



Australian Government

MEM04012 Assemble plated patterns

Release: 2

MEM04012 Assemble plated patterns

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM04012 Assemble plated patterns (Release 1).

Release 1. Supersedes and is equivalent to MEM04012B Assemble plated patterns.

Application

This unit of competency defines the skills and knowledge required to assemble all types of plated patterns using a range of materials. It covers the manufacture (when appropriate) and mounting of runner systems.

Where the manufacture of polymer-plated patterns is required unit MEM04011 Produce polymer patterns should also be selected.

Where the selection and use of cast aluminium plates 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.

Where the selection and use of machining competencies is required applicable units should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 8

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
2	Inspect and layout patterns	2.1	Inspect pattern to ensure dimensions and surface finish conforms to specifications
		2.2	Lay out pattern and runner system to specifications from drawings, sketches or verbal instructions
		2.3	Align pattern in an appropriate manner
3	Mount pattern on plates	3.1	Attach cope and drag patterns/double sided match plate patterns to pattern plate/s according to specification

Elements describe the essential outcomes.

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

		3.2	Inspect cope and drag patterns/double sided match plate patterns for security and alignment
4	Mount runner system	4.1	Adjust volume of runner system to conform to specifications
		4.2	Attach runner components pattern plates to specification using appropriate fixing and joining techniques
5	Inspect plated pattern assembly	5.1	Inspect surface and mouldability of plated pattern assembly for compliance with specifications

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.

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

- timber
- timber composite
- metal

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

- measurement
- dowels

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM04012 Assemble plated 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>

Assessment Requirements for MEM04012 Assemble plated patterns

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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 assemble plated patterns
- undertaking relevant engineering calculations, including the determination of contraction rates
- inspecting patterns for conformance, laying out pattern and runner system and aligning pattern to specifications
- securely attaching cope and drag patterns/double sided match plate patterns to pattern plates, inspecting for alignment according to specifications
- attaching runner components pattern plates using appropriate fixing and joining techniques and adjusting volume of runner system to conform to specifications
- inspecting plated pattern assembly including surface and mouldability for compliance with specifications.

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)
- units of measurement, numerical operations and calculations associated with assembling plated patterns
- fixing and drilling techniques
- reason for using particular layout and runner system
- all types of plated patterns using a range of materials
- techniques for avoiding cross jointing or mismatch of the pattern and their relationship to the pin-centre
- methoding systems
- mouldability i.e. surface finish, face taper, convex or concave perspectives and undercuts

- moulding and casting techniques.

Assessment Conditions

- Assessors must:
 - have vocational competency in assembling plated patterns 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.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including 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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