



Australian Government

MEM09004 Perform electrical or electronic detail drafting

Release: 1

MEM09004 Perform electrical or electronic detail drafting

Modification History

Release 1. Supersedes and is equivalent to MEM09004B Perform electrical/electronic detail drafting

Application

This unit of competency defines the skills and knowledge required to produce or make changes to electrical or electronic drawings under supervision using manual drafting or drawing equipment. It applies to all electrical and electronic areas, with drawings completed to AS 1102 Graphical symbols, or equivalent, and in accordance with predetermined design specifications and instructions.

Where a computer-aided drafting (CAD) system is used unit MEM09009 Create 2-D drawings using computer-aided design system and MEM09010 Create 3-D models using computer-aided design system, should also be selected as appropriate.

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

Band: B

Unit Weight: 8

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM09003	Prepare basic engineering drawing
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.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Identify job requirements from specifications, job sheets or associated work instructions
2	Prepare electrical or electronic drawings	2.1	Draw schematic to indicate the relative positioning of electrical or electronic components
		2.2	Produce electrical or electronic drawings to include all relevant specifications
		2.3	Complete drawing to AS 1102 Graphical symbols or equivalent
3	Determine component and material requirements	3.1	Identify material and component requirements using design specifications
		3.2	Select required materials and components from supplier catalogues
4	Complete documentation	4.1	Complete drawings and associated documentation in accordance with SOPs
		4.2	Issue and store drawings and documentation in accordance with 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.

Drawings include the following:

- plans
- schematics
- layouts
- circuit diagrams
- charts

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>

Assessment Requirements for MEM09004 Perform electrical or electronic detail drafting

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- preparing or making changes to electrical or electronic schematics and drawings to AS 1102 Graphical symbols, or equivalent, indicating relative positioning of components
- undertaking numerical operations, geometry, calculations and formulae associated with performing electrical or electronic detail drafting
- determining and selecting components and materials according to design specification
- completing documentation according to SOPs.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures
- relative position of electrical or electronic components
- symbols used in electrical or electronic schematics and drawings
- specifications of all components
- circuit specifications
- requirements of AS 1102 Graphical symbols or equivalent with respect to electrical or electronic schematics and drawings
- design specifications of the circuit and components
- appropriate components and materials from supplier catalogues
- reasons for selecting the chosen components and materials.

Assessment Conditions

- Assessors must:
 - have vocational competency in performing electrical or electronic detail drafting at least to the level being assessed with relevant industry knowledge and experience

- satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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