



Australian Government

RIICFW302D Install temporary and permanent rock anchors

Release: 2

RIICFW302D Install temporary and permanent rock anchors

Modification History

Release	Comment
1	This unit replaces RIICFW302A Install temporary and permanent rock anchors
2	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 install temporary and permanent rock anchors in Civil Construction.

This unit is appropriate for those working in operational roles.

No licensing or certification requirements apply to this unit at the time of publication.

Unit Sector

Civil construction

Elements and Performance Criteria

1. Plan and prepare for rock anchor installation	1.1 Access, interpret and apply rock anchor installation documentation and ensure the work activity is compliant 1.2 Obtain, interpret and clarify work instructions before proceeding 1.3 Confirm and apply environmental protection and safety requirements 1.4 Obtain, interpret and implement traffic management signage requirements 1.5 Select, and check for faults, plant, tools and equipment to carry out tasks 1.6 Select and wear personal protective equipment appropriate for work activities 1.7 Identify, address and report potential hazards and risks
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	1.8 Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency
2. Set up and prepare anchor holes	2.1 Ensure holes are drilled to specified diameter and depth 2.2 Ensure holes are cleaned 2.3 Ensure bond length of holes for permanent anchors are tested for leakage to specified rate and grouted, re-drilled and retested 2.4 Ensure holes are temporarily covered to prevent entry of foreign material
3. Install anchors to anchor holes	3.1 Check components to verify conformity with job requirements 3.2 Grease, sheathe and assemble anchors to specifications 3.3 Prepare temporary anchors with spacers and fit grout tubes 3.4 Prepare permanent anchors with spacers, fit grout tubes and prepare external polyethylene sheath 3.5 Install anchors and sheaths to full depth, without damage and to specifications 3.6 Set up grouting plant and flow monitoring apparatus to design requirements 3.7 Mix and pump grout into hole
4. Set up anchorage assembly and stress anchors	4.1 Position anchorage using packing materials 4.2 Stress anchors to nominated loads 4.3 Lock off anchors to nominated loads 4.4 Install mesh to job specification 4.5 Apply shotcrete to design depth, tolerance and job specification 4.6 Monitor permanent anchors at scheduled intervals, and determine and record anchor's residual load 4.7 Cut anchors where required and seal
5. Clean up	5.1 Clear work area and dispose of/or recycle materials 5.2 Clean, check, maintain and store plant, tools and equipment

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

RIICFW302A Install temporary and permanent rock anchors

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 RIICFW302D Install temporary and permanent rock anchors

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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 installation of temporary and permanent rock anchors including:
 - using installation techniques to install both temporary and permanent rock anchors
- works effectively with others to undertake and complete the installation of temporary and permanent rock anchors tasks that meets all the required outcomes including:
 - communicating clearly and concisely with others to receive and clarify work instructions
 - using a range of communication technique and systems such as signage to advise others of work activity and exclusion zones
- demonstrates completion of installing temporary and permanent rock anchors that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - setting up and ensuring anchor holes are drilled, cleaned, tested for leakage and covered to prevent entry of foreign material
 - installing a minimum of ten (10) permanent anchor bolts, finished with mesh and shotcrete
 - installing a minimum of ten (10) temporary anchor bolts
 - stressing, locking off, cutting and sealing anchors

Knowledge Evidence

The candidate must demonstrate knowledge of installing temporary and permanent rock anchors through:

- applying organisation, site requirements and procedures for:
 - installing temporary and permanent rock anchors
 - conducting earthworks
 - carrying out foundation work
 - scaffolding and work platform installation
 - site isolation and traffic control responsibilities and authorities
 - water erosion
 - site and equipment safety requirements
- using construction principles
- interpreting engineering drawings
- identifying soil, sand, rock, clay, shale, gravel and silt types and characteristics
- identifying equipment types, characteristics, technical capabilities and limitations
- applying and monitoring operational, maintenance and basic diagnostic procedures
- interpreting and complying with safety data sheets and materials handling methods
- monitoring project quality requirements
- using civil construction terminology
- preparing and/or implementing JSA/JSEA/safe work method statements

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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