



Australian Government

MEM08003 Perform electroplating operations

Release: 1

MEM08003 Perform electroplating operations

Modification History

Release 1. Supersedes and is equivalent to MEM08003C Perform electroplating operations

Application

This unit of competency defines the skills and knowledge required to perform a range of metal plating processes in the electroplating, electronics, jewellery manufacture and metal fabrication industries.

It includes the general operation, monitoring and adjustment of manual, semi and automatic electroplating processes and applies to volume production and 'jobbing' involving rack and barrel type processes.

Where simple operating and monitoring of the electroplating process is required unit MEM07024 Operate and monitor machine and process should also be selected.

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

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

This unit should not be selected if unit MEM07025 Perform advanced machine and process operation has already been selected.

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

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

Band: A

Unit Weight: 6

Pre-requisite Unit

MEM07001	Perform operational maintenance of machines/equipment
MEM08001	Perform wire, jig and barrel load/unload work
MEM11011	Undertake manual handling
MEM13003	Work safely with industrial chemicals and materials
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

MEM18001

Use hand tools

Competency Field

Surface finishing

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, job sheets or work instructions
		1.5	Identify untreated materials and the required electroplating treatment
2	Prepare for electroplating process	2.1	Check materials and racking arrangement for non-conformance to specifications/job requirements
		2.2	Check all plant and equipment relevant to process for compliance with safety and operational requirements
		2.3	Check instrumentation and gauges for operation
		2.4	Check condition of solution
3	Perform electroplating operations	3.1	Carry out operations in the correct sequence according to work instructions and SOPs
		3.2	Ensure compliance with process operating parameters
		3.3	Make adjustments to rectify any process deviation

Elements describe the essential outcomes.

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

- 3.4 Report uncontrollable variances to appropriate persons
- 3.5 Carry out a visual inspection of finished products for compliance to specification

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, accessibility of the item, and local industry and regional contexts) are included.

- Electroplating requirements include one (1) or more of the following:**
- coating thickness
 - appearance
 - ductility
 - hardness
 - corrosion resistance
 - wear

- Untreated materials include one (1) or more of the following:**
- steel
 - copper
 - brass
 - cast iron
 - stainless steel

- Electroplating treatment includes one (1) or more of the following:**
- pre-treatment
 - electroplating operations
 - post treatment

- Check includes (1) one or more of the following:**
- componentry
 - electrodes

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, accessibility of the item, and local industry and regional contexts) are included.

- circuitry equipment

Instruments and gauges include one (1) or more of the following:

- volt meters
- ammeters
- temperature recorders/indicators
- AMP per hour meters

Electroplating operations include one (1) or more of the following:

- engineering coatings
- protective finishes
- decorative plating

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

- time
- temperature
- current density
- voltage

Visual inspection includes one (1) or more of the following:

- surface texture
- brightness
- free from roughness
- pitting
- cracking
- machining marks

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM08003C Perform electroplating operations

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 MEM08003 Perform electroplating operations

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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 on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying all materials and the process to be used to electroplate products
- preparing all equipment, instrumentation/gauges and materials for the electroplating process
- starting up, operating, monitoring and regulating the electroplating equipment and process
- rectifying process deviations within the operator's scope of control
- inspecting electroplated products to ensure they meet specification.

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 procedures and use of personal protective equipment (PPE)
- characteristics of a variety of base materials that can be plated
- electroplating process, machine components, treatment solutions and process parameters and operational requirements of all plant and equipment
- electroplating solutions and handling procedures
- electroplating treatment stages and information relevant to plating products, treatment baths and settings
- electroplating pre-treatment, treatments and post-treatments in relation to task requirements
- electroplating equipment checks
- purpose and typical settings of different instruments/gauges
- sequences and requirements involved in moving materials and reasons for rejecting incorrectly loaded work
- the range of adjustments permissible for electroplating operating parameters, including voltage, current and temperature
- common electroplated product faults and imperfections/deviations and adjustments that can be made to suit specific process deviations
- variances in electroplated products that are outside the control of the operator

- effects of rust, corrosion and other contaminants on electroplated products.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing electroplating operations 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/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- 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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