accordance with manufacturer specifications and worksite instructions
3. Set out for concrete work	3.1 Run string lines for slab edges, centre lines and offsets in accordance with worksite instructions 3.2 Check grades and confirm correct required falls in accordance with project documentation and worksite instructions 3.3 Verify that services have been identified to the required level and that control measures are in place when operating near services, in accordance with relevant Australian Standards, applicable legislation, regulatory requirements and utility service requirements 3.4 Set up any required exclusion zones in accordance with the requirements of the SWMS/JSA (or their equivalents)

4. Erect formwork	4.1 Clear the work area and prepare the surface for erection of formwork in accordance with worksite instructions 4.2 Select formwork that meets required finish standards in accordance with project documentation and worksite instructions 4.3 Set out formwork in accordance with worksite instructions 4.4 Assemble and brace formwork in accordance with project documentation and/or worksite instructions 4.5 Position expansion or dowel joints to specification and in accordance with relevant Australian Standards and worksite instructions 4.6 Remove debris, sawdust and other waste material from formwork in accordance with worksite instructions 4.7 Apply release agent, as required, in accordance with manufacturer specifications and worksite instructions
5. Construct and fit reinforcement	5.1 Cut and bend reinforcing fabric and bars in accordance with job requirements 5.2 Tie and fix reinforcing fabric and bars to the required configuration in accordance with project documentation and worksite instructions 5.3 Attach stiffening rods to panels as required to facilitate handling in accordance with worksite instructions 5.4 Locate reinforcement material within the formwork, place it on bar chairs or spacers, and confirm required clearances from formwork in accordance with project documentation and worksite instructions 5.5 Locate and secure cast-in items in accordance with project documentation and worksite instructions
6. Carry out concrete work	6.1 Erect exclusion zones to protect safety of workers and prevent unauthorised entry according to SWMS/JSA (or their equivalents) and worksite instructions 6.2 Place concrete to specified levels and grades and avoid segregation in accordance with project documentation and worksite instructions 6.3 Compact concrete using immersion vibrator or other specified method in accordance with manufacturer instructions and worksite procedures 6.4 Screed and finish concrete and apply curing processes in accordance with project documentation and worksite instructions

	6.5 Cover and protect concrete surface in accordance with worksite instructions
7. Strip formwork	7.1 Obtain approval to strip formwork from relevant site personnel in accordance with worksite instructions 7.2 Remove edge boxing and braces sequentially in accordance with worksite requirements 7.3 Remove fixings and connectors and store formwork components in accordance with worksite requirements 7.4 Identify and discard damaged formwork components after stripping in accordance with worksite requirements 7.5 Stack formwork components to avoid obstructing access ways or work areas and position them to support safe materials handling in accordance with WHS requirements and worksite instructions 7.6 Identify, manage and report hazards or risks arising from site changes to maintain a safe working environment in accordance with WHS requirements and worksite instructions
8. Conduct housekeeping activities	8.1 Clean formwork after removal in accordance with worksite requirements 8.2 Contain and manage surplus unhardened concrete in accordance with applicable legislation, regulatory requirements and worksite instructions 8.3 Segregate waste for reuse or recycling or dispose of waste in approved facilities or containers in accordance with applicable legislation, regulatory requirements and worksite instructions 8.4 Collect and segregate reinforcement offcuts, tie wire ends and damaged bar chairs as scrap metal and recycle or dispose of them in accordance with worksite requirements 8.5 Remove construction rubbish, including waste formwork components, from the site in accordance with worksite instructions 8.6 Complete post-operational checks and record and report faults or defects, where required, in accordance with workplace requirements

Range of conditions

N/A

Assessment Requirements for RIICCM209 Carry out concrete work

Performance Evidence

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

- carry out basic slab-on-ground concrete and other common basic concrete works in civil construction on at least **two** occasions, including:
 - setting up string lines, formwork and reinforcements
 - positioning expansion and/or dowel joints
 - placing concrete according to job specifications
 - compacting concrete
 - screeding and finishing concrete surface.

During the above, the candidate must:

- use tools, equipment and machinery properly
- take reasonable care of own safety and the safety of others in the workplace
- follow safe work instructions, policies and procedures
- report any unsafe conditions in line with the site hazards reporting procedure and within the scope of own role
- implement the requirements, procedures and techniques for concrete work including:
 - carrying out steel reinforcement
 - completing formwork
- work with others to complete concrete work that meets required outcomes, including:
 - communicating with others to confirm shared understanding of task
 - using communication techniques and equipment to convey information to others, including signage to advise others of work activity and exclusion zones
 - completing documentation according to site requirements and within scope of own role.

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:

- employee responsibilities as prescribed by occupational health and safety/ work health and safety (OHS/WHs) legislation required to carry out concrete work including mandatory safety planning documents (SWMS) or job safety analysis (JSA or JSEA) or their equivalent)

- 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:
 - organising work activities
 - concrete characteristics and properties
 - concreting, including placing, finishing and 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
- requirements and procedures for selecting PPE, checking PPE serviceability, and ensuring correct fit
- materials safety data sheet (SDS) compliance processes
- 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 (PPE)
 - 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.

Assessor Requirements

In addition to the requirements in applicable vocational education and training legislation, frameworks and/or standards, assessors and industry experts must also have a minimum of two (2) years industry experience, directly relevant to the training and assessment being provided.

Mandatory Workplace Requirements

Assessment of performance evidence may be in a workplace setting or an environment that accurately represents a real workplace.

Unit Mapping Information

Previous Code and Title	Equivalence	Comments
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RIICCM209E Carry out concrete work	Equivalent	Supersedes and is equivalent.
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Links

Companion volumes, including implementation guides, are found on the national training register - <https://training.gov.au/training/details/RII>.