



Australian Government

RIIMSM306D Design, develop and maintain pillar system and ground control

Release: 2

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Modification History

Release	Comment
1	This unit replaces RIIMSM306A Design and maintain pillar system and ground control.
2	Performance Criteria numbering corrected. Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to design, develop and maintain pillar system and ground control in Metalliferous Mining (Small Mines).

This unit is appropriate for those working in operational roles.

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.

Unit Sector

Metalliferous Mining (Small Mines)

Elements and Performance Criteria

1. Plan and prepare for design, develop and maintain pillar system and ground control	1.1 Access, interpret and apply pillar system and ground control documentation and ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Select and wear appropriate personal protective equipment appropriate for work activities 1.4 Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency
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	1.5 Select, and check for faults, relevant tools/equipment for the activity 1.6 Determine location of materials/ore to determine design parameters 1.7 Identify the potential hazards which could have an effect on pillar design and layout 1.8 Identify and address potential risks, hazards and environmental issues, and implement control measures 1.9 Identify the characteristics and properties of the roof to determine the span that can stand unsupported 1.10 Identify ground conditions where secondary support will be needed 1.11 Evaluate the effect of any adjacent mines and incorporate in pillar design
2. Develop pillar system	2.1 Plan and prepare for pillar development according to pillar design parameters 2.2 Visually inspect work area to ensure safe access 2.3 Ensure work area is properly ventilated before entry 2.4 Inspect and assess site conditions and determine if scaling is required and take appropriate action 2.5 Ensure that dust suppression and/or extraction is prepared and ready for use 2.6 Arrange communications with other relevant personnel 2.7 Conduct pillar development safely and efficiently 2.8 Continuously monitor ground conditions and modify operation to maintain safe conditions
3. Extract pillars	3.1 Identify the strategic pillars which must not be removed for roof stability 3.2 Establish and observe a retreat system 3.3 Prop ground surrounding pillar before pillar removal 3.4 Extract selected pillars starting furthest from shaft, in a systematic manner 3.5 Prop ground area previously held by the removed pillars 3.6 Continuously monitor ground conditions and modify operation to maintain safe pillar removal

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIIMSM306A Design and maintain pillar system and ground control

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMSM306D Design, develop and maintain pillar system and ground control

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Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies applicable legislation, documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient completion of designing, developing and maintaining pillar systems and ground control including:
 - installing secondary support devices
 - operating communications systems
 - operating extraction plant and machinery
- works effectively with others to undertake and complete the designing, developing and maintenance of pillar systems and ground control that meets all of the required outcomes including:
 - communicating clearly and concisely with others to confirm instructions
 - organising and prioritising work activities
- demonstrates completion of designing and maintaining pillar system and ground control that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - determining the appropriate pillar type and configuration
 - identifying and applying the appropriate design parameters for the location

- identifying and assessing the effects of adjacent mines
- identifying and assessing the characteristics and properties of the location

Knowledge Evidence

The candidate must demonstrate knowledge in designing, developing and maintaining pillar systems and ground control through:

- accessing, interpreting and applying legislative, organisation and site requirements and procedures for:
 - determining pillar configuration
 - assessment of mine ground conditions
 - pillar design and layout
 - dust suppression
 - pillar extraction
 - working underground
 - communication systems
 - emergency response
 - environmental issues
- accessing, interpreting and applying information on hazards affecting pillar design and development
- accessing, interpreting and applying secondary support methods and installation techniques
- accessing, interpreting and applying characteristics and properties of roofs
- being prepared for fire/accident/emergency

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,

- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 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.	

*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 frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

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