



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **RIICBS304A Compact asphalt with rollers**

**Release: 1**

## RIICBS304A Compact asphalt with rollers

### Modification History

Not applicable.

### Unit Descriptor

This unit covers the compacting of asphalt with rollers in the civil construction industry. It includes planning and preparing, preparing roller, compacting asphalt, carrying out roller operation maintenance, relocating roller, 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

Refer to Unit Descriptor.

### Pre-Requisites

Not applicable.

### Employability Skills Information

This unit contains employability skills.

### Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>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.</p>
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	1.1. Access, interpret and apply <b>compliance documentation</b> relevant to the work activity 1.2. Obtain and confirm <b>safety requirements</b> from the <b>site</b> safety plan and organisational policies and procedures, and apply to the allotted task 1.3. Identify, obtain and implement <b>signage</b> requirements from the project <b>traffic</b> management plan 1.4. Select plant, <b>tools and equipment</b> to carry out tasks consistent with the requirements of the job, check for serviceability and rectify or report any faults 1.5. Identify <b>environmental protection requirements</b> from the project environmental management plan, and confirm and apply to the allotted task
2. Prepare roller	2.1. Perform pre-operational checks as per manufacturer's or company instructions 2.2. Record job specifications 2.3. Produce work schedule 2.4. Plan water usage and replenishment 2.5. Set tyres to required pressure (self propelled, multi-wheeled pneumatic tyred rollers)
3. Compact asphalt	3.1. Identify site hazards associated with compacting asphalt with <b>rollers</b> and use safe operating techniques to minimise risk 3.2. Determine speed and rolling patterns according to job requirements 3.3. Set amplitude and frequency as directed for vibratory steel wheeled rollers 3.4. Avoid damage to <b>other structures</b> 3.5. Monitor watering system to prevent pick up 3.6. Maintain uniform speed and rolling pattern to job specification 3.7. Compact joints to job specifications 3.8. Compact final surface free of blemishes or rolling marks

	3.9. Maintain safe distance between rollers, other plant and the paving crew
4. Carry out roller operator maintenance	<p>4.1. Park Roller safely, shutdown and prepare for maintenance as per manufacturer's manual and/or organisational requirements</p> <p>4.2. Conduct inspection and fault finding</p> <p>4.3. Remove and replace defective parts safely and effectively</p> <p>4.4. Carry out regular programmed maintenance tasks</p>
5. Relocate roller	<p>5.1. Prepare roller for relocation</p> <p>5.2. Drive roller safely on highways and construction sites, observing highway code and local safety requirements</p>
6. Clean up	<p>6.1. Clear work area and dispose of or recycle <i>materials</i> in accordance with project environmental management plan</p> <p>6.2. Clean, check, maintain and store plant, tools and equipment</p>

## Required Skills and Knowledge

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

### 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 compact asphalt with rollers:

- apply legislative, organisation and site requirements and procedures for compacting of asphalt with rollers
- 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

### 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 compact asphalt with rollers:

- site and equipment safety requirements
- asphalt compacting techniques
- asphalt paving operations
- asphalt strength and performance characteristics
- edge and joint treatments
- equipment types, characteristics, technical capabilities and limitations
- operational, maintenance and basic diagnostic procedures
- site isolation and traffic control responsibilities and authorities
- processes for the calculation of material uniformity and travel speed
- materials safety data sheets and materials handling methods
- project quality requirements
- civil construction terminology
- safe operating techniques in all terrain
- JSAs/safe work method statements

## 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.

<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<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"> <li>• knowledge of the requirements, procedures and instructions for compacting asphalt with rollers</li> <li>• implementation of requirements, procedures and techniques for the safe, effective and efficient compacting of asphalt with rollers</li> <li>• working with others to undertake and complete the compacting of asphalt with rollers that meets all of the required outcomes</li> <li>• consistent timely compacting of asphalt with rollers that safely, effectively and efficiently meets the required outcomes</li> <li>• a minimum of 2000m<sup>2</sup> of asphalt is to be compacted to the determined pattern, the measured density, with the minimum number of passes specified and to job specifications for five projects, with at least one project under 50mm thick and one project over 50mm thick</li> <li>• a minimum of three longitudinal joints of 100 metres each and two transfer joints to be matched</li> </ul>
<b>Context of and specific resources for assessment</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection</li> </ul>

