

<b>Title</b>	<b>Install pipe-work for mechanical building services</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>20</b>

<b>Purpose</b>	<p>This unit standard is intended primarily for use in the training of personnel in the mechanical building services industry and covers installation of pipe-work for mechanical building services.</p> <p>People credited with this unit standard are able to: prepare to install pipe-work; install pipe-work for mechanical building services; and test pipe-work.</p>
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<b>Classification</b>	Mechanical Engineering > Heating, Ventilating, and Air Conditioning
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<b>Available grade</b>	Achieved
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### Guidance Information

- Unit 30080, *Join ferrous and non-ferrous metal components by torch brazing*, and Unit 2690, *Weld steel pipe using the oxyacetylene welding process*, are recommended for entry into this unit standard. Candidates should also be certified for the particular type of pipe welding performed under performance criterion 2.1.
- Reference and legislation  
Health and Safety at Work Act 2015.  
NZS 4219:2009, *Seismic performance of engineering systems in buildings*.
- Definitions  
*Accepted industry practice* refers to approved codes of practice and standardised procedures accepted by the mechanical building services industry sector as examples of best practice.  
*Site measure* – the measurement of an onsite situation and production of a detailed sketch to convey accurate dimensions and relevant spatial information to enable the pre-fabrication and installation of equipment.  
*Specifications* refer to documentation that include technical standards, documented operating and maintenance procedures or instructions for the system, installation drawings, manufacturers' data, installation instructions, installation programme schedules, material schedules, and site instructions.  
*Workplace procedures* refer to procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.

- 4 Range  
Pieces for site measure make-up include – steel, copper, and plastic pipes; pump sets; terminal units; valve trains; and different types of joints required.  
Evidence of one or more jobs with a minimum combined total pipe length of 150 linear meters is required.  
Evidence of three or more jobs is required.
- 5 Assessment information
- a Evidence may be gathered by the candidate over several work sites and may need to be spread between several time periods. There will typically be jobs where part of the job is completed in conjunction with other mechanical building services personnel. The evidence relates to the candidates own specific work, not work jointly performed with other team members, except where the other team member is checking or assessing the candidate.
  - b All activities must comply with applicable workplace procedures and must be consistent with accepted industry practice.

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## Outcomes and performance criteria

### Outcome 1

Prepare to install pipe-work.

#### Performance criteria

- 1.1 Site measures are conducted and checked against design drawings to determine material lengths and sizes, component sizes, and spatial requirements.
- 1.2 Materials on site are verified against specifications.
- 1.3 Setting-out of job is in accordance with specifications.

### Outcome 2

Install pipe-work for mechanical building services.

#### Performance criteria

- 2.1 Pipes are cut, assembled, and joined in accordance with specifications, and if applicable, purged.
- 2.2 Pipes and hangers are installed to structural and seismic standards and spaced in accordance with specifications.
- 2.3 All penetrations are sealed to maintain the integrity of the passive fire protection of the walls and ceilings.
- 2.4 Installation is completed within the time frame specified and without unplanned cost or waste, and includes pipe cleaning and flushing.

- 2.5 Installation is completed so that all control instructions and identifications are readable.

### Outcome 3

Test pipe-work.

### Performance criteria

- 3.1 Tests confirm that pipe-work meets operational requirements in accordance with specifications.
- 3.2 Test record is produced and accepted by inspecting authority in accordance with specifications.

<b>Replacement information</b>	This unit standard replaced unit standard 3234, unit standard 3235, and unit standard 3237.
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<b>Planned review date</b>	31 December 2023
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### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	16 July 2010	31 December 2023
Review	2	29 March 2018	31 December 2023
Review	3	1 November 2018	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

### Comments on this unit standard

Please contact Competenz [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.