



Australian Government

MEM08008 Operate and control surface finishing waste treatment process

Release: 1

MEM08008 Operate and control surface finishing waste treatment process

Modification History

Release 1. Supersedes and is equivalent to MEM08008B Operate and control surface finishing waste treatment process

Application

This unit of competency defines the skills and knowledge required to treat and purify metal finishing effluent waters which typically contain cyanides, hexavalent chromium, heavy metal cations, certain anions and greases using appropriate pre-determined waste treatment processes.

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.

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: 3

Pre-requisite Unit

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

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.

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|---|---|-----|---|
| 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 |
| | | | |
| 2 | Load waste product | 2.1 | Obtain waste from production process via established procedures |
| | | 2.2 | Load waste in accordance with standard operating procedures for waste/effluent |
| | | | |
| 3 | Monitor effluent water treatment process | 3.1 | Monitor all process parameters and record to identify waste/effluent |
| | | 3.2 | Check recording devices for correct/continuous operation |
| | | | |
| 4 | Adjust process | 4.1 | Apply knowledge of waste treatment processes in determining appropriate adjustments |
| | | 4.2 | Check process parameters to ensure they remain within specified limits |
| | | 4.3 | Make all adjustments to accord with regulatory requirements regarding waste |
| | | 4.4 | Undertake appropriate corrective action in the event of any mechanical failure |

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.

Waste/effluent includes one (1) or more of the following:

- rinse waters
- spent solutions
- spills
- leaks

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

- pH meter
- oxidising/reduction/potential probes (redox)
- flow rate

Waste treatment processes include one (1) or more of the following:

- chemical treatments
- neutralisation
- metal precipitation
- solid separation (gravity, centrifuging)
- oxidation
- reduction
- grease entrapment
- ion exchange
- reverse osmosis
- gas scrubbing

Process parameters include one (1) or more of the following:

- solution flow
- pH
- redox (oxidising /reduction/potential) which typically contain cyanides, hexavalent chromium, heavy metal cations, certain anions and greases

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM08008B Operate and control surface finishing waste treatment process

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 MEM08008 Operate and control surface finishing waste treatment process

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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
- loading and monitoring surface finishing waste products safely
- applying correct procedures to control the treatment and purification of waste products
- maintaining waste product treatment processes and outcomes to meet regulatory and enterprise/industry standards
- taking corrective action in response to mechanical failure.

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)
- hazards and control measures associated with handling waste products, including possible effects of surface finishing waste on the environment
- safety precautions to be taken when handling/loading the waste/effluent
- process parameters to be monitored and the procedures for monitoring these and identifying waste/effluent
- procedures for checking process parameter recording devices and recording process parameters
- adjustments that can be made to the waste treatment process and their effect on the condition of the waste
- procedures for adjusting process parameters and the specified limits for each parameter
- legislative and regulatory requirements relating to waste management
- corrective actions that can be taken in treating waste products and the reasons for taking proposed corrective actions.

Assessment Conditions

- Assessors must:

- have vocational competency in operating and controlling surface finishing waste treatment processes 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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