



Australian Government

MEM26006 Mark and cut out sheets for composite use

Release: 1

MEM26006 Mark and cut out sheets for composite use

Modification History

Release 1. Supersedes and is equivalent to MEM26006A Mark and cut sheets for composite use

Application

This unit of competency defines the skills and knowledge required to mark and cut out sheets for composite use.

The marking out/cutting out of sheets used for composites can be significantly different to the marking out/cutting out of other materials, including metals. Sheets used in composite fabrication often have significant directionality which must be considered and as a result of this composite design often includes different physical properties in one direction to another and so sheets must be marked and cut to align the required directional properties of the product with those of the sheets used in the fabrication.

Where the selection and use of hand tools is required unit MEM18001 Use hand tools should also be selected.

Where the selection and use of power tools is required unit MEM18002 Use power tools/hand held operations should also be selected.

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.
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1	Determine product 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	Determine requirements of sheet material to be used from specifications, job sheets or work instructions and customer requests
		1.5	Identify process to be used to fabricate product
2	Develop geometric shape	2.1	Develop lay flats for regular solid rectilinear shapes
		2.2	Develop lay flats for regular curved/circular shapes
		2.3	Develop lay flats for transition pieces
		2.4	Develop lay flats for complex 3-D shapes
3	Orient required shape to suit directional differences of sheet	3.1	Identify directional properties in sheet
		3.2	Identify sheet-related directional requirements of product
		3.3	Identify orientations and alignments of lay flats with sheet
4	Mark out and cut sheet	4.1	Identify and control hazards
		4.2	Place lay flat on sheet and arrange lay flats to minimise waste
		4.3	Prevent lay flat moving and mark sheet, as required, using lay flat
		4.4	Cut sheet to meet requirements
		4.5	Identify typical problems and take appropriate remedial action

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

4.6 Perform final verification to meet product requirements

5 **Store templates/lay flats**

5.1 Clean lay flats after use

5.2 Label lay flat using identification protocol

5.3 Record required directionality information with lay flat

5.4 Store lay flats according to procedures

5.5 Complete 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.

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

- reinforcing:
 - woven
 - non-woven
- pre-impregnated (pre-preg)
- cores
- timber, including medium density fibreboard (MDF) and plywood
- filler material

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Requirements of sheet material includes the following:

- strength
- flexibility/rigidity
- thickness
- density
- directionality
- drape
- operating temperature

Regular rectilinear shapes include one (1) or more of the following:

- rectangular prisms
- cubes
- portions of prisms and cubes
- similar shapes

Regular curved shapes include one (1) or more of the following:

- cylinders
- spheres
- segments of cylinders and spheres
- similar shapes

Transition pieces include one (1) or more of the following:

- cones
- pyramids
- portions of cones and pyramids
- square to round
- tee piece
- lobster back
- similar shapes

Complex 3-D shapes include the following:

- other 3-D shapes which may need to be fabricated and which may be composed of a number of components of the above shapes

Alignment includes the following:

- warp
- weft
- selvedge
- other features of the sheet
- the nesting of lay flats to optimise the use of materials and minimise waste

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.

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

- identifying directionality in sheet
- identify a feature to provide alignment
- products requiring multidirectional properties

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM26006A Mark and cut sheets for composite use

Links

Companion Volume implementation guides are found in VETNet -

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