



Australian Government

Department of Education, Employment and Workplace Relations

RIICBS201A Conduct tack coat spraying operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the conduct of tack coat spraying operations in the civil construction industry. It includes planning and preparing, preparing for spraying operations, spraying tack coat, operating hand lance, and performing operator maintenance and clean 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 assistant 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

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

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	<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 task</p> <p>1.3. Identify, obtain and implement signage requirements from the project <i>traffic</i> management plan</p> <p>1.4. Select <i>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. Prepare for spraying operations	<p>2.1. Carry out pre-operational checks in accordance with organisation, manufacturer or site authorised procedures</p> <p>2.2. Check tank for cleanliness and contaminants prior to filling, and ensure transfer connections are completed and fully functional</p> <p>2.3. Conduct all loading and unloading operations safely in accordance with manufacturer's or company instructions</p> <p>2.4. Fill spray tank and ensure adequate <i>materials</i> are made available to perform spray operations</p> <p>2.5. Identify <i>application rate</i> and translate into the relevant travel speed and pump characteristics where necessary</p> <p>2.6. Select jets and fit to spray bar to enable spraying operations</p>
3. Spray tack coat	<p>3.1. Select and modify spraying techniques <i>for tack coating</i> to meet changing work conditions and <i>types of surfaces</i></p> <p>3.2. Conduct, control and monitor spraying operations <i>of tack coat sprayer</i> to ensure that materials are sprayed to specification</p>

	<p>3.3. Carry out operations adjacent to traffic in accordance with authorised traffic management controls in a safe manner at all times</p> <p>3.4. Complete work in accordance with the agreed plan and outcomes within the operating capacities of the allocated equipment</p>
4. Operate hand lance	<p>4.1. Determine situations where hand spraying is required</p> <p>4.2. Inspect hand lance to ensure the equipment is safe and operating correctly</p> <p>4.3. Inspect and set spray jets for job</p> <p>4.4. Conduct, control and monitor hand spraying operations to ensure that materials are sprayed to specification</p> <p>4.5. Carry out hand spraying operations adjacent to traffic in accordance with authorised traffic management controls in a safe manner at all times</p> <p>4.6. Clean and store hand spraying equipment after use</p>
5. Operator maintenance and clean up	<p>5.1. Conduct inspection and fault finding in accordance with manufacturer's or organisational requirements</p> <p>5.2. Clean spray bars and lances and ensure jets are free of contaminants</p> <p>5.3. Empty and clean tank of bituminous products, in accordance with EPA and company procedures</p> <p>5.4. Carry out routine operational servicing and lubrication tasks</p> <p>5.5. Carry out minor maintenance</p> <p>5.6. Maintain records in accordance with site requirements including identification of potential and current equipment problems</p> <p>5.7. Perform work to the requirements of the organisation's environmental instructions and EPA standards</p> <p>5.8. Clear work area and dispose of or recycle materials in accordance with project environmental management plan</p> <p>5.9. Clean, check, maintain and store 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 conduct tack coat spraying operations:

- apply legislative, organisation and site requirements and procedures for conducting tack coat spraying operations
- 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 conduct tack coat spraying operations:

- site and equipment safety requirements
- equipment types, characteristics, technical capabilities and limitations
- operational and maintenance procedures
- bituminous surfacing operations
- site isolation and traffic control responsibilities and authorities
- bituminous products
- tack coat spraying techniques
- processes for the calculation of material requirements, application rates and travel speed
- materials safety data sheets and materials handling methods
- project quality requirements
- civil construction terminology
- 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.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<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 conducting tack coat spraying operations • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of tack coat spraying operations • working with others to undertake and complete tack coat spraying operations that meets all of the required outcomes • consistent timely completion of tack coat spraying operations that safely, effectively and efficiently meets the required outcomes • a minimum of 500m² of an existing pavement to be tack coated prior to asphaltting using the spray bar, completed in a minimum of two separate runs • a minimum of two areas of at least 20m² to be tack coated using a hand lance
Context of and specific resources for assessment	<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

	<p>may differ due to the site circumstances.</p> <ul style="list-style-type: none"> • 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 environment to sensitively accommodate cultural diversity. • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • working with others to undertake and complete tack coat spraying operations
Guidance information for assessment	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

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.

Relevant compliance documentation may include:	<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
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 from excavations, and 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 locations may include:	<ul style="list-style-type: none"> • car parks • airport runways • container yards • hard stands • footpaths • bikeways • roadways
Traffic conditions may include:	<ul style="list-style-type: none"> • congested urban environments • low traffic rural areas • off-road un-trafficked areas • buildings • parking sites • pedestrian areas
Tools and equipment may include:	<ul style="list-style-type: none"> • trucks • tanks • spraying equipment • hand lances • transfer hoses • brooms • jets • shovels • compressors • storage tanks
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
Materials may include:	<ul style="list-style-type: none"> • bitumen emulsions (cationic and anionic) • cutback bitumen • cutters • distillates • water
Application rate are:	<ul style="list-style-type: none"> • to be followed within specified tolerances

Tack coating refers to:	<ul style="list-style-type: none">• an application in preparation for further surface coatings which are to include but not be limited to asphalt, geo-textile and slurry
Types of surface may include:	<ul style="list-style-type: none">• spray seal• asphalt• concrete• granular pavement• pavement which is limited to a clean dry surface which may be coated day or night
Tack coat sprayer may be:	<ul style="list-style-type: none">• a mechanical bitumen sprayer or a truck/trailer mounted bitumen emulsion sprayer used to apply tack coat at a specified rate on a pavement surface• they also provide facilities for hand spraying

Unit Sector(s)

Bituminous Surfacing

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.