



Australian Government

RIICCM204E Place and fix reinforcement materials

Release: 1

RIICCM204E Place and fix reinforcement materials

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 place and fix reinforcement materials in civil construction, including preparing, placing, fixing and checking deformed bars, rods and mesh sheets.

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 to place and fix reinforcement materials	1.1 Obtain, interpret clarify and confirm work instructions 1.2 Access, interpret and apply documentation required to place and fix reinforcement materials 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

ELEMENT	PERFORMANCE CRITERIA
	1.6 Identify, address and report environmental issues, potential hazards 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 1.9 Check stock of required reinforcement materials
2. Prepare for reinforcement	2.1 Check formwork for completion and conformity to receive reinforcement 2.2 Cut and bend reinforcement bars to required set out and specifications 2.3 Tie bars to designed configuration 2.4 Cut reinforcement sheets to required sizes 2.5 Attach stiffening rods to panels as required to facilitate handling processes 2.6 Locate bar chairs and spacers to requirements of reinforcement schedule and specifications
3. Place and fix reinforcement	3.1 Place fabric reinforcement sheets into position according to engineer drawings and specifications 3.2 Locate and position reinforcement bars 3.3 Locate and place reinforcement using bar chairs, ligatures and spacers 3.4 Confirm reinforcement material is supported and secured into position 3.5 Secure cast-in items to reinforcement 3.6 Cover and protect ends of protruding reinforcement material
4. Check reinforcement prior to concrete pour	4.1 Check location and position of reinforcement and fixing ties to reinforcement for accuracy 4.2 Check depth of coverage, clearance, spacing and overlap of reinforcement material according to engineer drawings and job specifications
5. Conduct housekeeping activities	5.1 Clear work area and dispose of or recycle materials according to site requirements 5.2 Clean and maintain condition of equipment, confirm suitability for use, and address and report issues as required within scope of own role 5.3 Manage and report hazards, and maintain a safe working environment 5.4 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
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities

Unit Mapping Information

Supersedes and is equivalent to RIICCM204D Place and fix reinforcement materials.

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 RIICCM204E Place and fix reinforcement materials

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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:

- place and fix reinforcement materials on at least two different jobs, involving deformed bars, rods and mesh sheets.

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 placing and fixing of reinforcement materials, including:
 - selecting and using relevant tools and equipment
 - completing formwork
 - completing concreting
 - checking stock of reinforcement materials for correct type and quantity against reinforcement schedule and details in plans/specifications
- work with others to place and fix reinforcement materials in a way that meets required outcomes, including:
 - communicating with others to receive and clarify work instructions and information
 - 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 place and fix reinforcement materials

- policies, procedures and documentation required to place and fix reinforcement materials, including those relating to:
 - hazard and risk management
 - work health and safety
 - emergency response
 - site and equipment safety
 - environmental protection
 - communication techniques and equipment
 - workplace recording and reporting
 - project quality requirements
 - operational, maintenance and basic diagnostic procedures
 - site isolation and traffic control responsibilities
 - job specifications
 - completing housekeeping activities, including:
 - cleaning work area
 - cleaning and maintaining condition of equipment
 - waste management
 - processing records
- principles and techniques required to place and fix reinforcement materials, including those related to:
 - organising work activities
 - interpreting engineering drawings
 - structural technology
 - steel reinforcement
 - concrete characteristics and properties
 - reinforcement material
- types, characteristics, technical capabilities and limitations of plant and equipment required to place and fix reinforcement materials, including:
 - bolt cutters
 - tie wire reels
 - reinforcement benders
 - mesh guillotines
 - manual metal arc welding (MMAW) machines
 - oxy acetylene set
 - cutting attachments
- 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 placing and fixing reinforcement materials.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required to place and fix reinforcement materials
- 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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