



Australian Government

MEM05048 Perform advanced welding using flux core arc welding process

Release: 1

MEM05048 Perform advanced welding using flux core arc welding process

Modification History

Release 1. Supersedes and is equivalent to MEM05048B Perform advanced welding using flux core arc welding process

Application

This unit of competency defines the skills and knowledge required to carry out advanced welding using flux core arc welding (FCAW).

Welds are associated with a range of structural sections and/or plate and/or pipe for general fabrication using ferrous materials. Weld quality would typically conform to AS 1554 Structural Purpose or equivalent.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM05007	Perform manual heating and thermal cutting
MEM05047	Weld using flux core arc welding process
MEM05051	Select welding processes
MEM05052	Apply safe welding practices
MEM05056	Perform routine flux core arc welding
MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information

MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

Competency Field

Fabrication

Elements and Performance Criteria

Elements describe the essential outcomes.

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

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		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, drawings, job sheets or work instructions
2	Prepare materials for welding	2.1	Prepare materials to achieve the required weld requirements
		2.2	Assemble/align materials to specification, where required
3	Select, assemble and set up welding equipment and consumables	3.1	Identify and select welding equipment and consumables appropriate to the material
		3.2	Assemble and adjust appropriate welding equipment
4	Minimise and rectify distortion	4.1	Apply appropriate distortion prevention measures
		4.2	Rectify any distortion using appropriate techniques

Elements describe the essential outcomes.

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

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|---|---|-----|--|
| 5 | Weld joints to specifications using FCAW | 5.1 | Ensure welds are deposited to specifications |
| | | 5.2 | Clean joints to specifications |
| 6 | Ensure weld conformance | 6.1 | Inspect weld joints visually for conformance to specifications |
| | | 6.2 | Rectify any weld defects with minimum loss of sound metal using correct techniques and tools |
| | | 6.3 | Maintain weld records according to 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.

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|---|---|
| Welds include the following: | <ul style="list-style-type: none"> • fillet and butt in horizontal, vertical and overhead positions |
| Welding equipment includes the following: | <ul style="list-style-type: none"> • gases, settings, electrodes and related equipment selected in accordance with welding procedure |
| Materials include one (1) or more of the following: | <ul style="list-style-type: none"> • low carbon • cast iron • stainless and low alloy steel |
| Preparation includes one (1) or more of the following: | <ul style="list-style-type: none"> • preheating • setting up of jigs • fixtures and clamps |

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.

Rectify includes the use of one (1) or more of the following:

- oxy acetylene
- air arc equipment
- grinding devices

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>