



Australian Government

**MEM09021 Interpret and produce
drawings of curved 3-D shapes**

Release: 1

MEM09021 Interpret and produce drawings of curved 3-D shapes

Modification History

Release 1. Supersedes and is equivalent to MEM09021B Interpret and produce curved 3-dimensional shapes

Application

This unit of competency defines the skills and knowledge required to produce and interpret lines plan drawings manually or using computer-aided design (CAD) equipment complying with industry standards.

It applies to drawing and lofting principles used to produce lines plan drawings and loftings and common applications of this unit are in marine vessel construction.

In a marine setting, tasks may relate to drawings for hull designs, section development, including curved and raking transom, conical development and camber development methods.

Where a CAD system is used for basic drawing unit MEM09003 Prepare basic engineering drawing should also be selected.

Where more extensive CAD system is used for design unit MEM09009 Create 2-D drawings using computer-aided design system should be selected.

Where straightforward take-offs from lofted drawings, or where transfer of lines to lofting floor or other surface is required to be carried out, unit MEM12007 Mark off/out structural fabrications and shapes should 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

MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Drawing, drafting and design

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 job requirements | <ul style="list-style-type: none">1.1 Follow standard operating procedures (SOPs)1.2 Comply with work health and safety (WHS) requirements at all times1.3 Identify design requirements from specifications, job sheets or associated work instructions |
| 2 Apply drawing procedures | <ul style="list-style-type: none">2.1 Determine and outline lines drawing procedures and identify data requirements2.2 Set up appropriate drawing equipment to suit requirements2.3 Apply drawing procedures to suit specified drawing2.4 Record any alterations to offset measurements, where applicable2.5 Ensure drawings are consistent with operation procedures and industry requirements |
| 3 Submit lines plan drawings | <ul style="list-style-type: none">3.1 Submit completed drawings in accordance with industry standards3.2 Supply altered offset measurements and relevant drawing information, where applicable |

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.

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

- client brief
- industry standards
- survey specifications

Submitted includes to one (1) or more of the following:

- client
- supervisor
- boat builder/ship builder
- surveying authority

Industry standards relate to one (1) or more of the following:

- accuracy
- design
- layout
- tabulation of offsets
- material specification
- construction specifications
- quality of presentation of drawings

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>