



Australian Government

MEM26009 Select and use cores and fillers appropriate for product

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM26009A Select and use cores and fillers appropriate for product

Application

This unit of competency defines the skills and knowledge required to select and use appropriate cores and/or fillers.

Where the selection of suitable reinforcing required unit MEM26007 Select and use reinforcing appropriate for product should also be selected.

Where the selection of a suitable resin system is required unit MEM26008 Select and use resin systems appropriate for product 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

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 requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	1.3 Select and use appropriate personal protective equipment (PPE) in accordance with SOPs 1.4 Determine requirements of core and/or filler from specifications, job sheets or work instructions and customer requests 1.5 Select appropriate process to be used to fabricate product
2 Select most appropriate core and/or fillers for job	2.1 Compile specification of required composite properties relevant to the core and/or filler 2.2 Compare required properties with specifications of available cores and/or fillers 2.3 Select most appropriate core and/or filler
3 Evaluate selected core and/or filler	3.1 Fabricate a sample using the selected core and/or filler and nominated resin and reinforcing system 3.2 Conduct/organise for relevant tests 3.3 Evaluate test results against product requirements 3.4 Review fabrication process and make any required changes to core, filler or process
4 Fabricate product	4.1 Identify and control hazards 4.2 Prepare selected core and/or filler, as required 4.3 Lay core in correct direction, including directional properties, as appropriate 4.4 Prepare nominated reinforcing, including cutting to size/shape, packaging into kits and ant pre-treatment, as required 4.5 Lay reinforcing in correct direction including fibre

Elements describe the essential outcomes.

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

orientation and fibre pre-forming, as appropriate

- 4.6 Mix nominated resin system, as required
- 4.7 Prepare and incorporate core and/or filler, as required
- 4.8 Fabricate product using selected process and minimise waste
- 4.9 Review product compared to requirements
- 4.10 Review core and/or filler selection and fabrication process
- 4.11 Identify areas for improvement and take appropriate actions
- 4.12 Complete any required documentation/reporting 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.

Fillers include the following:

- particulate materials which can be added to the composite matrix to vary the bulk, stiffness, density or other properties of the final composite

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Requirements of core include the following:

- stiffness/flexibility
- directionality
- density
- shear strength
- operating temperature
- provision of thickness
- provision of some rigidity
- thermal and acoustic insulation, where appropriate
- but not the significant structural strength provided by reinforcing

Most appropriate core/filler includes the following:

- compliance with product requirements
- greatest ease of use in manufacture
- best financial return
- greatest sustainability contribution

Areas for improvement include one (1) or more of the following:

- cost/benefit of different core/filler systems
- selecting a core/filler suited to the fabrication process
- air/vapour entrapment
- bonding/delaminating
- contamination

Sustainability includes the following:

- survival of the ecology/physical environment
- economic viability
- social sustainability

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

