



Australian Government

MEMPE003 Use oxy-acetylene and soldering equipment

Release: 1

MEMPE003 Use oxy-acetylene and soldering equipment

Modification History

Release 1. Supersedes and is equivalent to MEMPE003A Use oxy-acetylene and soldering equipment.

Application

This unit of competency defines the skills and knowledge required to use an oxy-acetylene torch to cut low carbon or mild steels and to heat the steel to enable bending. It also covers basic silver soldering and brazing.

The settings for the oxy-acetylene and heating equipment as well as the materials are supplied to the individual. No assembly of the oxy-acetylene hoses and gauges is required.

This unit describes entry-level skills and knowledge in preparation for employment within the metal, engineering, manufacturing and associated industries and is suitable for use in institutional-based vocational programs. Skills development takes place under direct supervision.

It is not to be used in a traineeship or apprenticeship training program or associated qualifications. It is only to be used in pre-employment programs and carries no credit towards apprenticeship/trade and other qualification types in manufacturing and engineering.

This skills in this unit are intended to be developed in combination with the project unit, MEMPE006 Undertake a basic engineering project.

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

Pre-requisite Unit

Nil

Competency Field

Pre-employment

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Identify cutting and heating requirements	1.1 Comply with work health and safety (WHS) requirements at all times 1.2 Identify cutting and heating requirements from work information in

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	consultation with a supervisor 1.3 Identify location of heat application in accordance with job requirements 1.4 Confirm application of heat locations with supervisor
2. Perform cutting and heating	2.1 Use and wear appropriate personal protective equipment (PPE) in accordance with procedures 2.2 Start and set equipment following given instructions 2.3 Cut and heat materials to pre-determined specifications 2.4 Follow safe working practices 2.5 Store and dispose of work materials as instructed
3. Identify silver soldering and brazing requirements	3.1 Identify silver soldering and brazing requirements from work information in consultation with an supervisor 3.2 Identify location of silver soldering and brazing in accordance with job requirements 3.3 Confirm application of heat locations with supervisor
4. Prepare for silver soldering and brazing	4.1 Clean and prepare low and mild carbon steel and copper, or similar, ready for silver soldering and brazing 4.2 Set up heating equipment according to given instructions
5. Perform silver soldering and brazing	5.1 Use and wear appropriate PPE in accordance with procedures 5.2 Apply safe silver soldering and brazing practices 5.3 Silver solder and braze materials to job requirements 5.4 Clean soldered and brazed joints safely 5.5 Store and/or dispose of work materials as instructed
6. Complete work requirements	6.1 Clear work area of waste and clean according to requirements 6.2 Maintain and/or store machines, tools and equipment according to instructions

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Work information includes one or more of the following:	• drawings • sketches • job instructions • schematics • diagrams • technical manuals.
Heating equipment include one or more of the following:	• oxy-acetylene equipment • LP gas equipment • electrically heated equipment/soldering irons.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEMPE003A Use oxy-acetylene and soldering equipment.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEMPE003 Use oxy-acetylene and soldering equipment

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- following work instructions and safe work practices
- reading and interpreting routine information on written job instructions
- preparing materials
- setting oxy-acetylene/heating equipment according to given instructions
- using oxy-acetylene equipment on at least two occasions to heat, braze and cut metal
- silver solder materials to meet job requirements on at least two occasions
- using appropriate measuring skills
- cleaning and storing of machines and equipment.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and use of personal protective equipment (PPE)
- safe equipment operation practices
- heating equipment
- material and equipment preparation requirements
- basic marking out techniques
- use and care of measuring tools
- heating and cutting processes
- post-heating and cutting treatments.
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Assessment Conditions

- Assessors must:
 - have vocational competency in using oxy-acetylene and soldering equipment at least to the level being assessed with relevant industry knowledge and experience

- satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015 or its replacement* and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring State as the case requires.
- This unit must be assessed in a learning institution and must cover the successful use of oxy-acetylene and soldering equipment and the skills developed would usually be developed by an individual working alone under direct supervision
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
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