MEM04015 Develop and manufacture vacuum forming moulds and associated equipment
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Modification History
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,
MEM04015 Develop and manufacture vacuum forming moulds and associated equipment

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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
   2.4 Mark out vacuum forming pattern, showing size and position of air evacuation and of the moulded form
Elements describe the essential outcomes. Performance criteria describe the performance needed to demonstrate achievement of the element.

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

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2