



Australian Government

Department of Education, Employment and Workplace Relations

RIIMCU302A Construct and maintain ventilation devices

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers the construction and maintenance of ventilation devices in the coal mining industry. It includes: planning and preparing for operations, constructing ventilation devices, and maintaining ventilation devices. 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:

- Coal mining

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 for operations	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Access, interpret and apply mine environmental data required to complete the allocated work 1.3. Obtain, transport and prepare materials and resources required for the work in accordance with the plan, site requirements and Hazchem procedures
2. Construct ventilation devices	2.1. Resolve coordination activities with others at the site prior to commencement of, and during, the work activity 2.2. Prepare work site in accordance with site procedures to ensure a safe working environment 2.3. Construct ventilation device in accordance with manufacturer and/or site specific requirements 2.4. Recognise and respond to hazardous and emergency situations in accordance with manufacturer's instructions and/or site procedures 2.5. Perform work in accordance with agreed plan and outcomes
3. Maintain ventilation devices	3.1. Carry out inspections in accordance with legislative and/or site requirements 3.2. Obtain, transport and prepare necessary replacement materials/equipment required for the work in accordance with work practices 3.3. Carry out maintenance work in accordance with legislative and/or site requirements 3.4. Maintain records/reports in accordance with site practices

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 construct and maintain ventilation devices:

- apply legislative, organisation and site requirements and procedures for constructing and maintaining ventilation
- apply operational safety requirements
- access, interpret, apply and communicate technical information
- use hand and power tools
- apply construction techniques
- identify and respond to changing environmental conditions (including spontaneous combustion)
- inspect and maintain devices, equipment and materials
- comply with environmental requirements

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which the unit may be used. This includes knowledge of the following, as required to construct and maintain ventilation:

- operational safety systems related to ventilation devices
- statutory and site ventilation requirements
- mine operational procedures
- mine geology and survey information related to ventilation devices
- types and applications of ventilation and sealing systems
- ventilation device construction processes and techniques
- ventilation device equipment and material characteristics including transportation requirements
- site environmental requirements and constraints related to ventilation devices

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	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: • knowledge of the requirements, procedures and instructions for constructing and maintaining ventilation devices • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of the construction and maintenance of ventilation devices • working with others to undertake and complete the construction and maintenance of ventilation devices in a way that meets all of the required outcomes • consistent timely completion of the construction and maintenance of ventilation devices that safely, effectively and efficiently meets the required outcomes
Context of and specific resources for assessment	• 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 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	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: • 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 construction and maintenance of ventilation devices
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

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:	• legislative, organisational and site requirements and procedures • manufacturer's guidelines and specifications • management systems and plans • OHS policy • code of practice • Australian standards • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Work requirements may be in the form of:	• shift briefings • handover details • work orders
Work requirement details may include:	• nature and scope of the construction/maintenance tasks • achievement targets • locations of work • essential survey data • environmental conditions • work site conditions • support equipment/plant, including any defects • coordination requirements/issues
Mine environmental data may be in the form of:	• ventilation/gas data • deputy reports • geological data • survey data • spontaneous combustion management plan
Construction equipment may include:	• grout pumps • cement mixer • compressed air drill • borer • hoses • hand tools

	• scaffolding • level • water traps • sampling lines • pressure gauges • gas drainage line • shut off valves • oxygen breathing apparatus • gas detection equipment
Devices may include:	• stoppings • seal • bulkheads • balance chambers • regulators • overcasts • undercasts • materials for devices under this unit including: • pre-fabricated steel • cementitious or bricks • together with foam or other secondary materials as necessary
Hazards related to goaf atmospheres may include:	• irrespirable atmospheres • noxious atmosphere • flammable and explosive mixtures

Unit Sector(s)

Coal Mining (Underground)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.