



Australian Government

RIIUND310E Apply shotcrete underground

Release: 1

RIIUND310E Apply shotcrete underground

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 apply shotcrete underground in civil construction and metalliferous mining. This includes preparing team members to apply shotcrete underground and overseeing and reporting on task execution.

It applies to those working in operational roles. They generally work under minimal supervision to undertake a broad range of tasks in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures.

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

Metalliferous mining

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>

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare to apply shotcrete underground	1.1 Obtain, interpret, clarify and confirm work instruction and shift changeover details 1.2 Access, interpret and apply documentation required to apply shotcrete and confirm work activity is compliant 1.3 Select and wear personal protective equipment according to job requirements 1.4 Select plant, tools and equipment required to carry out tasks and check for faults 1.5 Inspect and assess site conditions to determine if scaling is required and if so, make necessary arrangements 1.6 Conduct equipment pre-start checks according to manufacturer specifications 1.7 Identify and address potential risks, hazards and environmental issues, and implement control measures within scope of role 1.8 Obtain and interpret emergency procedures and identify steps required to respond to emergencies 1.9 Inspect and assess suitability of ground control mechanism 1.10 Confirm adequate ventilation using required dust suppression equipment and extraction methods
2. Apply shotcrete	2.1 Prepare and clean targeted surface for maximum shotcrete adhesion 2.2 Erect barriers according to job requirements 2.3 Minimise the creation of gases and personnel exposure to fumes according to safe shotcreting processes 2.4 Select and apply shotcrete utilising required application method according to manufacturer specifications and ground condition

ELEMENT	PERFORMANCE CRITERIA
3. Conduct housekeeping activities	3.1 Maintain required barriers and signs after shotcreting according to job and site requirements 3.2 Complete required documentation according to site requirements 3.3 Clean equipment, ascertain condition of equipment and confirm safe and efficient operations according to manufacturer specifications and site requirements 3.4 Pass on end of shift information to oncoming shift

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
Numeracy	Calculates basic measurements including mass and dimensions
Self-management	Monitors and minimises own exposure to worksite risks and hazards during work activities
Writing	Completes documentation using sector specific vocabulary, grammatical structures and conventions

Unit Mapping Information

Supersedes and is equivalent to RIIUND310D Apply shot-crete underground.

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 RIIUND310E Apply shotcrete underground

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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:

- apply shotcrete underground on at least two occasions, including:
 - applying hydrosclaing techniques to clean and remove skate prior to shotcreting
 - completing equipment pre-start checks
 - inspecting and assessing ground control mechanism
 - preparing and cleaning the targeted surface
 - erecting barriers
 - selecting and applying shotcrete.

During the above, the candidate must:

- locate and apply required documentation, policies and procedures
- identify report and record hazards and risks
- work with others to complete the application of shotcrete underground.

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 apply shotcrete underground
- policies, procedures and documentation required to apply shotcrete underground, including those relating to:
 - work health and safety
 - emergency response
 - hazard and risk management
 - manufacturer specifications for required plant and equipment

- relevant job specifications
- site requirements
- project quality requirements
- safety data sheets (SDS) and materials handling methods
- equipment safety
- equipment operation and maintenance
- housekeeping activities, including:
 - cleaning up work area
 - cleaning and maintaining equipment
 - processing records
- principles and techniques required to apply shotcrete underground, including those related to:
 - ground control characteristics and applications
 - explosive types and characteristics
 - dewatering characteristics
 - shotcreting techniques
 - dust suppression equipment
- types, characteristics, technical capabilities and limitations of plant and equipment required to apply shotcrete underground.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required to apply shotcrete underground
- 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 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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