



Australian Government

MEM04003 Operate pressure die casting machine

Release: 1

MEM04003 Operate pressure die casting machine

Modification History

Release 1. Supersedes and is equivalent to MEM04003B Operate pressure die casting machine

Application

This unit of competency defines the skills and knowledge required to start, operate and shut down pressure die casting machines.

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.

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: 4

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13004	Work safely with molten metals/glass
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

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.

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 |
| 2 | Conduct pre-operational checks | 2.1 | Conduct start-up procedure |
| | | 2.2 | Adjust the shot size if required |
| | | 2.3 | Check nitrogen and/or vacuum systems if applicable |
| | | 2.4 | Undertake a functional check of the picking robot, and adjust the component gripper if required |
| | | 2.5 | Adjust die spray nozzles |
| | | 2.6 | Carry out planning to ensure efficient flow of finished product |
| 3 | Operate machine to produce castings | 3.1 | Apply appropriate knowledge of die casting process to the operation, adjustment and monitoring of machine functions |
| | | 3.2 | Operate a die casting machine to SOPs, including maintenance of liquid metal and die operating conditions |
| | | 3.3 | Break runners off in an appropriate manner |
| | | 3.4 | Inspect castings visually for defects |
| | | 3.5 | Handle castings in a manner that minimises risk of damage to the casting and injury to personnel |
| | | 3.6 | Produce first-off castings, inspect visually and submit for checking against job requirements |

Elements describe the essential outcomes.

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

- | | | | |
|---|------------------------|-----|---|
| 4 | Monitor furnace | 4.1 | Maintain furnace at optimum operating condition |
| | | 4.2 | Shut down furnace following 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.

Plan for efficient flow of finished product includes one (1) or more of the following:

- breaking off runners
- stacking baskets
- bins
- conveyors

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

- porosity
- cracks
- tears
- splits
- sinks
- cold shuts
- tinning and die surface crazing

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM04003B Operate pressure die casting machine

Links

Companion Volume implementation guides are found in VETNet -

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