



Australian Government

MEM04013 Develop and manufacture polystyrene patterns

Release: 2

MEM04013 Develop and manufacture polystyrene patterns

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM04013 Develop and manufacture polystyrene patterns (Release 1).

Release 1. Supersedes and is equivalent to MEM04013B Develop and manufacture polystyrene patterns.

Application

This unit of competency defines the skills and knowledge required to develop and manufacture all types of patterns using polystyrene, including patterns for the lost foam process and for those areas on a wood pattern and core box where polystyrene is required.

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: 2

Pre-requisite Unit

MEM04010	Develop and manufacture wood patterns
MEM04018	Perform general woodworking machine operations
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
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
		1.5	Select the appropriate grade and type of polystyrene to meet specifications
2	Mark out pattern	2.1	Determine contraction allowance by performing calculations
		2.2	Mark out pattern/pattern components to specifications
3	Manufacture pattern	3.1	Join and secure pattern components in an appropriate manner using adhesives appropriate to the task
		3.2	Select appropriate tools and techniques to manufacture polystyrene patterns to specification
		3.3	Check pattern for conformance to specifications and mark for identification

Elements describe the essential outcomes.

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

4 Protect pattern from damage

4.1 Handle and store patterns in a safe manner least likely to cause damage using appropriate procedures

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.

Grade/type includes:

- size and density of bead

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

- PVA
- hot glue

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

- hot wire
- knives
- saws

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM04013 Develop and manufacture polystyrene patterns (Release 1).

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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>