



Australian Government

MEM09208 Detail fasteners and locking devices in mechanical drawings

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM09208A Detail fasteners and locking devices in mechanical drawings.

Application

This unit of competency defines the skills and knowledge required to produce detailed engineering drawings containing fastening and locking devices to Australian Standard (AS) 1100.101 Technical drawing - General principles. Critical dimensions and specifications for the drawing are predetermined and drawings are carried out with or without the use of computer-aided design (CAD) systems.

This unit is suitable for those working within a drafting work environment and can be applied across all engineering disciplines.

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

Pre-requisite Unit

MEM09204 Produce basic engineering detail drawings

MEM09229 Read and interpret technical engineering drawings

Competency Field

Drawing, drafting and design

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
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 available information 1.4 Determine purpose and scope for drawing and identify and address further information needs

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.5 Verify the drawing parameters with appropriate personnel 1.6 Identify and prepare equipment, organisational files, templates and symbols required to complete work
2. Identify system requirements	2.1 Determine components required from catalogues, tables, standards and specifications 2.2 Identify required fasteners based on their type, features and uses 2.3 Identify required mechanical location and locking devices based on their features, uses and thread types 2.4 Identify and apply relevant codes, standards and symbols used for components and methods used to locate on drawings
3. Prepare detail drawing	3.1 Lay out drawing in accordance with the sketches and specifications 3.2 Apply line work in accordance with standard industry drawing practice 3.3 Produce detail and assembly drawings containing engineering fasteners and location devices 3.4 Consult with support services 3.5 Present drawing according to organisational requirements
4. Document and store drawings	4.1 Document drawings and associated technical information in accordance with project requirements and SOPs 4.2 Store drawings in accordance with SOPs

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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.	
Available information includes one or more of the following:	• construction documents • building and coordination information • work specifications • information for plant services equipment • industry codes, standards and regulations • design brief.
Fasteners are defined as any mechanical device for joining or affixing two or more components together and include one or more of the following:	• threaded fastening devices • machine screws • set screws • cap screws • rivets • circlips.
Mechanical location devices include one or more of the following:	• pins • keys and keyseats.
Locking devices include one or more of the following:	• lock nuts (double nuts) • nyloc nuts • split nuts • deformed • washers • wiring • chemical methods of thread locking.
Appropriate personnel include one or more of the following:	• designer • engineer • supervisor • contractor/consultant • builder.
Support services include one or more of the following:	• estimating department and personnel • engineering department and personnel • drafting department and personnel • project manager • factory manager or staff.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM09208A Detail fasteners and locking devices in mechanical drawings.

Links

Companion Volume implementation guides are found in VETNet -

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