



Australian Government

MEM04008 Fettle and trim metal castings/forgings

Release: 1

MEM04008 Fettle and trim metal castings/forgings

Modification History

Release 1. Supersedes and is equivalent to MEM04008B Fettle and trim metal castings/forgings

Application

This unit of competency defines the skills and knowledge required to fettle, trim and assess quality of metal castings/forgings in production and jobbing environments.

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

Where the selection and use of engineering measuring equipment is required Unit MEM12023 Perform engineering measurements 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

MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

Competency Field

Casting and moulding

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, drawings/sketches, job sheets or work instructions
		1.5	Locate and arrange correct mouldings and/or castings/forgings for efficient processing
2	Observe safety requirements	2.1	Handle castings/forgings using manual or mechanical handling methods appropriate to the task
		2.2	Store and position castings/forgings in a safe manner
3	Identify excess material for removal	3.1	Remove casting from mould and/or sand media from casting as required
		3.2	Check visually castings/forgings as suitable for further processing, and identify excess metal according to procedures
4	Select correct tools and equipment	4.1	Select cleaning method appropriate to casting and job requirements
		4.2	Set and use rumbling/shot blast/sand blast equipment to specification and in accordance with SOPs, as required
		4.3	Select and use appropriate hand tools for the given task
		4.4	Select and use appropriate power tools and accessories for the given task
5	Remove excess material	5.1	Remove excess metal (e.g. runners, risers and flashing) using methods and equipment appropriate to the task

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| | | 5.2 | Identify excess metal suitable for recycling according to SOPs |
| | | 5.3 | Identify and isolate excess metallic materials according to SOPs |
| 6 | Quality assess castings/forgings | 6.1 | Check visually castings/forgings for conformance with specifications |
| | | 6.2 | Reject or set aside and identify for further consideration or remedial action non-conforming castings/forgings |
| | | 6.3 | Report/record faults according to SOPs, as required |

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.

Hand tools include one (1) or more of the following:

- files
- chisels
- hammers
- other dedicated tools for fettling and trimming

Power tools include one (1) or more of the following:

- saws
- croppers
- grinding disks/belts (including grades)
- swing grinders
- pedestal grinders

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Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM04008B Fettle and trim metal castings/forgings

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 MEM04008 Fettle and trim metal castings/forgings

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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 and interpreting specifications, drawings/sketches and other applicable reference documents to fettle and trim metal castings/forgings
- handling castings/forgings using manual or mechanical handling methods and storing and positioning them in a safe manner
- identifying excess metal for removal by carrying out visual inspection in accordance with procedures
- selecting and using appropriate cleaning method, including the use of rumbling/shot blast/sand blast equipment
- selecting and using appropriate hand and power tools to remove excess metal e.g. runners, risers and flashing in a safe and effective manner
- identifying excess metal suitable for recycling and metallic materials that need to be isolated
- carrying out inspection to verify against specifications and rejecting or setting aside those requiring remedial action and reporting/recording faults.

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)
- accept/reject/rework criteria
- fettling requirements
- fettling tools
- fettling standards
- handling and storage requirements
- excess metals suitable for recycling.

Assessment Conditions

- Assessors must:
 - have vocational competency in fettling and trimming metal castings and forgings 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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