



Australian Government

Department of Education, Employment and Workplace Relations

MEM10001C Erect structures

Release: 1

MEM10001C Erect structures

Modification History

Not Applicable

Unit Descriptor

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| Unit descriptor | This unit covers inspecting and preparing the erection site and erecting structures. |
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Application of the Unit

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| Application of the unit | <p>This unit applies to structures that are predominantly steel and/or other metals. Structures covered by this unit are exclusively/predominantly metal structures and are load-bearing structures of substantial size.</p> <p>Where workshop assembly techniques are required, see Unit MEM05011D (Assemble fabricated components). Specifications for the structure would be supplied via engineering drawings or the like and would include site location information.</p> <p>Where lifting or rigging skills are required, appropriate units should be accessed. Where design skills are required, refer to Unit MEM09011B (Apply basic engineering design concepts).</p> <p>Where welds are required to meet legislative or regulating requirements, then appropriate welding units should also be selected.</p> <p>Band: A</p> <p>Unit Weight: 4</p> |
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

| Prerequisite units | | |
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| Path 1 | MEM05007C | Perform manual heating and thermal cutting |
| | MEM05012C | Perform routine manual metal arc welding |
| | MEM05015D | Weld using manual metal arc welding process |
| | MEM05051A | Select welding processes |
| | MEM05052A | Apply safe welding practices |
| | MEM09002B | Interpret technical drawing |
| | MEM12007D | Mark off/out structural fabrications and shapes |
| | MEM12023A | Perform engineering measurements |
| | MEM18001C | Use hand tools |
| | MEM18002B | Use power tools/hand held operations |
| Path 2 | MEM05007C | Perform manual heating and thermal cutting |
| | MEM05017D | Weld using gas metal arc welding process |
| | MEM05050B | Perform routine gas metal arc welding |
| | MEM05051A | Select welding processes |
| | MEM05052A | Apply safe welding practices |
| | MEM09002B | Interpret technical drawing |
| | MEM12007D | Mark off/out structural fabrications and shapes |
| | MEM12023A | Perform engineering measurements |

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| Prerequisite units | | |
| | MEM18001C | Use hand tools |
| | MEM18002B | Use power tools/hand held operations |

Employability Skills Information

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| Employability skills | This unit contains employability skills. |
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Elements and Performance Criteria Pre-Content

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| Elements describe the essential outcomes of a unit of competency. | Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide. |
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Elements and Performance Criteria

| ELEMENT | PERFORMANCE CRITERIA |
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| 1. Inspect and prepare erection site | 1.1. Site is checked for correct location, dimensions and levels. 1.2. Non-compliance with specifications is reported to appropriate authority. 1.3. Minor alterations, corrections or adjustments are undertaken with approval of appropriate authority. 1.4. All surfaces and materials/components are prepared for use. 1.5. Structure components are identified and checked against specifications. |
| 2. Erect structures | 2.1. All work is carried out safely and in accordance with defined procedures. 2.2. Structure components are prepared for correct sequential erection. 2.3. Components are erected and fixed according to specifications. 2.4. Structures are adjusted to specifications. 2.5. All reports and documentation are completed correctly to required specifications. |

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- inspecting sites
- using measurement equipment within the scope of this unit
- undertaking numerical operations and calculations within the scope of this unit
- using tools and equipment associated with erecting structures
- checking and clarifying task-related information
- communicating and liaising with appropriate authorities
- planning job and site preparation
- preparing site
- handling materials

REQUIRED SKILLS AND KNOWLEDGE

- inspecting materials/structure
- interpreting drawings, plans and specifications
- making authorised alterations, corrections or adjustments to the site and/or structure
- completing reports and documentation

Required knowledge

Look for evidence that confirms knowledge of:

- 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 alterations/corrections
- methods/techniques for a range of alterations/corrections
- legislative and regulatory guidelines
- materials applications, properties and characteristics
- materials specifications
- the procedures for checking the components of the structure
- 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
- procedures for checking the structure for conformance
- procedures to be followed if the structure does not comply
- adjustments which can be made to bring the structure into specification
- approval process for final alterations
- required documentation
- reporting procedures
- hazards and control measures associated with erecting structures
- use and application of personal protective equipment
- safe work practices and procedures

Evidence Guide

| EVIDENCE GUIDE | |
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| <p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p> | |
| <p>Overview of assessment</p> | <p>A person who demonstrates competency in this unit must be able to inspect and ensure compliance of erection site and erect structures. Competency in this unit cannot be claimed until all prerequisites have been satisfied.</p> |
| <p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p> | <p>Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.</p> |
| <p>Context of and specific resources for assessment</p> | <p>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with assembly and erection of structures or other units requiring the exercise of the skills and knowledge covered by this unit.</p> |
| <p>Method of assessment</p> | <p>Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.</p> |

EVIDENCE GUIDE

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| Guidance information for assessment | |
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

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| Site | Onsite or offsite locations not covered by Unit 5.11A (Assemble fabricated components) |
| Levels | Straightforward levelling and alignment using plumb bob/lines, levels etc. |
| Appropriate authority | Site supervisor, building inspector, contractor, etc. |
| Materials/components | <p>Ferrous and non-ferrous materials of a:</p> <ul style="list-style-type: none"> • variety of material sizes • variety of borne loads • variety of joining systems • variety of component profiles |
| Prepared | <ul style="list-style-type: none"> • Cleaning • Assembly sequencing • Surface finishing |
| Structures | Metal frameworks, portals, stairways, walkways, vessels, tanks, platforms, conveyors and moving lines etc., including associated railings |
| Reports and documentation | <ul style="list-style-type: none"> • Contract documents • Building inspection documentation • Compliance reports |

Unit Sector(s)

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| Unit sector | |
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Co-requisite units

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| Co-requisite units | | |
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Competency field

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| Competency field | Installation and commissioning |
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