



Australian Government

Department of Education, Employment and Workplace Relations

RIIMEX202A Install open-cut mine ground support

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers installing open cut mine ground support in the metalliferous mining industry. It includes: organising for ground support installation; setting up and preparing for installation; assembling and installing ground support; and conducting housekeeping activities.

Application of the Unit

This unit covers the installation of ground support mechanisms to provide structural support to rock surface in the extractive process. It is appropriate for those working in operational roles, at open cut operations within:

- Metalliferous 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. Organise for ground support installation	1.1. Access, interpret and apply compliance documentation relevant to installing open cut mine ground support 1.2. Receive, interpret and clarify shift changeover details 1.3. Conduct equipment pre-operational checks to ensure equipment is ready for operation 1.4. Identify, manage and report potential hazards and risks according to work plan 1.5. Select personal protective equipment appropriate for work activities 1.6. Select appropriate type of equipment and ground support materials according to job type, work plan specifications and site conditions 1.7. Identify, address and report environmental issues 1.8. Communicate with other personnel using approved communication methods 1.9. Adhere to safe operating procedures to ensure safety of personnel, plant and equipment
2. Set up and prepare for installation	2.1. Conduct work according to site procedures, and current relevant legislation, codes, regulations and standards 2.2. Remove any surface soils and vegetations and expose bedrock 2.3. Scale down loose material and make site safe 2.4. Position drill at designated angle and according to capacity of equipment 2.5. Position drill holes according to ground support design and ground support plan to maximise lamination of rock layers
3. Assemble and install ground support	3.1. Assemble anchors to full depth according to ground support plan 3.2. Drill holes to specified diameter and depth in accordance with type of ground support and work plan specifications 3.3. Install and tension anchors and bolts to

	appropriate pattern and tensioning degree 3.4. Install water suppression devices minimising water infiltration to ground supports 3.5. Check ground support periodically and adjust stressing where required to monitor creepage
4. Conduct housekeeping activities	4.1. Clear area to conform to job requirements 4.2. Clean equipment 4.3. Clean and store attachments and other ancillary equipment 4.4. Complete all required records and documentation accurately and promptly

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 in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to install open cut mine ground support:

- apply legislative, organisation and site requirements and procedures
- diagnose problems/make decision
- apply drilling techniques
- use hand and power tools
- apply hazard identification procedures
- apply records maintenance requirements
- apply operation monitor techniques
- organise work tasks
- read plans and documents
- apply defect reporting requirements
- apply safe work practices
- work in a team
- apply troubleshooting techniques
- use communications equipment
- use computer systems

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to install open cut mine ground support:

- de-watering procedures and characteristics
- drilling procedures
- emergency procedures
- environmental and heritage procedures
- equipment safety requirements
- geological and technical data
- ground support characteristics and applications
- hazardous goods procedures and consequences of spills
- inspection procedures
- isolation procedures
- mine operational system
- night and day working procedures

- OHS procedures
- open cut procedures
- operational procedures and checks
- shutdown procedures
- site procedures
- site safety requirements
- start-up procedures

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 installing open cut mine ground support • implementation of requirements, procedures and techniques for the safe, effective and efficient installing of open cut mine ground support • working with others to install open cut mine ground support that meets all of the required outcomes • consistent timely completion of the installing of open cut mine ground support 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. • 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. • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • 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 • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: • working with others to undertake and complete the installing of open cut mine ground support
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, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • codes of practice • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Pre-operational checks are those checks specified by the manufacturer prior to operating the item of equipment and may include:	• air filter restriction indicator • cab (horn, lights, air conditioner) • computer systems • display instrumentation and gauges (indicators, gauges, laser levels) • engine and stop engine lights (orange and red) • fluid levels (windscreen washer tank, hydraulic oil, coolant, grease, water, engine oil, fuel) • visual and audio warning devices and lights
Potential hazards and risks may include:	• abandoned equipment • adjoining pit walls • adverse weather conditions (electrical storms, floods) fires • chemicals • contaminants • equipment • fences • holes • materials • over flying aircraft • over-hanging rocks • personnel • pot holes • unsafe ground • unstable faces • vehicles

Equipment may include:	• ancillary equipment (generators, pumps, lights, compressors, cleaning equipment, power tools, hand tools) • cutting implements • drill rigs • flags • lifting and handling equipment (winch, crane, block and tackles) • mesh • pegs • rope measuring tape • signs • support vehicles • tapes • witches hats
Ground support and work plan may be verbal or written, and may include:	• access road plan • equipment and resource allocations/requirements • geological details • mine site/site drawings
Site conditions may include:	• amount of scale • broken ground • day and night • location of water table • slope of working surface • stability of ground • stable ground (compaction) • wet and dry • working over old underground workings and voids
Safe operating procedures may include:	• adhering to all site procedures • observing site speed limits • working safely around other machines and personnel • observing right of way in incline and decline • wearing of seat belts • using respiratory devices where appropriate • hazard identification and recognition procedures • awareness and access to escape ways • emergency procedures • observation of electrical and mechanical

	procedures • First Aid • use of barricades • use of out of service tags and danger tags • use of different types of fire extinguishers
Capacity of equipment and/or attachments may include:	• duration of operation • efficient and safe operating speed • operating limitations • type of activities performed • weight and/or load limitations
Tensioning may include:	• loosening • tightening • variation to pattern
Water suppression devices may include:	• de-watering systems • drainage holes • polyfill • shot-crete

Unit Sector(s)

Materials Extraction

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.