



Australian Government

UEPMNT340 Fabricate metal structures and components

Release: 2

UEPMNT340 Fabricate metal structures and components

Modification History

Release 2. Minor release to update superseded pre-requisite units.

Release 1. This is the first release of this unit of competency in the UEP Generation Training Package.

Application

This unit involves the skills and knowledge required to fabricate metal structures and components required to facilitate the installation, modification and maintenance of equipment associated with the electricity supply industry generation sector.

Fabrication is the construction of metal structures and components using cutting, bending and assembling processes.

Competency in this unit requires the ability to plan work, fabricate structures and components and to report on all completed work tasks. Individuals will, in general, work under supervision in an electrical, electronic and/or mechanical equipment repair workshop or on site.

Power generation maintenance personnel are typically trained and authorised to receive permits to work.

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

Note: Workplace practice

The application of the skills and knowledge described in this unit of competency may require a licence or training permit to practice in the workplace, where work is carried out on gas and electrical installations. Additional and/or other conditions may apply under state and territory legislative and regulatory licensing requirements.

Pre-requisite Unit

MEM09002 Interpret technical drawing

MEM12023 Perform engineering measurements

MEM18001 Use hand tools

MEM18002 Use power tools/hand held operations

MEM18003 Use tools for precision work

MEM18006 Perform precision fitting of engineering components

MEM18055 Dismantle, replace and assemble engineering components

Competency Field

Maintenance

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan and prepare for work

PERFORMANCE CRITERIA

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

- 1.1** Requirements including scope of work and assigned roles are identified and confirmed with appropriate personnel or by site inspection, in accordance with workplace procedures
- 1.2** Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations, legislative requirements, industry standards, codes of practice, manufacturers' specifications, environmental obligations and workplace procedures are reviewed in preparation for work
- 1.3** Resources are obtained and inspected for compliance with job specification
- 1.4** Relevant plans, drawings and manuals are selected and used, in accordance with workplace procedures
- 1.5** Correct materials and components for work are obtained and inspected, in accordance with workplace procedures, for compliance with job specification
- 1.6** Work is planned, sequenced and prioritised, in accordance with workplace procedures
- 1.7** Potential hazards are identified and risk control measures are selected and implemented, in accordance with workplace procedures
- 1.8** Work area is prepared, in accordance with workplace procedures

2 Fabricate metal structures

- 2.1** Materials are prepared prior to fabrication, in

and components

accordance with workplace procedures

- 2.2** Jigs or templates are manufactured, as required, in accordance with workplace procedures
- 2.3** Materials are marked out and dimensions are checked, in accordance with workplace procedures
- 2.4** Materials are cut and formed, using appropriate machinery and tools, in accordance with workplace procedures
- 2.5** Tools and equipment are operated during fabrication tasks, in accordance with workplace procedures and manufacturers' specifications
- 2.6** Metal structures and components are assembled, using appropriate methods, in accordance with workplace procedures and manufacturers' specifications
- 2.7** Distortion is prevented or controlled by applying appropriate techniques, in accordance with workplace procedures
- 2.8** Final inspection is performed, in accordance with workplace procedures

3 Complete work

- 3.1** Work is completed and appropriate personnel are notified, in accordance with workplace procedures
- 3.2** Work area is cleared of waste, cleaned, restored and secured in accordance with workplace procedures
- 3.3** Tools and equipment are cleaned, maintained and stored, in accordance with workplace procedures
- 3.4** Work completion details are finalised, in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work

environment.

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPMNT340B Fabricate metal structures and components

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPMNT340 Fabricate metal structures and components

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and includes:

- applying Work, Health and Safety/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - hazard identification
 - risk control measures
 - safe working practices
- communicating with personnel
- completing work as per scheduling requirements
- determining permit to work requirements
- fabricating and assembling metal structures and components
- fabricating metal structures and components
- fabricating, assembling and installing structures and components
- implementing legislation, industry standards, codes of practices and regulations
- interpreting manufacturers' specifications and manuals
- laying out and marking out metal structures and components
- making jigs and templates
- performing precision measurements
- planning for fabricating metal structures and components work
- reading technical drawings
- selecting materials and resources
- using tools and equipment

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements, performance criteria and range of conditions and includes knowledge of:

- assembly techniques
- distortion control
- fabrication of metal structures and components
- generation plant and equipment and its location
- jigs and templates
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- mechanical cutting, forming and shaping
- permit to work system
- sheet metal work
- technical drawings
- tools and equipment
- typical arrangements of power production plant
- WHS/OHS legislated requirements including:
 - emergency procedures
 - hazard identification
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions. Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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