



Australian Government

RIISAM205D Cut, weld and bend materials

Release: 3

RIISAM205D Cut, weld and bend materials

Modification History

Release	Comment
1	This unit replaces RIISAM205A Cut, weld and bend materials
2	Editorial corrections
3	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 apply cut, weld and bend materials in the Resources and Infrastructure Industries.

This unit is appropriate for those working in operational roles.

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

Elements and Performance Criteria

1. Plan and prepare to cut, weld and bend materials	1.1 Access, interpret and apply cut, weld and bend materials documentation to ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Identify and address potential risks, hazards and environmental issues, and implement control measures 1.4 Select and wear personal protective equipment appropriate for work activities 1.5 Identify and implement signage/barricade requirements 1.6 Select appropriate plant, tools and equipment for the job, and inspect them for serviceability and rectify or report any faults prior to commencement 1.7 Calculate material quantity requirements in accordance with plans and/or specifications 1.8 Identify, obtain, prepare, safely handle and locate materials
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	ready for use appropriate to the work application 1.9 Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency
2. Set up and test equipment	2.1 Select and locate correct fire extinguisher, ensuring accessibility prior to and during operations 2.2 Attach regulators correctly to Oxy and Acetylene bottles 2.3 Purge lines prior to lighting up 2.4 Test equipment for leaks and undertake corrective action or report faults 2.5 Select correct pressures and cutting tips
3. Cut material using oxyacetylene	3.1 Measure and mark material, and secure/clamp it for cutting 3.2 Correctly light torch 3.3 Adjust setting of flame for cutting 3.4 Ensure correct cutting position during cutting to set out mark
4. Cut and weld materials using electric welding equipment	4.1 Complete and verify test runs 4.2 Complete welding and cutting procedures 4.3 Clean welds using appropriate tools and techniques 4.4 Confirm weld and cut specifications by visual inspection and defects identified and repaired
5. Heat and bend material	5.1 Measure and mark material, and secure/clamp it for bending 5.2 Light torch according to manufacturer's specifications 5.3 Control heat to specified material and minimise weakening effects of the heating process 5.4 Bend material to specification and cool correctly
6. Shutdown	6.1 Switch off torch as instructed 6.2 Shut off gas supply per manufacturer's specifications
7. Clean up	7.1 Clear work area and dispose of or recycle materials 7.2 Clean and maintain condition of equipment, ensure suitability for use, and address/report issues 7.3 Process records

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

RIISAM205A Cut, weld and bend materials

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 RIISAM205D Cut, weld and bend materials

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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 relevant documentation, policies and procedures
- demonstrates completion of cutting, welding and bending materials that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - identifying and matching cutting equipment with job task
 - setting up oxyacetylene, electric welding and bending equipment in correct sequence
 - testing the equipment
 - accurately mark and secure or clamp material ready for bending and cutting
 - lighting torch correctly and safely
 - adjusting setting of flame for cutting
 - controlling the heat of the torch to suit the materials being bent
 - adopting correct cutting position during cutting to set out mark
 - welding and cutting materials cleanly
 - cleaning and visually inspecting the welds for defects
 - bending materials to job task requirements
 - shutting down the torch and gas supply in sequence

Knowledge Evidence

The candidate must demonstrate knowledge of cutting, welding and bending materials through:

- identifying manual metal arc welding, oxyacetylene and LPG heating and cutting equipment types, characteristics, uses and limitations
- relevant welding, bending and cutting techniques
- relevant equipment and machinery used in welding, bending and cutting materials
- using construction and steel fixing terminology
- types and properties of steel fixing materials
- processes for the calculation of material requirements

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 is best assessed in the context of this sector's 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 this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills; 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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