



Australian Government

Department of Education, Employment and Workplace Relations

RIIUND310 Apply shot-crete underground

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the application of shot-crete in the resources and infrastructure industries. It includes planning and preparing for operations, applying shot-crete and conducting housekeeping activities. 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/operational role at worksites within:

- Metalliferous mining
- 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 for operations	1.1 Access, interpret and apply <i>compliance documentation</i> relevant to the work activity 1.2 Plan and prepare work 1.3 Receive, interpret and clarify shift changeover details 1.4 Select appropriate personal protective equipment 1.5 Select type of <i>equipment</i> , safety equipment and ground control materials according to job type, work plan and <i>site conditions</i> 1.6 Inspect and assess site conditions to determine if scaling is required and take action 1.7 Conduct equipment pre-start checks to ensure equipment is ready for operation 1.8 Identify, address and report potential risks and hazards 1.9 Inspect and assess appropriateness of ground control mechanism to ensure safety of site 1.10 Use approved <i>dust suppression equipment and/or extraction methods</i> to ensure adequate ventilation to minimise the effect of gases/irritants
2. Apply shot-crete	2.1 Prepare and clean targeted surface to ensure maximum cohesion of <i>shot-crete</i> 2.2 Erect barriers according to site procedures 2.3 Minimise the creation of gases and personnel exposure to fumes according to safe shot-creting processes 2.4 Select and apply shot-crete utilising appropriate application method according to manufacturer's guidelines and ground condition
3. Conduct housekeeping activities	3.1 Maintain barriers/signs after shot-creting according to site procedures 3.2 Complete all required documentation clearly, concisely and on time 3.3 Clean equipment to maintain condition of equipment and ensure safe and efficient operations 3.4 Pass on end of shift information to oncoming shift

Required Skills and Knowledge

<ul style="list-style-type: none"> This section describes the skills and knowledge required for this unit.
<p>Required skills</p> <p>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 apply shot-crete:</p> <ul style="list-style-type: none"> apply legislative, organisation and site requirements and procedures for application of shot-crete identify hazards monitor operations apply hydroscaling skills to clean and remove skate prior to shot-creting organise work tasks report defects perform troubleshooting
<p>Required knowledge</p> <p>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 apply shot-crete:</p> <ul style="list-style-type: none"> dewatering procedures and characteristics environmental procedures equipment safety requirements ground control characteristics and applications hazardous substances (handling and transport) inspection procedures isolation procedures explosive identification manufacturer's specifications mining legislation site operational procedures and checks control gas creation shot-creting techniques

Evidence Guide

<p>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.</p>	
<p>Overview of assessment</p>	
<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 application of shot-crete • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of application of shot-crete • working with others to undertake and complete the application of shot-crete that meets all of the required outcomes • consistent timely completion of application of shot-crete that safely, effectively and efficiently meets the required outcomes
<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 should 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: <ul style="list-style-type: none"> • implementation of appropriate requirements, 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 the application of shot-crete
Guidance information for assessment	<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>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislation including: <ul style="list-style-type: none"> • mining safety and health • mine inspection • OHS • explosives • 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
<p>Equipment may include:</p>	<ul style="list-style-type: none"> • power tools and hand tools (including nail guns etc) • hoses • shot-creting equipment • remote operating control box • lifting and handling equipment • lighting • support vehicles • recommended/required PPE
<p>Site conditions may include:</p>	<ul style="list-style-type: none"> • accessibility • amount of scale • ground conditions(e.g. dry, wet) • ground stability (e.g. broken, blocky, flaky, stable, compacted) • location of water table • slope of working surface • ventilation characteristics (e.g. fumes, dust) • visibility
<p>Dust suppression equipment and/or extraction methods may include:</p>	<ul style="list-style-type: none"> • mobile/fixed sprays • screens (vent doors, vent blinds) • use of water trucks

	<ul style="list-style-type: none">• ventilation bags operational• watering down site• fans
Shot-crete may be wet or dry and may include:	<ul style="list-style-type: none">• additives (drying, etc)• fibrecrete• shot-crete• gypsum

Unit Sector(s)

Underground Mining

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.