



Australian Government

MEM26018 Organise composite trials

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM26018A Organise composite trials

Application

This unit of competency defines the skills and knowledge required to trial new materials and processes and make prototypes.

The source of these trials can arise from internal improvements or new products/processes from external sources. Regardless, trials need to be conducted to 'prove' it in an industrial environment, to translate research and development into practical processes and to provide appropriate records and metrics.

This unit does not cover the selection of materials or processes but does cover the organising and analysing of trials to prove proposed new materials or processes in the production environment.

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

Band: A

Unit Weight: 4

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 job 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 Identify risks to be controlled
	1.5 Identify novel parts of process/materials/properties
	1.6 Compare data from past work/trials
	1.7 Obtain data for novel part of process/material
	1.8 Develop procedures which should produce the required result
	1.9 Determine required process properties
	1.10 Determine required business and sustainability measures
2 Compare proposed process with existing and predict problem areas	2.1 Compare proposed process with existing similar processes
	2.2 Identify points of difference
	2.3 Identify weaknesses with existing process
	2.4 Predict possible problems with trial process/materials
3 Organise appropriate trials	3.1 Determine scale of trial
	3.2 Ensure availability of adequate resources, including equipment, tools, materials, personnel and time
	3.3 Organise for the preparation of equipment/materials
	3.4 Conduct and monitor trial and record key observations and metrics
4 Select appropriate manufacturing	4.1 Compare outcome with requirements
	4.2 Modify procedure and repeat trial, as appropriate

Elements describe the essential outcomes.

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

procedure

- 4.3 Identify areas for improvement and take appropriate actions
- 4.4 Determine procedure which will yield desired results
- 4.5 Record procedure in appropriate form
- 4.6 Complete all required reporting and recording 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.

Novel part includes one (1) or more of the following:

- new resin system on standard reinforcing
- new reinforcing with standard resin system
- new process using standard materials
- standard process and materials producing product with different properties

Process properties include the following:

- gel time
- viscosity
- temperature (e.g. mould, resin and ambient)
- infusion time
- peak exotherm (e.g. using a laser thermometer)

Business measures include the following:

- costs
- time analysis
- quality reliability

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Scale of trial includes one (1) or more of the following:

- full scale prototype
- scaled down prototype
- laminate samples only
- portion of laminate

Modifying procedure includes one (1) or more of the following:

- changing resin inlets
- changing resin chemistry
- changing other materials
- modifications to process
- modifications to tooling

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

- trial procedures not workable
- trial product does not meet specification
- trial procedures do not meet sustainability requirements

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>