



Australian Government

MEM10001 Erect structures

Release: 2

MEM10001 Erect structures

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM10001 Erect structures (Release 1).

Release 1. Supersedes and is equivalent to MEM10001C Erect structures.

Application

This unit of competency defines the skills and knowledge required to inspect and prepare the erection site, erect structures and applies to structures that are exclusively/predominantly steel metal and are load-bearing of substantial size made out of steel and/or other metals.

Specifications for the structure would be supplied via engineering drawings or the like and would include site location information.

Where workshop assembly techniques are required see unit MEM05011 Assemble fabricated components.

Where design skills are required see unit MEM09011 Apply basic engineering design concepts.

Where lifting or rigging skills are required see appropriate units.

Where welds are required to meet legislative or regulating requirements then see appropriate welding units.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM05007	Perform manual heating and thermal cutting
MEM05051	Select welding processes
MEM05052	Apply safe welding practices
MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12007	Mark off/out structural fabrications and shapes
MEM12023	Perform engineering measurements

MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

Plus, one or more of the following, including their prerequisites:

MEM05015	Weld using manual metal arc welding process
MEM05017	Weld using gas metal arc welding process

Competency Field

Installation and commissioning

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 Use appropriate personal protective equipment (PPE) in accordance with SOPs
	1.4 Identify job requirements from specifications, drawings, job sheets or work instructions
2 Inspect and prepare erection site	2.1 Check site for correct location, dimensions and levels
	2.2 Report non-compliance with specifications to appropriate authority
	2.3 Undertake minor alterations, corrections or adjustments with approval of appropriate authority

Elements describe the essential outcomes.

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

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|----------|-------------------------|---|
| | 2.4 | Prepare all surfaces and materials/components for use |
| | 2.5 | Identify and check structure components against specifications |
| 3 | Erect structures | |
| | 3.1 | Carry out all work in a safe manner and in accordance with defined procedures |
| | 3.2 | Prepare structure components for correct sequential erection |
| | 3.3 | Erect components and fix according to specifications |
| | 3.4 | Adjust structures to specifications |
| | 3.5 | Ensure all reports and documentation is completed to required specifications |

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.

Levels include the following:

- straightforward levelling and alignment using plumb bob/lines and levels

Appropriate authority includes one (1) or more of the following:

- site supervisor
- building inspector
- contractor

Materials/components include one (1) or more of the following:

- ferrous and non-ferrous materials of a:
 - variety of material sizes
 - variety of borne loads

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- variety of joining systems
 - variety of component profiles
- Prepared includes one (1) or more of the following:**
- cleaning
 - assembly sequencing
 - surface finishing
- Structures include one (1) or more of the following:**
- metal frameworks
 - portals
 - stairways
 - walkways
 - vessels
 - tanks
 - platforms
 - conveyors
 - moving lines
 - associated railings
- Reports and documentation include one (1) or more of the following:**
- contract documents
 - building inspection documentation
 - compliance reports

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM10001 Erect structures (Release 1).

Release 1. Supersedes and is equivalent to MEM10001C Erect structures.

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 MEM10001 Erect structures

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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
- identifying and interpreting specifications and drawings for erecting structures for on-site or off-site locations
- ensuring the site is level and prepared to specifications
- preparing structural components for correct sequential erection
- erecting structures and adjusting structures to specifications
- completing all reports and documentation and compliance reports to required specifications.

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 and use of personal protective equipment (PPE)
- site management requirements
- site preparation and levelling requirements
- range of technique/equipment which can be used to check the site levels
- procedures to be followed if the location, dimensions and/or levels of the site do not comply with specifications
- procedures for making a range of alterations/corrections using appropriate methods/techniques
- procedures for checking the components of the structure
- legislative and regulatory guidelines
- materials specifications, applications, properties and characteristics
- correct erection sequence
- methods and selection of fixing/fastening the components of the structure
- methods and selection of lifting/moving the components of the structure
- methods and selection of locating/holding the components
- adjustments which can be made to bring the structure into specification

- approval process for final alterations
- procedures for checking the structure for conformance and procedures to be followed if the structure does not comply
- procedures for completing required documentation and compliance reports.

Assessment Conditions

- Assessors must:
 - have vocational competency in erecting structures 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.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including 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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