



Australian Government

MEM05009 Perform automated thermal cutting

Release: 1

MEM05009 Perform automated thermal cutting

Modification History

Release 1. Supersedes and is equivalent to MEM05009C Perform automated thermal cutting

Application

This unit of competency defines the skills and knowledge required to set up and operate single and multi-headed automated thermal cutting machines for plate and pipe used in heavy engineering.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of tools is required unit MEM18001 Use hand tools and unit MEM18002 Use power tools/hand held operations, should also be selected as appropriate.

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

Band: A

Unit Weight: 2

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Fabrication

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
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|---|----------------------|-----|---|
| 1 | Determine job | 1.1 | Follow standard operating procedures (SOPs) |
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Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

requirements		
		1.2 Comply with work health and safety (WHS) requirements at all times
		1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4 Identify job requirements from specifications, sketches, job sheets or work instructions
2	Set up automated thermal cutting machine	2.1 Ensure gas handling equipment is in safe working condition
		2.2 Set up material, including correct procedures for stack cutting and nesting, to minimise waste
		2.3 Select appropriate cutting medium and set to specification
		2.4 Determine process requirements from specifications or instructions
		2.5 Set up machine to specifications
		2.6 Establish machine datum to specifications
3	Operate automated thermal cutting machine	3.1 Ignite cutting medium, where required, in accordance with SOPs
		3.2 Start machine using correct sequence and SOPs
		3.3 Use powder marking and/or other tracing devices, as required
		3.4 Check final product for compliance with specifications
		3.5 Shut down machine following SOPs

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

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.

Material includes one (1) or more of the following

- ferrous
- non-ferrous

Cutting medium includes one (1) or more of the following:

- fuel gases
- oxy acetylene
- plasma arc
- laser

Machine includes one (1) or more of the following:

- single head machines
- multi-headed machines
- numerically controlled (NC) driven equipment

Where NC machines are used, set up machine to specifications includes one (1) or more of the following:

- selecting programs according to predetermined instructions
- loading programs according to predetermined instructions

Tracing devices include one (1) or more of the following:

- powder marking and magnetic
- photoelectric tracing devices

Gas handling equipment includes the following:

- gas cylinders
- hoses
- blowpipes
- tips and nozzles
- regulators
- flashback arrestors

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

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