



Australian Government

Department of Education, Employment and Workplace Relations

RIICRC323 Insert tie bars in fresh concrete

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the insertion of tie bars in fresh concrete operations in the civil construction industry. It includes planning and preparing, setting up, conducting the insertion of tie bars into fresh concrete and cleaning up. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories and industry sectors. Relevant information must be sourced prior to application of the unit.

Application of the Unit

This unit is appropriate for those working in an operational role at worksites within:
Civil construction

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

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 performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

1. Plan and prepare for operations	<p>1.1 Access, interpret and apply <i>compliance documentation</i> relevant to the work activity</p> <p>1.2 Obtain and confirm <i>safety requirements</i> from the <i>site</i> safety plan and organisational policies and procedures, and apply to the allotted <i>task</i></p> <p>1.3 Identify, obtain and implement signage requirements from the project <i>traffic</i> management plan</p> <p>1.4 Select <i>plant, tools and equipment</i> to carry out tasks consistent with the requirements of the job, check for serviceability and rectify or report any faults</p> <p>1.5 Identify <i>environmental protection requirements</i> from the project environmental management plan, and confirm and apply to the allotted task</p>
2. Setup operations	<p>2.1 Verify quantity of bars meet task requirements</p> <p>2.2 Confirm bars are <i>fit for purpose</i></p> <p>2.3 Confirm saw cut locations are marked out or programmed into paving computer as per site specifications</p> <p>2.4 Check automatic program spacing</p> <p>2.5 Check tie bar spacing and variations conform to plans</p> <p>2.6 Check for safe operations and confirm operation of emergency stops</p>
3. Operate tie bar system	<p>3.1 Maintain safe working area around tie bar inserter</p> <p>3.2 Maintain adequate stock of bars at tie bar inserter</p> <p>3.3 Operate and monitor mechanical or manual tie bar insertion for correct location, alignment and depth (if sidebars)</p> <p>3.4 Report missed bars or jamming immediately to the relevant personnel</p>

	<p>3.5 Ensure location of any missed or non compliant insertion is recorded by relevant site personnel</p> <p>3.6 Ensure concrete is fully compacted around the tie bar</p> <p>3.7 Ensure magazine is sufficiently loaded at all times</p> <p>3.8 Operate hiab (if fitted) to load magazine safely and accurately</p> <p>3.9 Load magazine by hand according to correct procedures</p>
4. Clean Up	<p>4.1 Clean up work area at end of day</p> <p>4.2 Return unused stockbars to store</p>

Required Skills and Knowledge

Required skills

Specific skills are required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following, as required to conduct tie bar insertion in wet concrete operations including:

- apply legislative, organisation and site requirements and procedures for conducting road construction paver screeding operations
- apply legislative, organisation and site requirements and procedures for laying pavers
- organise work activities
- select and use relevant tools and equipment safely
- identify and report on hazards related to the worksite and work activity
- communicate effectively to receive and clarify work instructions
- handle materials correctly
- operate hiab according to regulatory, workplace and manufacturer's specifications

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following, as required to conduct tie insertion in wet concrete operations including:

- site and equipment safety requirements
- site communication and hand signals
- paver screed operations
- hiab operations
- longitudinal and transverse joints
- operational, maintenance and basic diagnostic procedures
- materials safety data sheets and materials handling methods
- quality requirements
- civil construction terminology
- safe operating techniques in all terrain
- JSAs/safe work method statements

Evidence Guide

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for the insertion of tie bars into fresh concrete • implementation of requirements, procedures and techniques for the safe, effective and efficient insertion of tie bars into fresh concrete • working with others to undertake the insertion of tie bars into fresh concrete that meets all of the required outcomes • consistent timely insertion of tie bars into fresh concrete that safely, effectively and efficiently meets the required outcomes • identify and correctly mark onsite changes in tie bar spacing from the plans • conduct insertion and compaction of tie bars to correct depth over 75 linear metres on a minimum of three (3) occasions • load a magazine on at least one occasion in accordance with manufacturer's procedures • set out manually inserted tie bars and corresponding saw cuts
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment 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. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery

	<p>environment to sensitively accommodate cultural diversity.</p> <ul style="list-style-type: none"> • Aboriginal people and other people from a non English speaking background may have second language issues. • Where applicable, physical resources should include equipment modified for people with disabilities. Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistent achievement of required outcomes • first hand testimonial evidence of the candidate's: • working with others to undertake and complete the insertion of tie bars in fresh concrete
Guidance information for assessment	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislative, organisational and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
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Safety requirements may include:	<ul style="list-style-type: none"> • OHS requirements in accordance with state or territory legislation and regulations, organisational safety policies and procedures, and project safety plan, including protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, use of First Aid equipment, hazard control and hazardous materials and substances • safe operating procedures including recognising and preventing hazards associated with high voltage power lines, uneven/unstable terrain, trees, overhead service lines, bridges, surrounding buildings, obstructions, structures, facilities, dangerous materials, recently filled trenches, other machines, personnel, traffic control, working at heights, working in proximity to others, worksite visitors and the public • safe parking practices including ensuring access ways are clear, equipment/machinery is away from overhangs and refuelling sites, safe distance are kept from excavations, and areas secured from unauthorised access or movement • recognising hazards and risks including uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials • emergency procedures related to equipment operation including emergency shutdown and stopping, extinguishing equipment fires, organisational first aid requirements and evacuation
Site may include:	<ul style="list-style-type: none"> • formed/prepared roads • pads • highways and major arterial roads • freeways • car and truck parks • container yards
Task may include:	<ul style="list-style-type: none"> • loading magazine • operating manual or automatic tie bar inserter • spreading concrete materials
Traffic may include:	<ul style="list-style-type: none"> • congested urban environments • low traffic rural areas • off-road un-trafficked areas • parking sites • pedestrian areas

Plant, tools and equipment may include:	<ul style="list-style-type: none">• measuring tapes• depth gauges• standard tool kits• string lines• straight edges• screed• hiab
Environmental protection requirements may include:	<ul style="list-style-type: none">• organisational/project environmental management plan• waste management• water quality protection• noise• vibration• dust and clean-up management

Unit Sector(s)

Road and Pavements Construction and Maintenance (General)

Custom Content Section

Not applicable.