



Australian Government

MEM26003 Lay up composites using pressure closed moulding techniques

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM26003A Lay up composites using pressure closed moulding techniques

Application

This unit of competency defines the skills and knowledge required to fabricate composites using a resin transfer moulding (RTM – resin under pressure) or other pressure closed mould techniques.

This unit is one of three units covering the basic composite fabrication techniques, the other two being unit MEM26001 Lay up composites using open moulding techniques and unit MEM26002 Lay up composites using vacuum closed moulding techniques, which together are intended to ensure the composite tradesperson can undertake a basic fabrication using these methods.

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

Band: A

Unit Weight: 6

Pre-requisite Unit

MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Composites

Elements and Performance Criteria

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

1	Determine product	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS)

<p>Elements describe the essential outcomes.</p> <p>requirements</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element.</p> <p>requirements at all times</p>
	<p>1.3 Select and use appropriate personal protective equipment (PPE) in accordance with SOPs</p> <p>1.4 Identify product requirements from specifications, job sheets or work instructions and customer requests</p> <p>1.5 Select pressure closed mould technique most appropriate to product requirements</p> <p>1.6 Identify or develop required procedures to make product using selected process</p>
<p>2 Set up mould equipment and prepare materials</p>	<p>2.1 Select required items of equipment and ancillary equipment</p> <p>2.2 Prepare and assemble all equipment and ancillary equipment as required by procedures</p> <p>2.3 Pack mould according to procedures/laminate schedule</p> <p>2.4 Identify required reinforcing/reinforcing system and determine quantity of reinforcing</p> <p>2.5 Prepare reinforcing, including cutting to size/shape and carry out any pre-treatment, as required</p> <p>2.6 Identify required resin system</p> <p>2.7 Determine quantity of resin components and confirm adequate quantities are available</p> <p>2.8 Mix resin with minimised waste and test resin</p>
<p>3 Fabricate and adjust equipment and materials, as required</p>	<p>3.1 Identify and control hazards</p> <p>3.2 Apply gel coat and introduce resin to mould</p> <p>3.3 Ensure air is vented, as required</p> <p>3.4 Ensure required resin distribution</p>

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	3.5 Cure product and remove product from mould when ready
	3.6 Identify typical problems and take appropriate remedial action
	3.7 Perform final verification to meet product requirements
4 Clean up and maintain tools and equipment	4.1 Clean all moulding and mixing equipment
	4.2 Undertake minor maintenance, as appropriate
	4.3 Prepare for next use or storage
	4.4 Inspect equipment and take appropriate action
	4.5 Store equipment
	4.6 Minimise waste and dispose of waste, as appropriate
	4.7 Complete required logs and reports according to SOPs

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.

Closed moulding techniques include one (1) or more of the following:

- RTM
- compression moulding

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Mould equipment includes the following:

- moulds and mould components
- infusion system for laminate

Typical problems include one (1) or more of the following:

- dead spots trapping air
- resin curing too quickly
- resin curing too slowly

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM26003A Lay up composites using pressure closed moulding techniques

Links

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