



Australian Government

MEM05041 Weld using flame powder spraying

Release: 1

MEM05041 Weld using flame powder spraying

Modification History

Release 1. Supersedes and is equivalent to MEM05041B Weld using powder flame spraying

Application

This unit of competency defines the skills and knowledge required to perform flame powder spraying, on a range of heavy or light materials and applies to welding of materials using powder spraying equipment where powders are fed through the flame and are deposited onto the surface to be built up or joined.

Weld quality could include welding that conforms to Australian Standard 1554 General Purpose and American Bureau of Shipping (ABS) or equivalent.

For remedial action using machining processes other than grinding with grinding wheels (ceramic or other) appropriate machining units should also be selected.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM05004	Perform routine oxy fuel gas welding
MEM05051	Select welding processes
MEM05052	Apply safe welding practices
MEM05055	Weld using oxy fuel gas welding process
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, sketches, job sheets or work instructions
2	Prepare work for spray welding	2.1	Prepare materials to achieve the required weld requirements
		2.2	Assemble/align work to specifications, as required
3	Select, assemble and set up spray welding equipment and powders	3.1	Select appropriate spray welding equipment and consumables for materials and work requirements
		3.2	Ensure powder flame spray welding equipment is in safe working condition
		3.3	Assemble welding equipment and set up in accordance with SOPs
		3.4	Adjust gas setting on spray welding equipment to task requirements

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
4 Minimise and rectify distortion	4.1 Identify distortion prevention/control measures
	4.2 Apply appropriate distortion prevention/control measures to minimise and rectify distortion
	4.3 Deposit spray weld to specification
5 Inspect spray weld	5.1 Inspect weld area/joints visually against specification
	5.2 Rectify any weld defects with minimum loss of sound metal using correct techniques and tools

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.

Welds include the following:

- fillet
- butt

Weld positions include the following:

- horizontal
- vertical
- overhead

Materials include one (1) or more of the following:

- steels
- carbon steels
- cast iron
- non-metallic materials (plastic/nylon)

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.

Equipment includes the following:

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

Preparation and distortion prevention include one (1) or more of the following:

- pre-heating
- setting up:
 - jigs
 - fixtures
 - clamps
- joint preparation

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

- oxy acetylene
- air arc equipment
- grinding devices

Defects include one (1) or more of the following:

- porosity
- slag inclusions
- discontinuities
- lack of penetration
- undercut

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM05041B Weld using powder flame spraying

Links

Companion Volume implementation guides are found in VETNet -

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