	<p>and use of resources for particular worksites may differ due to the site circumstances.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Customisation of assessment and delivery environment to sensitively accommodate cultural diversity.</li> <li>• Aboriginal people and other people from a non English speaking background may have second language issues.</li> <li>• 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.</li> </ul>
<b>Method of assessment</b>	<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"> <li>• written and/or oral assessment of the candidate's required knowledge</li> <li>• observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> <li>• implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes</li> <li>• consistent achievement of required outcomes</li> </ul> </li> <li>• first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> <li>• working with others to undertake and complete the compacting of asphalt with rollers</li> </ul> </li> </ul>
<b>Guidance information for assessment</b>	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

## Range Statement

<p>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.</p>	
<p><b>Relevant compliance documentation</b> may include:</p>	<ul style="list-style-type: none"> <li>• legislative, organisational and site requirements and procedures</li> <li>• manufacturer's guidelines and specifications</li> <li>• Australian standards</li> <li>• Employment and workplace relations legislation</li> <li>• Equal Employment Opportunity and Disability Discrimination legislation</li> </ul>
<p><b>Safety requirements</b> may include:</p>	<ul style="list-style-type: none"> <li>• 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</li> <li>• 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</li> <li>• safe operating procedures including recognising and preventing hazards associated with uneven/unstable terrain, trees, pits, poles, trip hazards, dirt mounds, overhead service lines, bridges, surrounding buildings, obstructions, structures, facilities, dangerous materials, recently filled trenches, other machines, personnel, traffic control, working in proximity to others, worksite visitors and the public</li> <li>• recognising hazards and risks including uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials</li> <li>• emergency procedures related to equipment</li> </ul>



	operation including emergency shutdown and stopping, extinguishing equipment fires, organisational First Aid requirements and evacuation
<b>Site</b> may include:	<ul style="list-style-type: none"> <li>• car parks</li> <li>• airport runways</li> <li>• container yards</li> <li>• hard stands</li> <li>• footpaths</li> <li>• bikeways</li> <li>• roadways</li> </ul>
<b>Signage</b> may include:	<ul style="list-style-type: none"> <li>• escort vehicle</li> <li>• highway traffic signs</li> <li>• site safety signage</li> <li>• temporary signage for the benefit of motorists and pedestrians</li> <li>• traffic conditions signage</li> </ul>
<b>Traffic</b> conditions may include:	<ul style="list-style-type: none"> <li>• congested urban environments</li> <li>• low traffic rural areas</li> <li>• off-road un-trafficked areas</li> <li>• buildings</li> <li>• parking sites</li> <li>• pedestrian areas</li> </ul>
<b>Tools and equipment</b> may include:	<ul style="list-style-type: none"> <li>• rollers</li> <li>• roller mats</li> <li>• spare water jets</li> <li>• water transfer equipment</li> <li>• shovels</li> <li>• brooms</li> <li>• rakes</li> <li>• basic tool kit</li> </ul>
<b>Environmental protection requirements</b> may include:	<ul style="list-style-type: none"> <li>• organisational/project environmental management plan</li> <li>• waste management</li> <li>• water quality protection</li> <li>• noise</li> <li>• vibration</li> <li>• dust and clean-up management</li> </ul>
<b>Rollers</b> may include:	<ul style="list-style-type: none"> <li>• steel double drum static roller</li> <li>• double drum vibratory roller</li> <li>• self propelled multi wheel pneumatic tyred roller</li> </ul>

	<ul style="list-style-type: none"><li>• combination roller</li><li>• roller operation is to include filling the roller with water</li></ul>
<b>Other structures</b> may include:	<ul style="list-style-type: none"><li>• kerb and channel</li><li>• buildings</li></ul>
<b>Materials</b> may include:	<ul style="list-style-type: none"><li>• water</li><li>• wetting agents</li></ul>

## Unit Sector(s)

Bituminous Surfacing

## Competency field

Refer to Unit Sector(s).

## Co-requisite units

Not applicable.