



Australian Government

MEM04015 Develop and manufacture vacuum forming moulds and associated equipment

Release: 2

MEM04015 Develop and manufacture vacuum forming moulds and associated equipment

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM04015 Develop and manufacture vacuum forming moulds and associated equipment (Release 1).

Release 1. Supersedes and is equivalent to MEM04015B Develop and manufacture vacuum forming moulds and associated equipment.

Application

This unit of competency defines the skills and knowledge required to develop and manufacture all types of vacuum forming moulds and associated equipment.

Where the assembly of plated patterns is required unit MEM04012 Assemble plated patterns should also be selected.

Where the manufacture of production patterns is required unit MEM04014 Develop and manufacture production patterns should also be selected.

Where the selection and use of precision measurement is required unit MEM12003 Perform precision mechanical measurement 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

MEM04010	Develop and manufacture wood patterns
MEM04011	Produce polymer patterns
MEM04018	Perform general woodworking machine operations
MEM07005	Perform general machining
MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12006	Mark off/out (general engineering)
MEM12023	Perform engineering measurements

MEM12024	Perform computations
MEM12026	Perform advanced trade calculations in a manufacturing, engineering or related environment
MEM13003	Work safely with industrial chemicals and materials
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

Casting and moulding

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, drawings, job sheets or work instructions
2	Develop and mark out pattern for vacuum forming	2.1	Apply vacuum forming processes to determine the design of vacuum forming moulds and construct associated equipment
		2.2	Select appropriate material to meet specifications
		2.3	Calculate pattern parameters, taking into account plastic sheet thickness and shrinkage

Elements describe the essential outcomes.

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

2.4 Mark out vacuum forming pattern, showing size and position of air evacuation and of the moulded form

3 **Manufacture pattern for vacuum forming**

3.1 Select and use appropriate machines and machining process to shape and produce vacuum forming pattern to specification

3.2 Select and use a range of hand and hand held power tools to fashion and manufacture vacuum forming patterns to specification

3.3 Check constructed vacuum forming pattern 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, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Vacuum forming processes include one (1) or more of the following:

- positive pressure
- negative pressure

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

- timber
- epoxy resins
- composites
- polymer
- metal

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM04015 Develop and manufacture vacuum forming moulds and associated equipment (Release 1).

Release 1. Supersedes and is equivalent to MEM04015B Develop and manufacture vacuum forming moulds and associated equipment.

Links

The MEM Metal and Engineering Training Package Companion Volume Implementation Guide is available from VETNet -

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