



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **MEM10010B Install pipework and pipework assemblies**

**Release: 1**

## MEM10010B Install pipework and pipework assemblies

### Modification History

Not Applicable

### Unit Descriptor

<b>Unit descriptor</b>	This unit covers planning, preparing and installing pipework and assemblies.
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### Application of the Unit

<b>Application of the unit</b>	<p>This unit applies to installation of ferrous and non-ferrous pipes and fittings. Where pipework is to be cut by mechanical or thermal methods, or where welding processes are used, the appropriate unit(s) should be selected.</p> <p>Pipework and installation is performed to established practices and standards.</p> <p>Where the pipework is to be formed and shaped using mechanical and/or thermal techniques, Unit MEM05010C (Undertake fabrication, forming, bending and shaping), should be selected.</p> <p>Where pipework and assemblies are to be part of a system/process covered by legislative/regulatory requirements, units relating to the appropriate welding certificates for the pipe material and application must also be selected.</p> <p><b>Band: A</b></p> <p><b>Unit Weight: 4</b></p>
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### Licensing/Regulatory Information

Not Applicable

## Pre-Requisites

Prerequisite units		
Path 1	MEM09002B	Interpret technical drawing
	MEM12023A	Perform engineering measurements
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations

## Employability Skills Information

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

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
1. Plan the installation of pipework and pipework assemblies	<p>1.1. Quantity and type of pipework and pipework assemblies are selected according to specifications.</p> <p>1.2. The appropriate sequence for the installation of pipework and pipework assemblies is determined according to the installation type and specifications and other applicable factors.</p> <p>1.3. The work area is prepared for installation of pipework and pipework assemblies.</p>
2. Prepare pipework and pipework assemblies for assembly	<p>2.1. Pipework is cleaned to standard operating procedures.</p> <p>2.2. Pipework and assemblies are purged to standard operating procedures.</p> <p>2.3. Pipework and assemblies are capped/sealed.</p>
3. Install pipework and assemblies	<p>3.1. Enclosures/hangers/support systems are installed without damage or distortion to the surrounding environment or other services.</p> <p>3.2. Pipework and assemblies are installed without damage or distortion to pipework, assemblies or surrounding environment or other services.</p> <p>3.3. Pipework is leak tested to standard operating procedures.</p> <p>3.4. All ancillary devices and materials are installed to specification according to standard operating procedures.</p>

## 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:

- interpreting and following information on specifications, standard operating procedures and other applicable reference documents
- planning and sequencing installation
- preparing the site
- preparing joining surfaces

**REQUIRED SKILLS AND KNOWLEDGE**

- purging pipework and assembly
- capping and sealing pipework and assembly
- installing enclosure/hanging /supporting assemblies
- assembling and installing pipework and ancillaries
- testing installed pipework and rectifying leaks

**Required knowledge**

Look for evidence that confirms knowledge of:

- installation techniques
- site and safety requirements
- cleaning procedures and the applications and precautions for using solvents/cleaning material
- purging techniques, applications and precautions
- capping/sealing pipework and assembly methods
- identification of location/layout of pipework and assemblies and application and characteristics of enclosure/hanging/supporting systems
- pipework, ancillary installation and joining procedures
- leak testing applications and uses
- regulations and legislative requirements
- hazards and control measures
- use and application of personal protective equipment
- safe work practices and procedures

## Evidence Guide

### EVIDENCE GUIDE

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.

#### Overview of assessment

A person who demonstrates competency in this unit must be able to install pipework and pipework assemblies in accordance with standard operating procedures. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

#### Critical aspects for assessment and evidence required to demonstrate competency in this unit

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.

#### Context of and specific resources for assessment

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.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with installing pipework and pipework assemblies or other units requiring the exercise of the skills and knowledge covered by this unit.

#### Method of assessment

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.

**EVIDENCE GUIDE****Guidance information for assessment****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.

**Pipework and pipework assemblies**

- Ferrous, non-ferrous, plastic, etc.
- Variety of sizes and or wall thickness
- Variety of joining systems such as collars, unions, flanges, etc.

**Enclosures**

Metal and PVC

**Hangers and support systems**

Pipe/tube bundle support, ties, unistrut, trays, ladder racks, ducts etc.

**Leak test**

Soapy water, water immersion, compressed air

**Ancillary devices and materials**

Insulation materials, valve control systems, etc.

**Legislation and regulations**

Building regulations, gas/fluid pipeline regulations

**Unit Sector(s)****Unit sector****Co-requisite units**

<b>Co-requisite units</b>		

## Competency field

<b>Competency field</b>	Installation and commissioning
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