



Australian Government

Department of Education, Employment and Workplace Relations

MEM04012B Assemble plated patterns

Release: 1

MEM04012B Assemble plated patterns

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers assembling plated patterns.
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Application of the Unit

Application of the unit	This unit applies to the assembly of all types of plated patterns using a range of materials such as timber, timber composite and metal. It covers the manufacture (when appropriate) and mounting of runner systems. This unit does not address machining competencies. If these are required, appropriate units should also be accessed. For cast aluminium plates, see Unit MEM04014B (Develop and manufacture production patterns). Where the manufacture of polymer-plated patterns is required, Unit MEM04011B (Produce polymer patterns) should also be accessed. Where precision measurement is required, Unit MEM12003B (Perform precision mechanical measurement) should also be considered. Band: A Unit Weight: 8
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM04010B	Develop and manufacture wood patterns
	MEM04018B	Perform general woodworking machine operations
	MEM09002B	Interpret technical drawing
	MEM12006C	Mark off/out (general engineering)
	MEM12023A	Perform engineering measurements
	MEM12024A	Perform computations
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations
	MEM30012A	Apply mathematical techniques in a manufacturing engineering or related environment

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine job requirements	1.1.Job instructions and specifications are correctly interpreted and followed.
2. Inspect and layout patterns	2.1.Pattern(s) are inspected to ensure dimensions and surface finish conform to specifications. 2.2.Pattern and runner system is laid out to specifications from drawings, sketches or verbal instructions. 2.3.Pattern(s) are correctly aligned.
3. Mount pattern on plates	3.1.Cope and drag patterns/double sided match plate patterns are attached to pattern plate/s according to specification. 3.2.Cope and drag patterns/double sided match plate patterns are inspected for security and alignment.
4. Mount runner system	4.1.Volume of runner system conforms to specification. 4.2.Runner components are attached to pattern plates using appropriate fixing and joining techniques to specification.
5. Inspect plated pattern assembly	5.1.Surface and mouldability of plated pattern assembly are inspected for compliance with specifications.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- determining job requirements from written instructions, specifications, sketches and drawings
- planning and sequencing tasks
- checking and clarifying task-related information
- performing relevant calculations
- following verbal instructions
- applying surface finishes for the moulding process
- laying out patterns and runner systems

REQUIRED SKILLS AND KNOWLEDGE

- attaching pattern and runner components
- locating and aligning patterns
- checking patterns for compliance

Required knowledge

Look for evidence that confirms knowledge of:

- units of measurement, numerical operations and calculations associated with assembling plated patterns
- fixing and drilling techniques
- the reason for using particular layout and runner system
- types of pattern plates
- the 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, undercuts, etc.
- moulding and casting techniques
- use and application of personal protective equipment
- safe work practices and procedures
- hazards and control measures associated with assembling plated patterns

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to assemble plated patterns. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

Context of and specific resources for assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with assembling plated patterns or other units requiring the exercise of the skills and knowledge covered by this unit.

Method of assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

EVIDENCE GUIDE**Guidance information for assessment****Range Statement****RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Aligned

Measurement and/or dowels

Calculations

The determination of contraction rates as well as applicable general engineering calculations

Unit Sector(s)**Unit sector****Co-requisite units****Co-requisite units**

Competency field

Competency field	Casting and moulding
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